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Primary Five Examination Papers

2015

Science

1	Anglo Chinese School	CA1	SA1	CA2	SA2
2	Chij St Nicholas School	CA1	SA1		SA2
3	Methodist Girls School	CA1	SA1		SA2
4	Nan Hua Primary School	CA1	SA1	CA2	SA2
5	Rosyth School	CA1	SA1		SA2
6	Catholic High School		SA1		SA2
7	Henery Park Primary School		SA1		
8	Nanyang Primary Schoo		SA1		SA2
9	Raffles Girls Primary School		SA1		SA2
10	Red Swastika School		SA1		SA2
11	Singapore Chinese Girls School		SA1		SA2
12	Tao Nan School		SA1		SA2

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CONTINUAL ASSESSMENT 1
PRIMARY 5

SCIENCE

BOOKLET A

THURSDAY 5 MARCH 2015 1 HOUR

Name : _____ ( )

Class : P5_____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 15 questions in this booklet.

Answer ALL questions.

INFORMATION FOR PUPILS

The total marks for this booklet is 30.

The total time for Booklets A and B is 1 hour.

This question paper consists of 9 printed pages (inclusive of cover page).

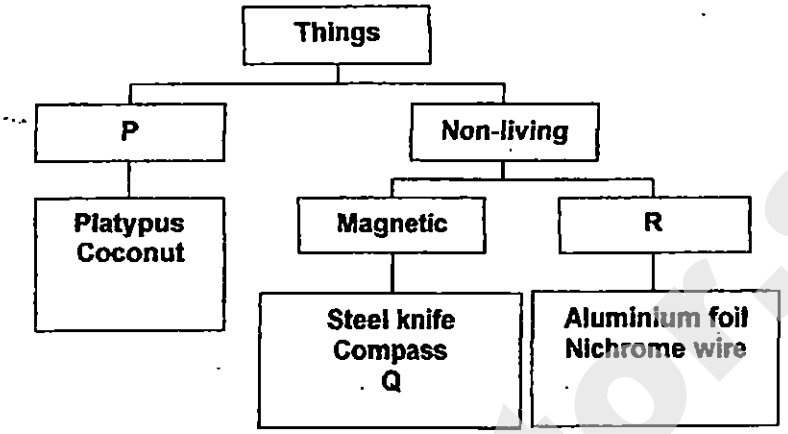
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Booklet A (30 marks)

For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet. (15 x 2 marks)

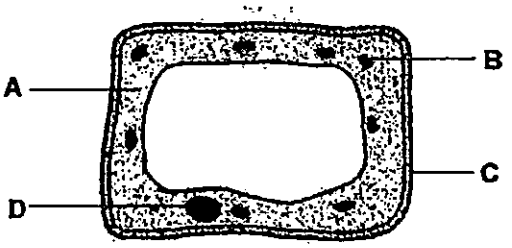
1. The classification chart shows some things classified according to certain characteristics.



Which of the following correctly represents letters P, Q and R?

	P	Q	R
(1)	Living	Plastic spoon	Non-magnetic
(2)	Non-magnetic	Steel paper clip	Living
(3)	Non-magnetic	Ceramic mug	Living
(4)	Living	Iron nail	Non-magnetic

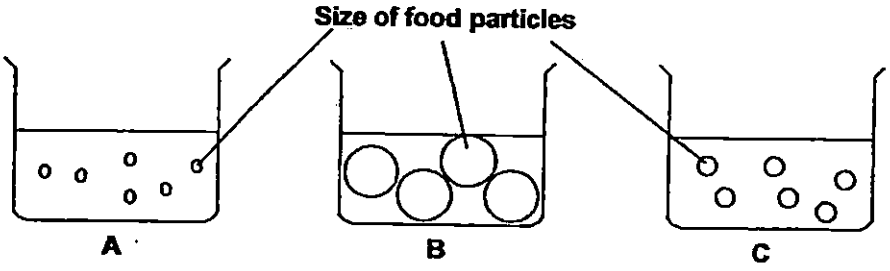
2. The diagram shows a plant cell. Which of the following parts of the plant cell will enable the plant to make food?



(1) A
(2) B
(3) C
(4) D

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3. Dr Wu took 3 samples of partially digested food from different parts of the digestive system.



From which parts of the digestive system could A, B and C most likely be taken from?

	A	B	C
(1)	small intestine	mouth	stomach
(2)	small intestine	stomach	mouth
(3)	mouth	stomach	small intestine
(4)	stomach	mouth	small intestine

4. Rachel studied the life cycles of two animals and recorded her observations in the table below.

	Animal A	Animal B
Is there a nymph stage in its life cycle?	Yes	No
Does its young look like its adult?	Yes	No
Can the adult fly?	Yes	Yes
Does it spend part of its life cycle in water?	No	No

Which of the following is correct?

	Animal A	Animal B
(1)	Grasshopper	Butterfly
(2)	Mosquito	Dragonfly
(3)	Cockroach	Grasshopper
(4)	Dragonfly	Mosquito

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5. The table below shows the state of four different substances, W, X, Y and Z, at different temperatures.

Substance	State of substance at 20°C	State of substance at 50°C	State of substance at 90°C
W	Liquid	Gaseous	Gaseous
X	Solid	Solid	Liquid
Y	Solid	Liquid	Gaseous
Z	Liquid	Liquid	Liquid

Which substance has the lowest boiling point?

(1) W
(2) X
(3) Y
(4) Z

6. Which of the following statement(s) is/are true of all plants?

X Only food-carrying tubes can be found in the stem.
Y Excess food is stored in the fruits of the plant only.
Z Water-carrying tubes are found in the different parts of the plant.

(1) X only
(2) Z only
(3) X and Y only
(4) Y and Z only

7. Which of the following statement(s) about exhaled air is/are correct?

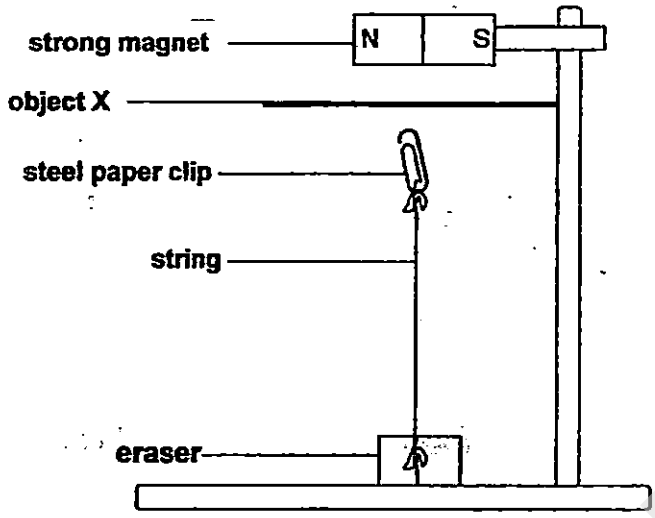
D It is usually warmer than the inhaled air.
E It contains more carbon dioxide than oxygen.
F It contains more water vapour than inhaled air.

(1) E only
(2) D and F only
(3) E and F only
(4) D, E and F

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8. The diagram shows an experiment that Keith conducted in the laboratory.



The steel paper clip is able to stay afloat when object X that is 1 mm thick was placed between the magnet and the steel paper clip.

What could Object X be?

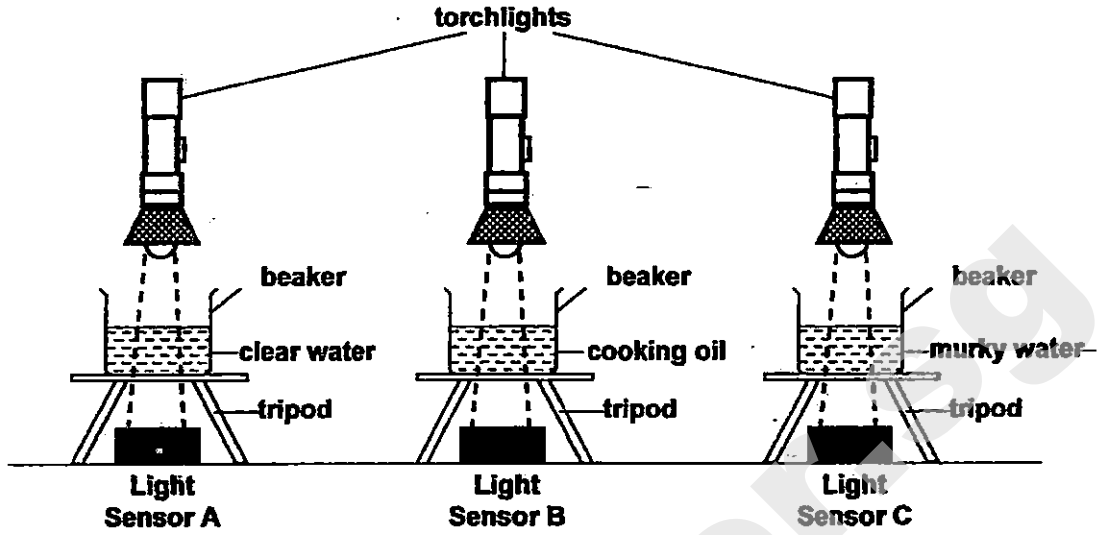
P	A nickel sheet
Q	A cobalt sheet
R	A plastic sheet
S	A wooden sheet

(1) P and Q only
(2) R and S only
(3) P and R only
(4) Q and S only

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9. Derek conducted an experiment in a dark room as shown below. He put three different liquids, clear water, cooking oil and murky water, in each beaker. The amount of liquid was the same. The amount of light from the three identical torchlights was also the same.



Derek used light sensors to measure the amount of light that passed through each of the three liquids. The unit of light received by the light sensor will be higher when more light reaches the light sensor.

What would be the correct readings from the light sensors?

	Units of light		
	A	B	C
(1)	100	50	70
(2)	100	70	50
(3)	70	50	100
(4)	50	100	70

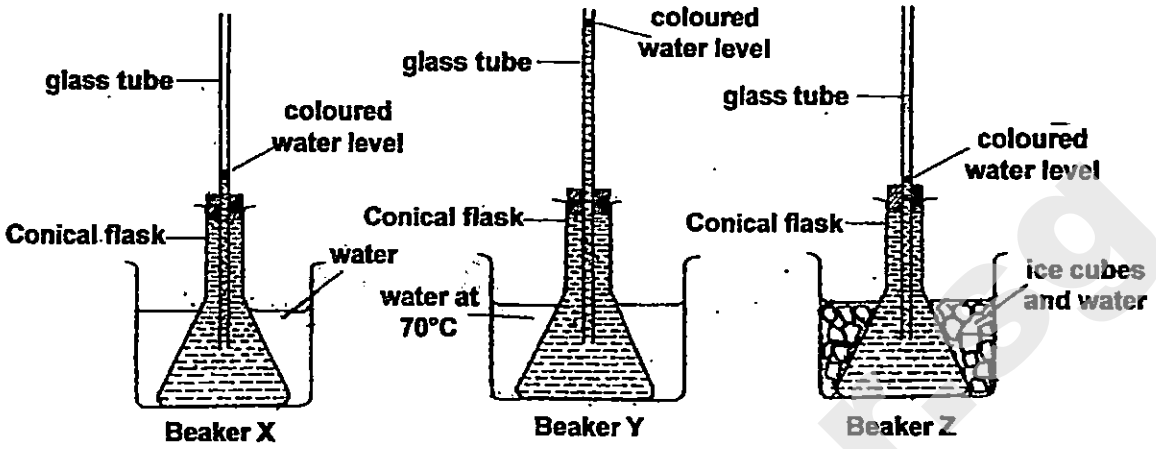
10. Which of the following statements about the heart are true?

A The heart pumps blood to all parts of the body.
B The heart is made of muscles that contract only.
C The heart receives blood poor in carbon dioxide from the lungs.
D The heart beats faster when we run as compared to when we sleep.

(1) B and C only
(2) B and D only
(3) A, C and D only
(4) A, B, C and D

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11. Kathy filled 3 similar conical flasks completely with coloured water of the same temperature. She covered each of them with a stopper and a glass tube and placed them into 3 identical beakers. Each beaker contained water of different temperatures. After 20 minutes, she observed that the water level in each glass tube was different as shown below.



What was the most likely temperature of the water in beaker X?

(1) 0 °C
(2) 12 °C
(3) 70 °C
(4) 76 °C

12. Sam and his classmates carried out an activity to find out the difference in their chest size during inhalation and exhalation (breathing in and breathing out). The results of the activity are recorded below.

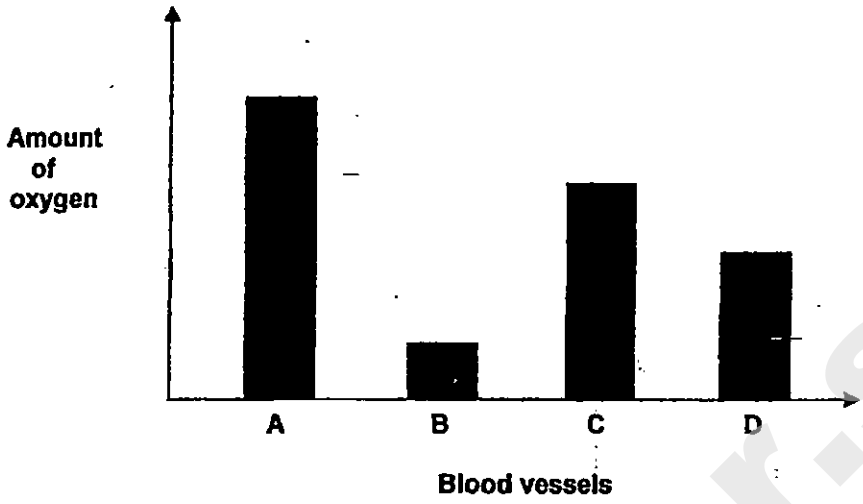
Name	Chest measurement (cm)	
	During inhalation	During exhalation
Sam	82	79
Helen	84	86
Jensen	69	72
Zachary	73	70

Which of the pupils made a mistake during the activity?

(1) Sam and Helen
(2) Sam and Zachary
(3) Helen and Jensen
(4) Jensen and Zachary

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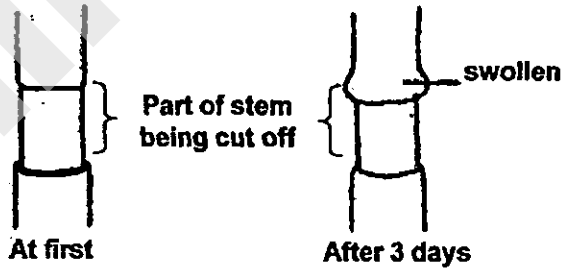
13. The bar graph below shows the amount of oxygen in four blood samples taken from the different blood vessels in the circulatory system.



Which blood vessel is most likely to carry blood from the heart to the lungs?

(1) A
(2) B
(3) C
(4) D

14. Peter removed a ring of food-carrying tubes in a balsam plant. He cut off a portion of the stem of the balsam plant as shown below. After three days, he observed that the upper part of the region that was cut off became swollen.



Why was the upper part of the region that was cut off swollen?

(1) Food made in the leaves gathered at that region.
(2) Food made in the flowers gathered at that region.
(3) Water absorbed by the fruit gathered at that region.
(4) Water absorbed by the roots gathered at that region.

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15. Ken analysed cells taken from three different organisms. He recorded the cell parts that were present in each cell in the table below.

A tick (✓) shows the presence of the cell part.

Cell parts	Cell X	Cell Y	Cell Z
Nucleus	✓	✓	✓
Cell wall	✓	✓	
Cytoplasm	✓	✓	✓
Chloroplast		✓	

In which organisms can Cells X, Y and Z be found?

	X	Y	Z
(1)	Balsam	Housefly	Giraffe
(2)	Human	Tiger	Lalang
(3)	Mango	Celery	Elephant
(4)	Platypus	Maple	Parrot

End of Booklet A

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ANGLO-CHINESE SCHOOL
(JUNIOR)

CONTINUAL ASSESSMENT 1 (2015)
PRIMARY 5

SCIENCE

BOOKLET B

THURSDAY **5 MARCH 2015** **1 HOUR**

Name : _____ **( )**

Class : P5 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 7 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The number of marks is given in brackets [ ] at the end of each question or part question.

The total marks for this booklet is 20.

The total time for Booklets A and B is 1 hour.

This question paper consists of 8 printed pages (inclusive of cover page).

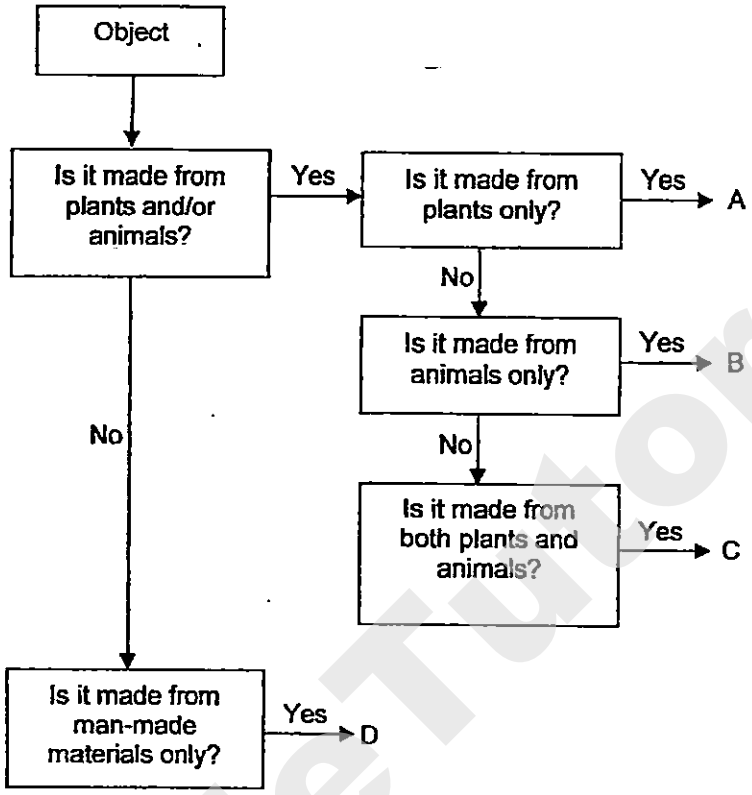
BOOKLET A	**/ 30**
BOOKLET B	**/ 20**
TOTAL	**/ 50**
Parent's signature/ Date:	

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For questions 16 to 22, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

16. The flowchart shows the descriptions of some objects.



(a) Which letter (A, B, C or D) represents cotton wool and window grilles? [2]

Cotton wool: _____

Window grilles : _____

(b) What is the difference between objects B and C? [1]

_____

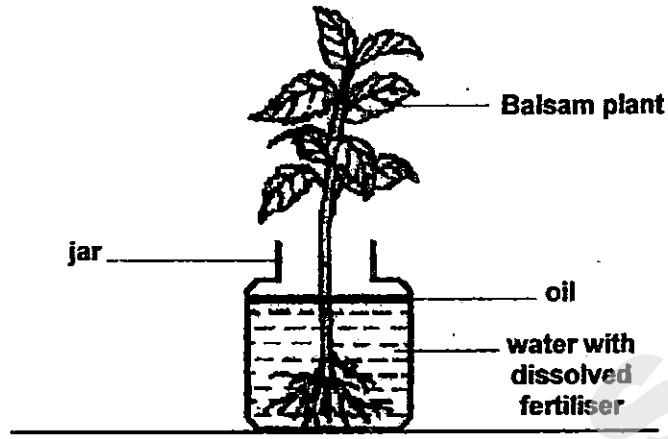
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SCORE	3

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17. Joey had added 5 grams of fertiliser to 900 ml of water in a jar. He stirred the water until all the fertiliser was dissolved. He then placed a balsam plant into the jar as shown in the diagram below.



(a) What would happen to the volume of water in the jar after a week? Put a tick (✓) in the correct box. [1]

Decrease	Increase	Remain the same

(b) Explain your answer in (a). [1]

_____

_____

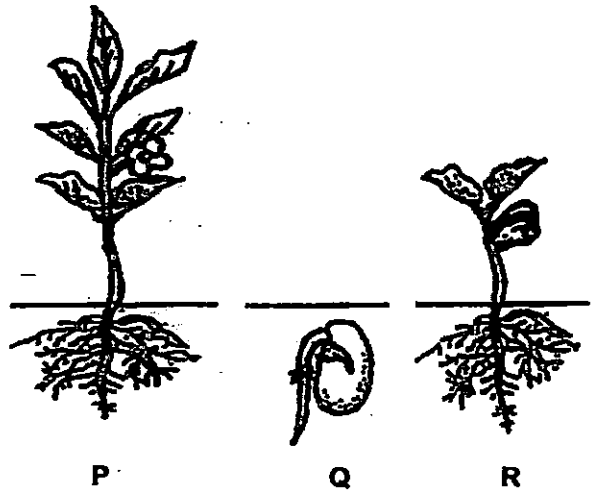
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SCORE 2

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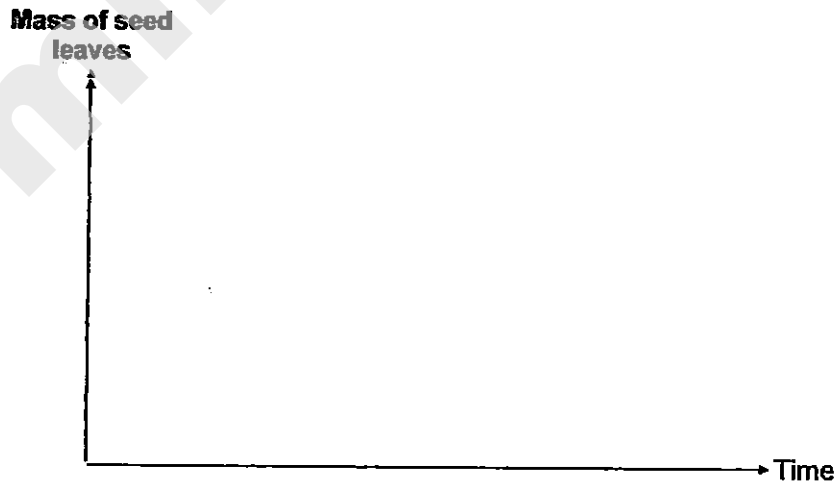
next 6 weeks and drew her observations. The diagrams show her drawings:



(a) Arrange Joan's drawings of her observations (P, Q and R) in the correct order beginning with what she observed at first. [1]

(b) State all the conditions necessary for germination to take place. [1]

(c) Draw a line graph that shows how the mass of the seed leaf changes over time. [1]



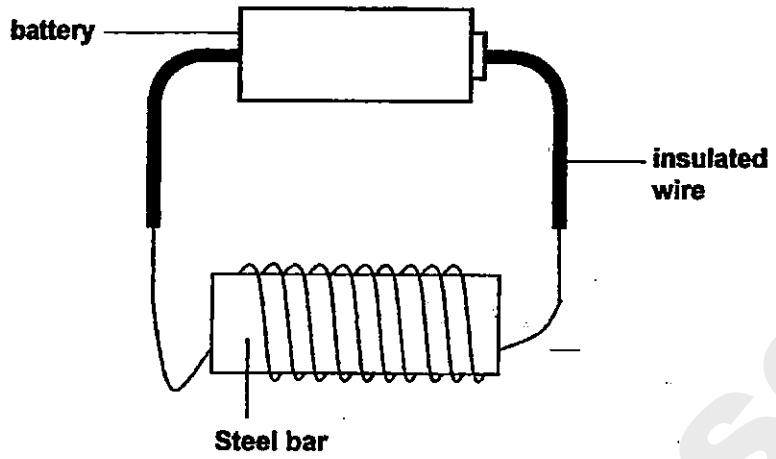
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SCORE 3

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19. An iron bar becomes an electromagnet when it is placed in a coil of wire joined to batteries. Patrick wants to find out if the number of turns of the coil around the ~~iron~~ steel bar affects the strength of an electromagnet.



Arrangement	Number of batteries	Number of turns of coil
A	3	10
B	4	20
C	2	10
D	3	30

(a) Which two arrangements should he set up to carry out his investigation? [1]

(b) Patrick has placed the same number of identical steel paper clips below each electromagnet to test its strength. What should Patrick observe and record in order to determine the strength of the electromagnet in both arrangements? [1]

(c) Patrick placed some copper nails below the electromagnet in arrangement D and noticed that the copper nails were not attracted to the electromagnet. Explain why. [1]

(Go on to the next page)

SCORE	/ 3

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preferred to sit in the shade which is the shadow of the apple tree.

(a) State the property of light that caused the shadow of the apple tree to be formed. [1]

_____

_____

(b) Explain clearly how the shadow of the apple tree is formed. [1]

_____

_____

(c) Larry also observed the shadow of a stick at different times of a day in his garden.

The diagram below shows the shadow of the stick that is formed in the early morning.



Draw the shadow formed by the same stick at 5 p.m. in the box below. [1]

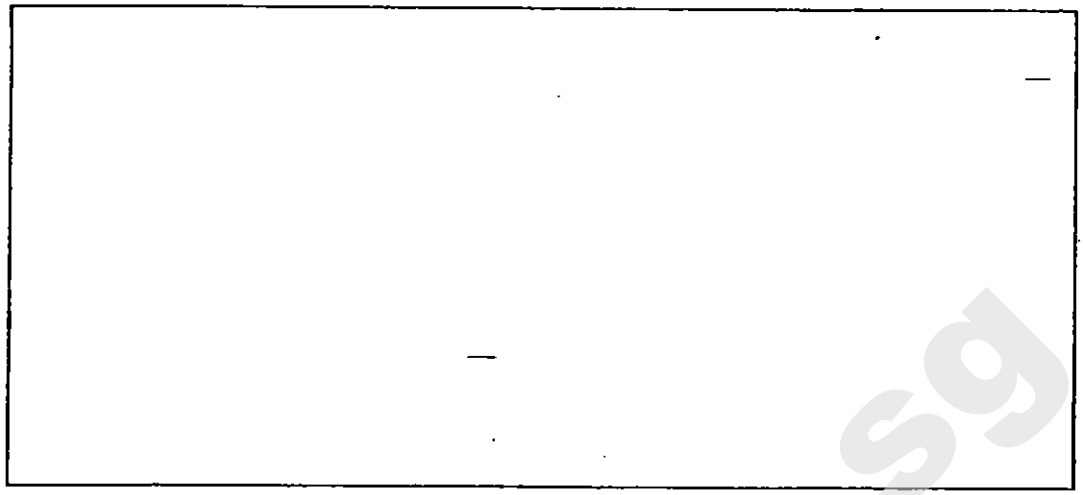
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SCORE	/ 3

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21. Mary observed some parts of a fish as shown below.



(a) Label the part of the fish where dissolved oxygen in the water is taken in by the fish. [1]

(b) Explain clearly how the fish obtains dissolved oxygen in water. [2]

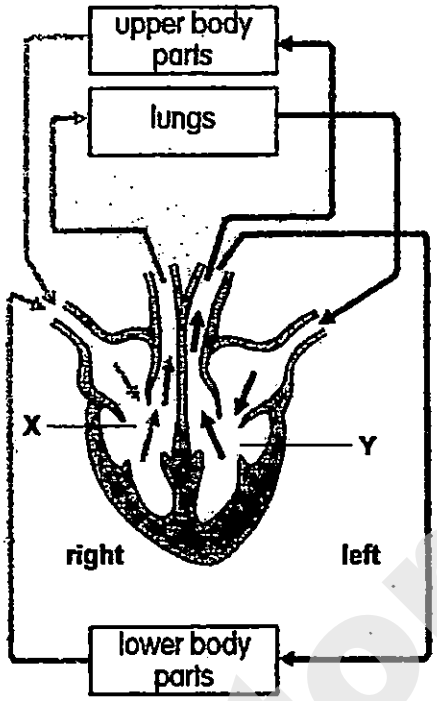
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SCORE	/ 3

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22. The diagram below shows the cross-section of a human heart and the movement of blood.



(a) Explain the difference between the blood in X and blood in Y. [1]

(b) Explain why the pulse rate increases as one's activity becomes more vigorous. [2]

End of Paper

SCORE	/ 3

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : ANGLO – CHINESE SCHOOL (JUNIOR)
SUBJECT : SCIENCE
TERM : CA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	**2**	**1**	**1**	**1**	**2**	**4**	**2**	**2**	**3**
Q11	Q12	Q13	Q14	Q15					
2	**3**	**2**	**1**	**3**					

Q16a
Cotton wool : (A)
Window grilles : (D)
Q16b. Object B is made from animals only but object C is made from both plants and animals.

Q17a. Decrease
Q17b. The roots of the plant absorb the water.

Q18a. Q, R, P
Q18b. Air , water and warmth
Q18c. SEE PICTURE

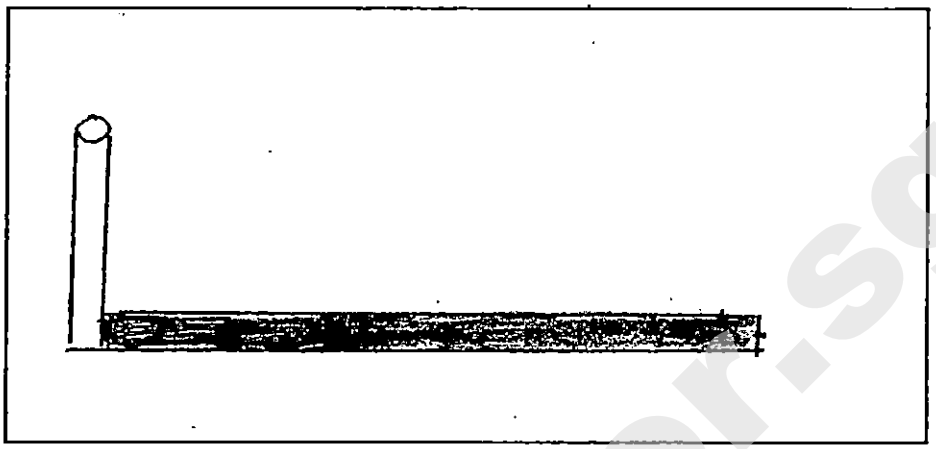


)19a. (A an D)
)19b. He should observe and record the number of steel paper clops that each electromagnet an attract.
)19c. Copper nails are non – magnetic and cannot be magnetized, thus they were not attracted o the electromagnet.

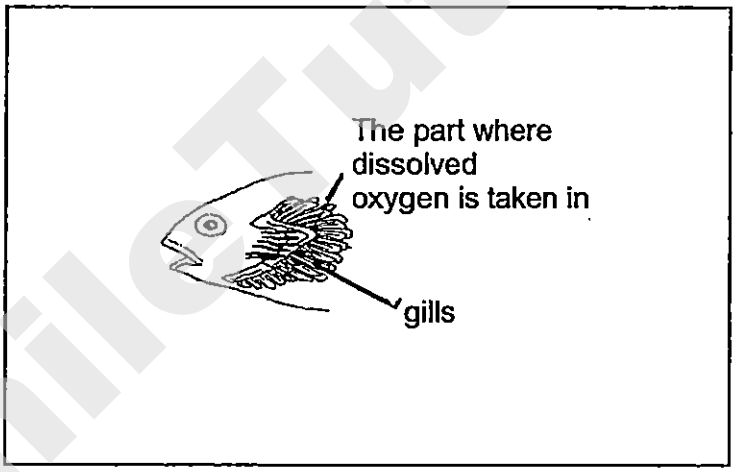
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Q20a. Light travels in straight lines .
Q20b. Light from the sun was blocked by the apple tree (opaque object). Thus a shadow is formed.
Q20c. SEE PICTURE



Q21a. SEE PICTURE



Q21b. Fish takes in water through its mouth. The water washes over / passes through the gills under the gill cover. The gill then absorb the dissolved oxygen in the water / rich supply of blood vessels to absorb dissolved oxygen.

Q22a. Blood in Y is rich in oxygen / oxygenated blood but blood in X is rich in carbon dioxide / deoxygenated blood.
Q22b. The heart has to beat faster to pump more blood / pump blood faster to other parts of the body. Therefore, more oxygen and digested food can be transported to other parts of the body.

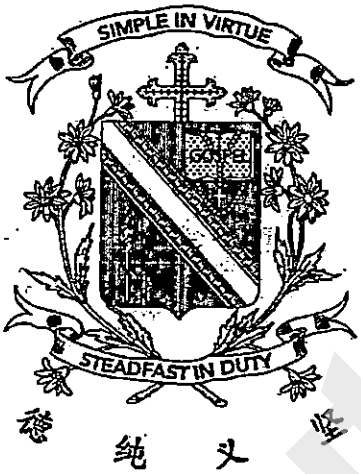
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Name : _____ ( )

Class : Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5
Continual Assessment 1 – 2015
SCIENCE

BOOKLET A

5 March 2015

Total Time for Booklets A and B: 1 hour 15 minutes

15 questions
30 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

This paper consists of 9 printed pages.

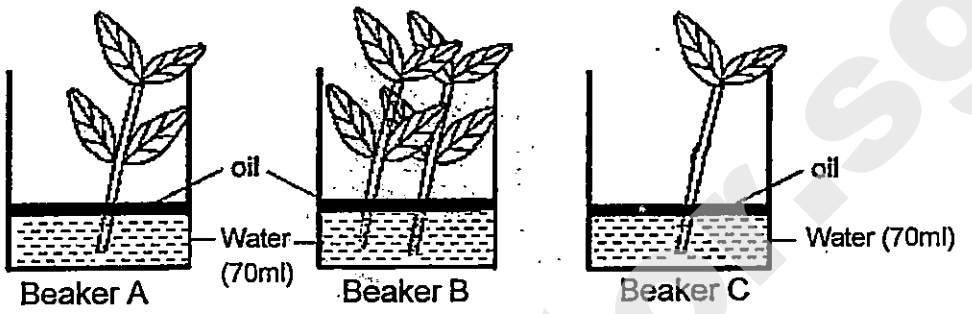
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Section A (15 x 2 marks = 30 marks)

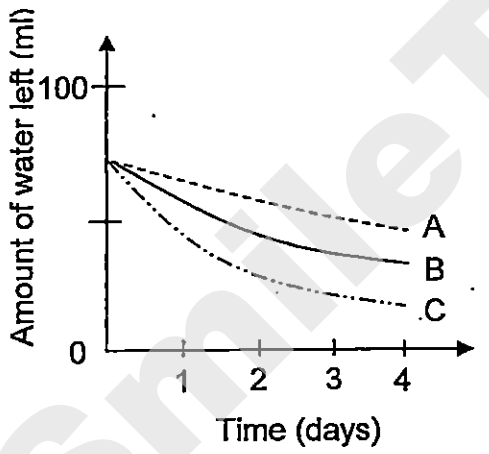
For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. Miss Tan carried out an experiment on similar plants without their roots in the three set-ups, A, B and C, as shown below.

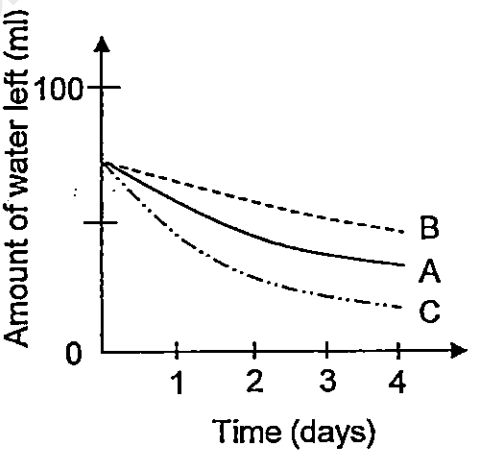


Which graph correctly represents the amount of water left in the beakers after 4 days?

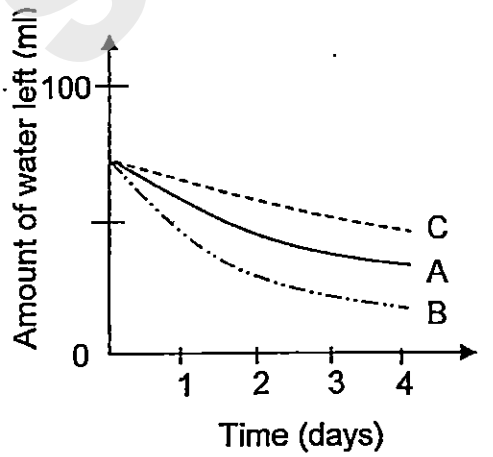
(1)



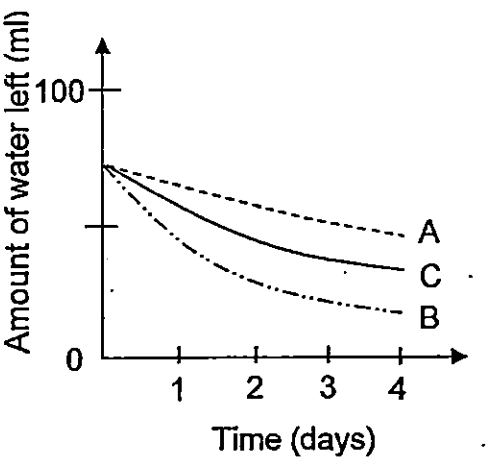
(2)



(3)

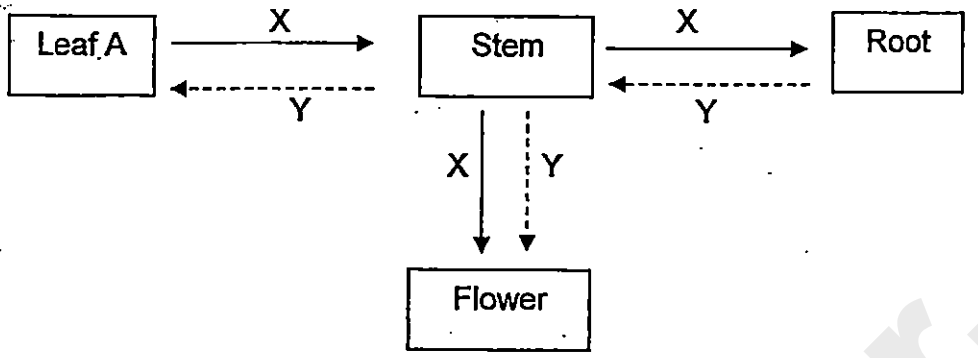


(4)



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2. The diagram below shows the directions in which substances, X and Y, are transported to different parts of a plant.



Which one of the following correctly represents substances X and Y?

	X	Y
(1)	Food	Carbon dioxide
(2)	Oxygen	Water
(3)	Food	Water
(4)	Carbon dioxide	Mineral salts

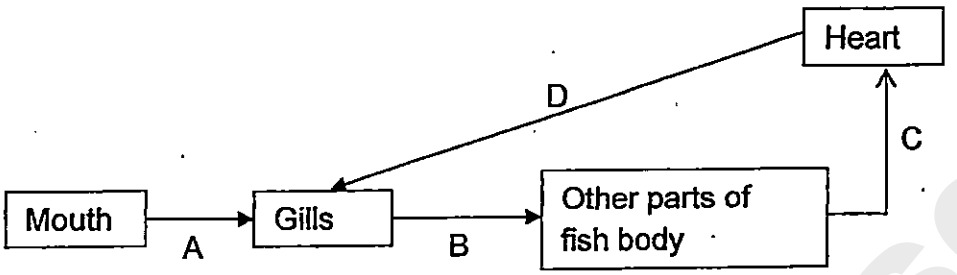
3. Which of the following organs belong to the circulatory system?

A heart
B gullet
C lungs
D blood vessels

(1) A and D only
(2) B and C only
(3) A, C and D only
(4) A, B, C and D

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4. The diagram below shows the circulatory system of a fish.



Which part of the system, A, B, C and D contains the highest amount of oxygen?

(1) A
(2) B
(3) C
(4) D

5. Lily wrote down the differences between the air she breathed in and the air that she breathed out in the table below.

	Air she breathed in	**Air she breathed out**
A	Contains more water vapour	Contains less water vapour
B	Contains more oxygen	Contains no oxygen
C	Has a lower temperature	Has a higher temperature
D	Contains less carbon dioxide	Contains more carbon dioxide

Which of her descriptions are true?

(1) A and B only
(2) C and D only
(3) B, C and D only
(4) A, B, C and D

6. Which is the correct path taken by the blood in our body?

(1) other parts of the body → heart → lungs → other parts of the body
(2) other parts of the body → lungs → heart → other parts of the body
(3) other parts of the body → lungs → heart → lungs → other parts of the body
(4) other parts of the body → heart → lungs → heart → other parts of the body

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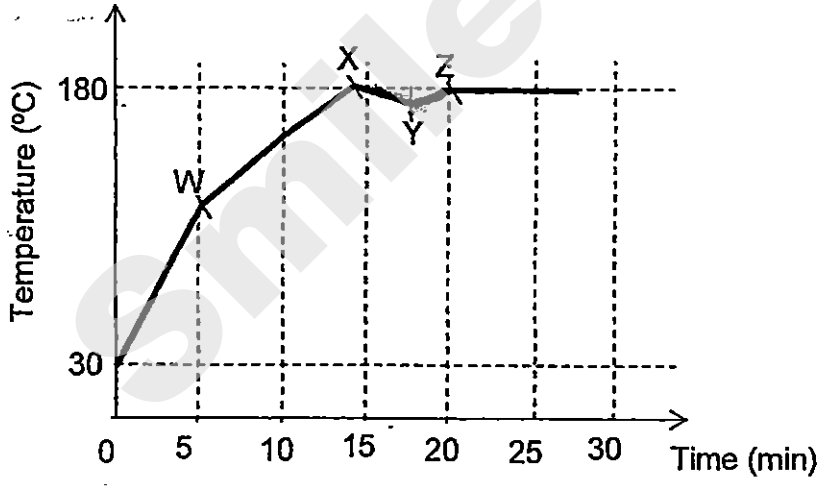
7. The diagram below shows a boy drinking water from a cup with a straw.



Which one of the following describes what happens to his ribcage and diaphragm when he sucks the water up from the cup into his mouth?

	Ribcage	Diaphragm
(1)	Move in and downwards	Move downwards
(2)	Move in and downwards	Move upwards
(3)	Move out and upwards	Move upwards
(4)	Move out and upwards	Move downwards

8. The graph below shows the temperature change in an oven before and during the baking of a loaf of bread.

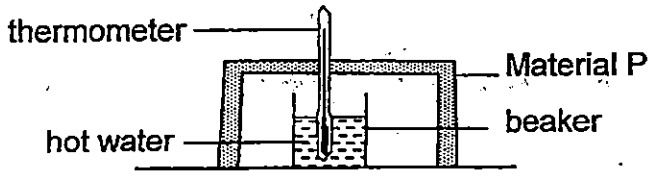


A bread recipe requires the baker to heat the oven to 180°C before putting the dough into the oven. Once the temperature reaches 180°C, the baker has to open the door and put the dough into the oven. At which point on the graph did the baking start?

(1) W
(2) X
(3) Y
(4) Z

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9. Study the diagram below. An experiment was carried out to investigate the heat conductivity of four different materials, P, Q, R and S. Material P is placed over the beaker of hot water and the temperature of water was measured and recorded at regular intervals. The experiment was repeated with material, Q, R and S, which was of equal thickness.



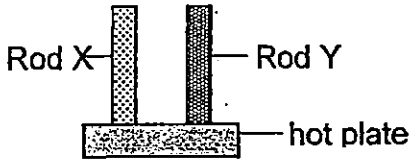
The results of the experiments are shown in the table below.

Time (min)	Temperature of water			
	Material P	Material Q	Material R	Material S
0	100	100	100	100
5	78	80	91	72
10	55	64	80	43
15	32	45	66	25
20	25	33	51	25

Based on the results of the experiment, which one of the following materials is the best conductor of heat?

(1) P
(2) Q
(3) R
(4) S

10. Ah Seng conducted an experiment by placing two similar Rods, X and Y, made of different materials on the hot plate as shown below.

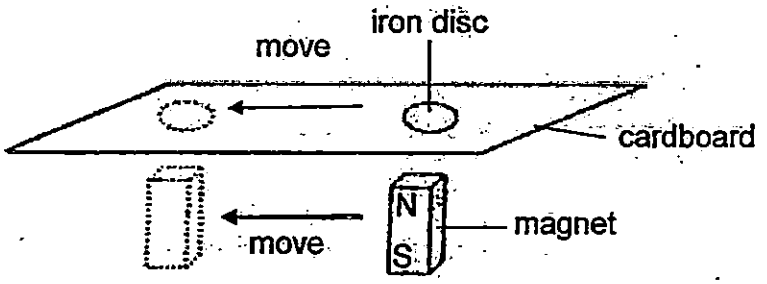


Which one of the statements below helped Ah Seng to arrive at the conclusion that Rod Y is a better conductor of heat than Rod X after a specific period of time?

(1) Rod X felt cooler than Rod Y.
(2) Rod X expanded more than Rod Y.
(3) Rod Y had a lower temperature than Rod X.
(4) The mass of Rod Y increased more than the mass of Rod X.

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11. Mary placed an iron disc on a cardboard and held a magnet under it as shown in the diagram below. She noticed that when the magnet moved, the iron disc would move in the same direction.

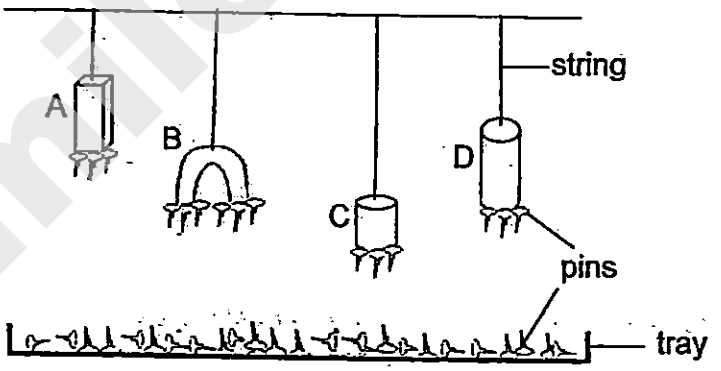


However, when the same experiment was repeated by replacing the cardboard with a sheet of material X, the iron disc did not move with the magnet.

Which of the following correctly explains what happened?

(1) Material X was a magnetic material.
(2) The iron disc was too far from the magnet.
(3) She used the S-pole of the magnet instead of N-pole.
(4) The iron disc did not allow magnetism to pass through.

12. Jonathan suspended 4 magnets, A, B, C and D, above a tray of pins. The result is shown below.

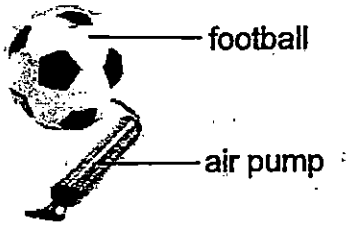


What can you conclude from the result of his experiment?

(1) A is weaker than B.
(2) A is stronger than D.
(3) C is stronger than D.
(4) B is the strongest magnet.

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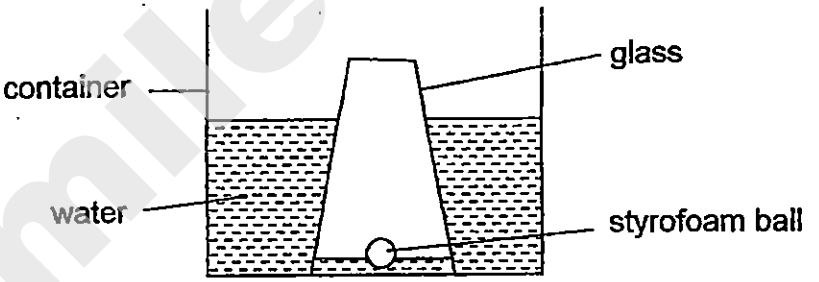
13. Muthu pumped more air into a fully inflated football.



What happened to the mass and volume of the air in the football after more air was pumped in?

	Volume of Air	Mass of Air
(1)	Decreased	Increased
(2)	No change	Increased
(3)	Increased	Increased
(4)	Increased	No change

14. Wilson lowered an empty glass with a styrofoam ball into a container of water until it touched the bottom of the container. He observed that the water level inside the glass was not the same as the water level outside as shown in the diagram below.

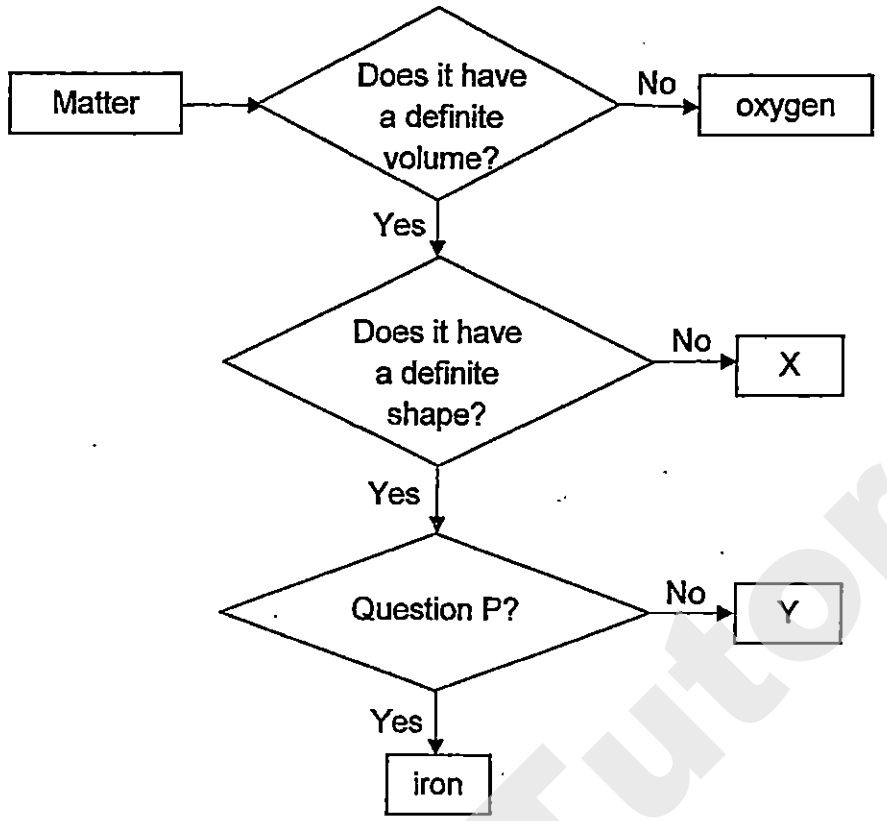


What could be the main reason for the difference in the water level inside and outside the glass?

(1) The air trapped in the glass occupied space.
(2) The ball pushed the water out from the glass.
(3) The styrofoam ball in the glass occupied space.
(4) The air trapped in the glass dissolved in the water.

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15. Study the flow chart below.



Which one of the following correctly states what X, Y and Question P are?

	X	Y	P
(1)	water	steel	Does it conduct electricity?
(2)	air	rubber	Is it a metal?
(3)	oil	copper	Is it a magnetic material?
(4)	water vapour	wood	Does it conduct heat?

~~ End of Section A ~~

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Name: _____ ( )

Class: Primary 5____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 5
Continual Assessment – 2015
SCIENCE

BOOKLET B

5 March 2015

Total Time for Booklets A and B: 1 hour 15 minutes

7 questions
20 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Booklet A	/30
Booklet B	/20
Total	/50

_____

Parent's Signature/Date

This paper consists of 8 printed pages.

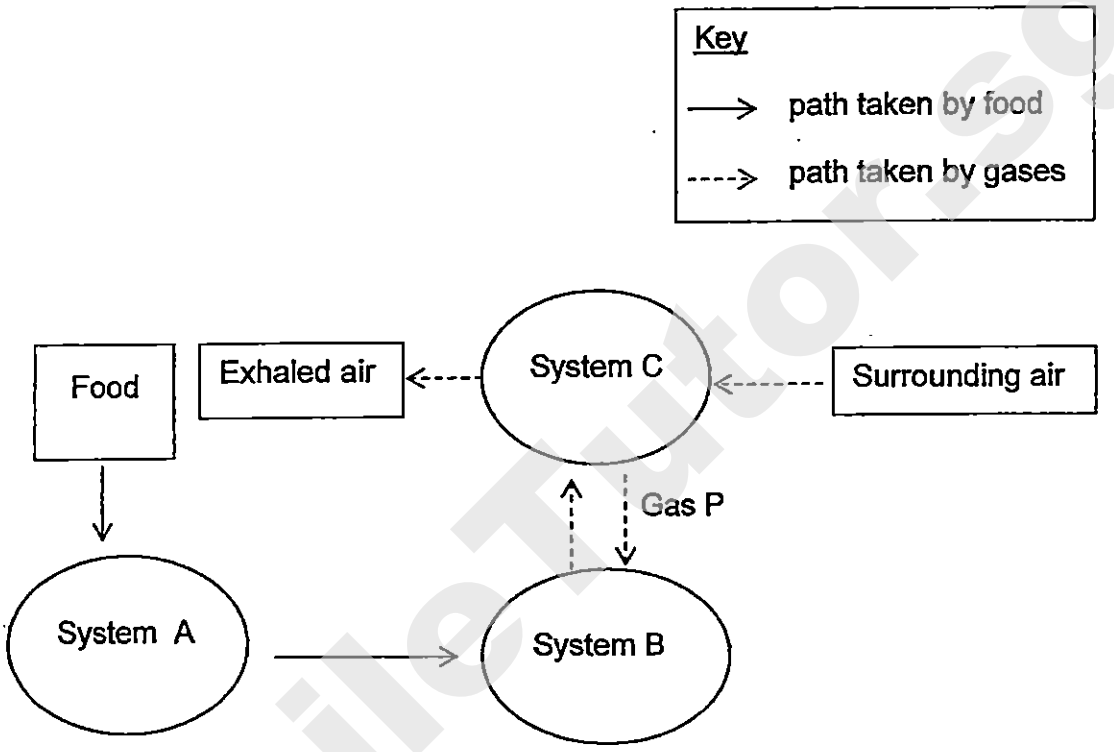
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Section B (20 marks)

For questions 16 to 22, write your answers in this booklet.

The number of marks available is shown in the brackets at the end of each question or part question.

16. The diagram below shows how food and various gases are transported in the human body.



Complete the table below by writing down the names of systems B, C and Gas P. (3m)

System B	System C	Gas P

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17. Both the human circulatory system and plant transport system use tubes to transport water and food.

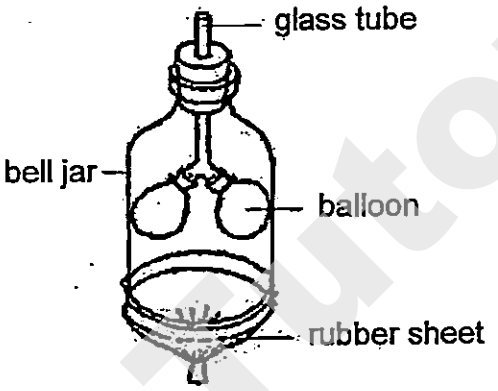
State the difference in the way tubes are used to transport **water** and **food** in these two systems. [2]

_____

_____

_____

18. The diagram below shows a model of the respiratory system.



(a) Which parts of the respiratory system do the glass tube and the balloons represent? [2]

Glass tube: _____

Balloons: _____

(b) The rubber sheet represents the diaphragm of the respiratory system. Explain how the rubber sheet in the model helps to draw air into the balloons.

_____

_____

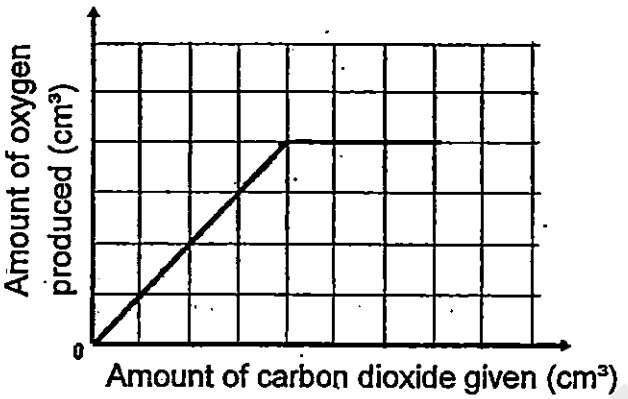
_____

_____

_____

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19. The graph below shows how the amount of carbon dioxide given to a plant affects the total amount of oxygen produced by the plant over a period of time.



(a) What is the relationship between the amount of oxygen produced and the amount of carbon dioxide given? [2]

_____

_____

_____

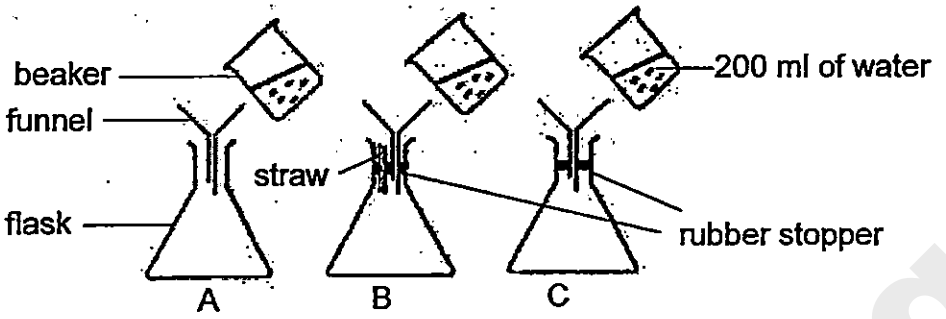
(b) Which part of the leaf enables gaseous exchange during photosynthesis? [1]

_____

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20. Richard prepared three set-ups as shown below. He then poured 200ml of water into each flask.



(a) Based on the diagram above, which flask would collect the least amount of water in one minute? Explain your answer. [2]

(b) Based on the experiment above, state two properties of a liquid. [1]

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21. Elsa conducted an experiment to find out how the strength of a magnet was affected by the number of times it was dropped. She measured the greatest distance from which the magnet could attract a paper clip after it was dropped. The results are shown in the table below.

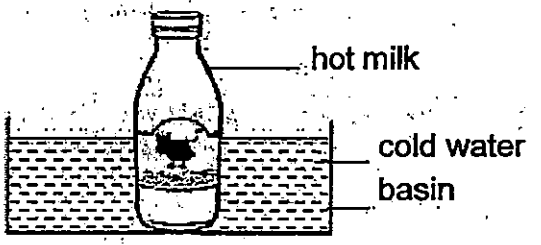
Number of times the magnet was dropped	Distance between the magnet and paper clip (cm)
10	6
20	5
30	4
40	3

Using the results of her experiment, state whether each of the following statements is true (T), false (F) or not possible to tell (NP). [2]

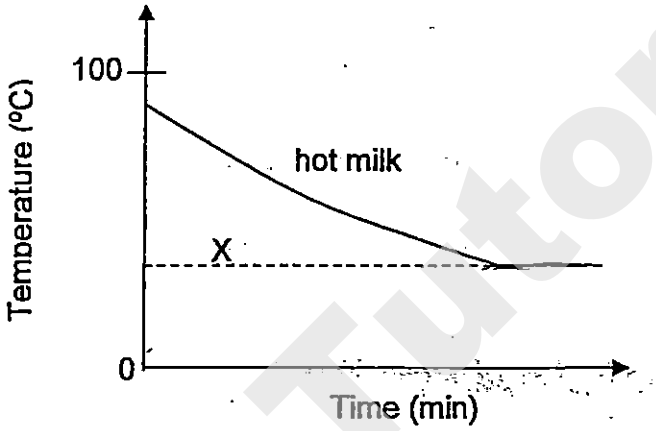
	Statement	True (T), False (F) or Not possible to tell (NP)
(i)	The magnet could no longer attract the paper clip after 50 drops.	
(ii)	The magnet could attract 10 paper clips before it was dropped.	
(iii)	The magnet could attract an iron nail at a distance of 6cm after it was dropped 10 times.	
(iv)	The magnet could attract the paper clip from a distance of 4cm after it was dropped 25 times.	

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22. A bottle of hot milk is placed in a basin of cold water as shown in the diagram below.



The graph below shows the changes in the temperature of the milk after some time.



(a) Using the same grid above, draw a line graph to show the changes in the temperature of the cold water. [1]

(b) Explain what causes the change in the temperature of the hot milk. [1]

_____

_____

(c) What does line X represent? [1]

_____

~~ End of Paper ~

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LEVEL : PRIMARY 5
SCHOOL : CHIJ ST NICHOLAS GIRLS SCHOOL
SUBJECT : SCIENCE
TERM : CA1

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
3	3	1	1	2	4	4	2	4	1
Q 11	Q 12	Q 13	Q 14	Q 15					
1	2	2	1	3					

Q16. System B – Circulatory System
Q16. System C – Respiratory system
Q16. Gas P – Oxygen

Q17. The human circulatory system uses some tubes to transport food and water but the plant system used separate tubes to transport food and water.

Q18a. Glass tube: windpipe Q18a. Balloons : lungs

Q18b. When the rubber sheet is pulled downwards, there is more space in the bell jar so air enters the glass tube. Thus, the balloon will be inflated.

Q19a. The more carbon dioxide given, the more oxygen the plants produced. After a certain point, the amount of oxygen produced remained the same even when the amount of carbon dioxide given increases.

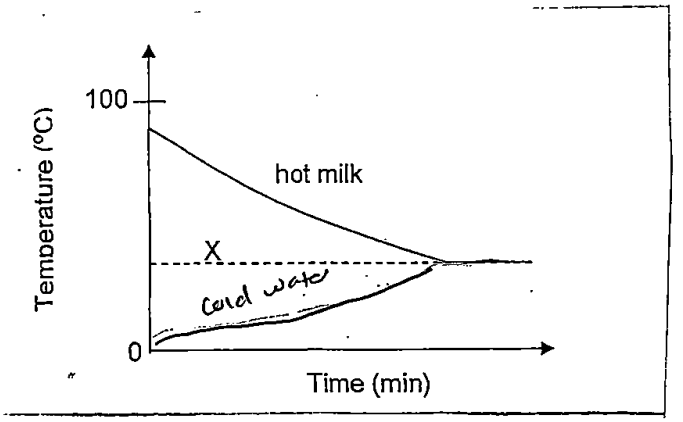
Q19b. Stomata

Q20a. C. Since air in flask C occupies space and the air is unable to escape.

Q20b. Liquid occupies space. Liquid does not have a definite shape.

Q21i) F
Q21ii) NP
Q21iii) NP
Q21iv) T

Q22a. **SEE PICTURE**



Q22b.. The hot milk lost heat to the cold water so it decreased in temperature until it reaches the room temperature.

Q22c. Room temperature.

THE END

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METHODIST GIRLS' SCHOOL

Founded in 1887

CONTINUAL ASSESSMENT 2015
PRIMARY 5
SCIENCE

BOOKLET A1

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____

Class: Primary 5 _____

Date : 5 March 2015

This booklet consists of 14 printed pages including this page.

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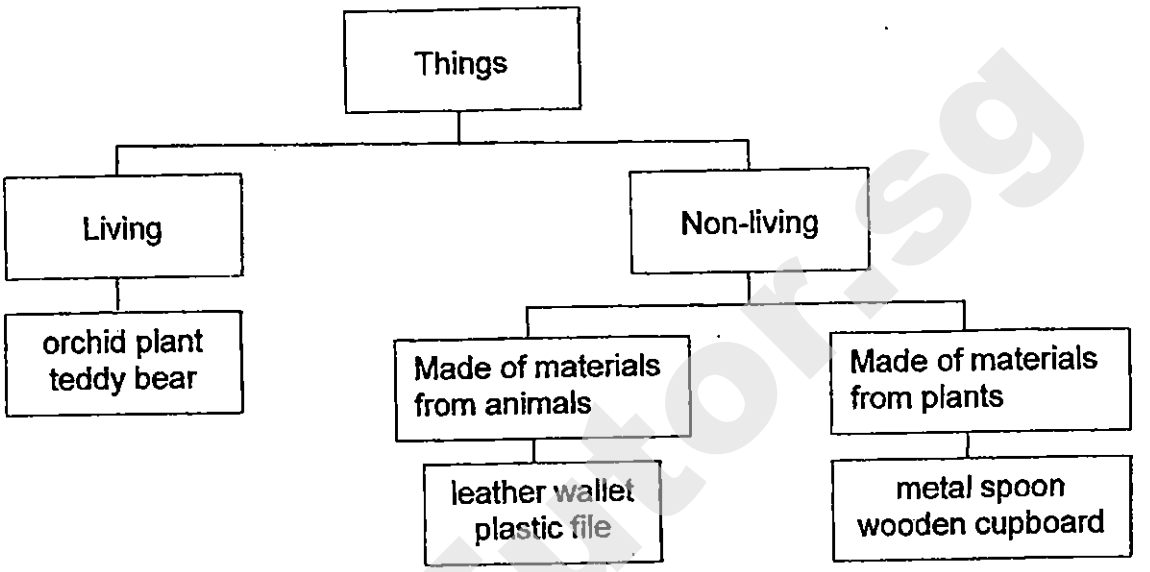
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For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet (OAS).

[30 marks]

---

1. Mei Ling draws the following classification diagram to group some of her things.



Which of the things have been placed in the correct groups?

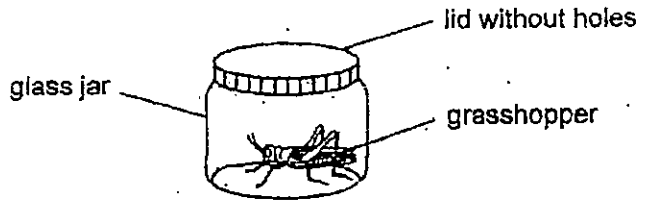
(1) orchid plant, plastic file and metal spoon
(2) orchid plant, leather wallet and wooden cupboard
(3) teddy bear, plastic file and metal spoon
(4) teddy bear, leather wallet and wooden cupboard

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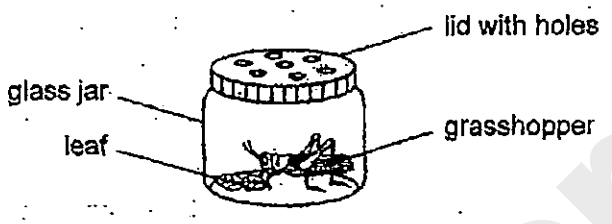
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2. Raju set up four jars, P, Q, R and S as shown below. He wanted to find out if a grasshopper needs air and food to survive.



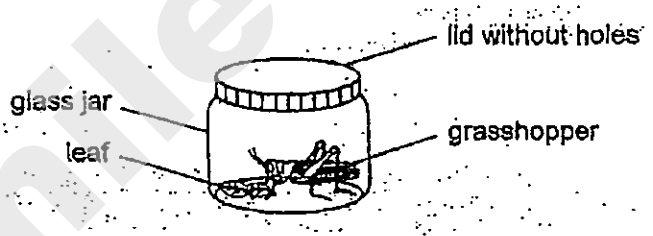
P



Q



R



S

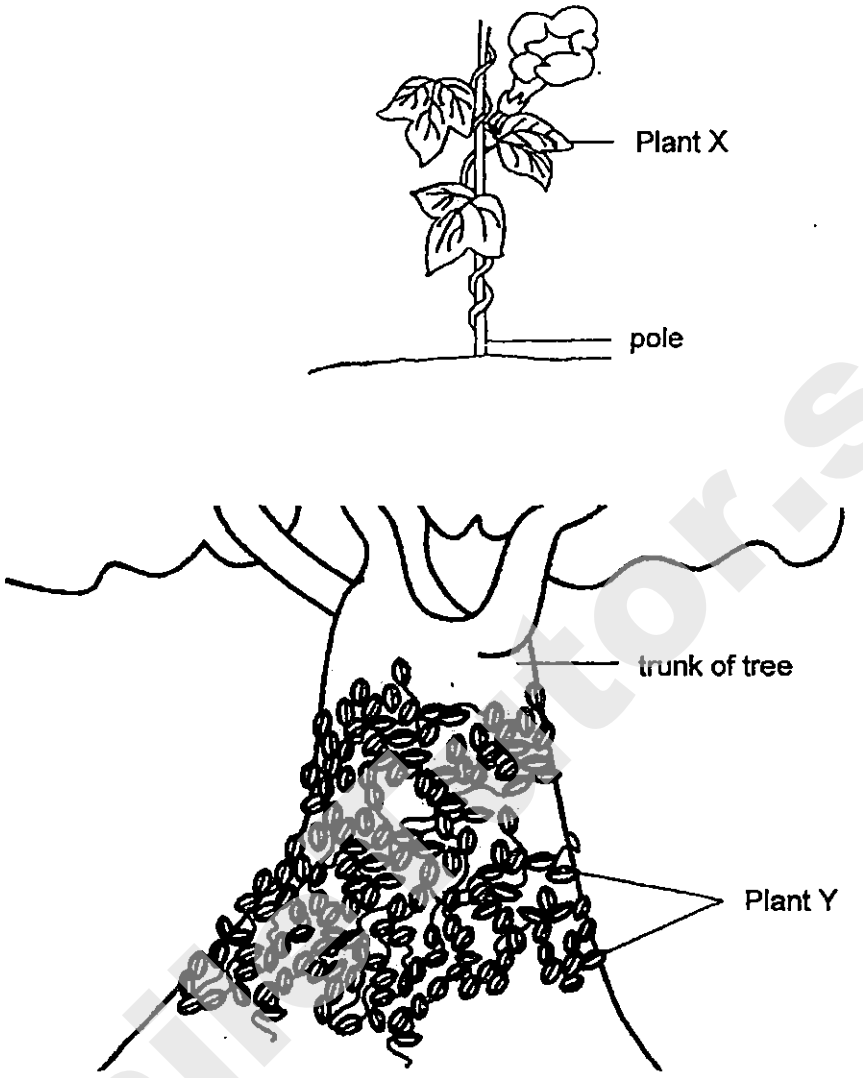
Which pairs of jars are the most suitable for carrying out Raju's experiment?

	To find out if a grasshopper needs	
	air	food
(1)	P and Q	P and S
(2)	P and S	Q and R
(3)	Q and S	P and S
(4)	Q and S	Q and R

(Go on to the next page)

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3. The diagram below shows two green plants, X and Y, growing in a garden.



Which of the following statements about both plants, X and Y, is **not true**?

(1) They have roots.
(2) They have weak stems.
(3) They reproduce by spores.
(4) They have leaves with different edges.

(Go on to the next page)

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4. John had to classify the four animals shown.
(The animals are not drawn to scale.)



bat



penguin

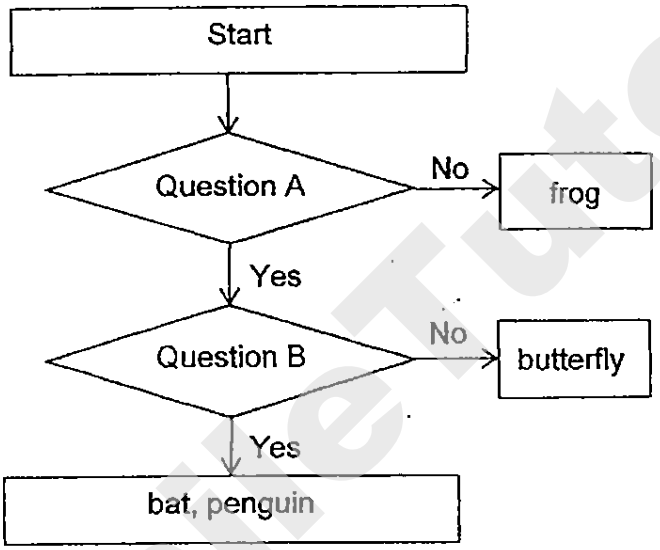


frog



butterfly

He classified them with the help of the flow chart below.



What are the two questions, A and B?

	Question A	Question B
(1)	Do they have wings?	Do they give birth to their young?
(2)	Do they have wings?	Do their young look like the adults?
(3)	Do their young look like the adults?	Do they have wings?
(4)	Do their young look like the adults?	Do they give birth to their young?

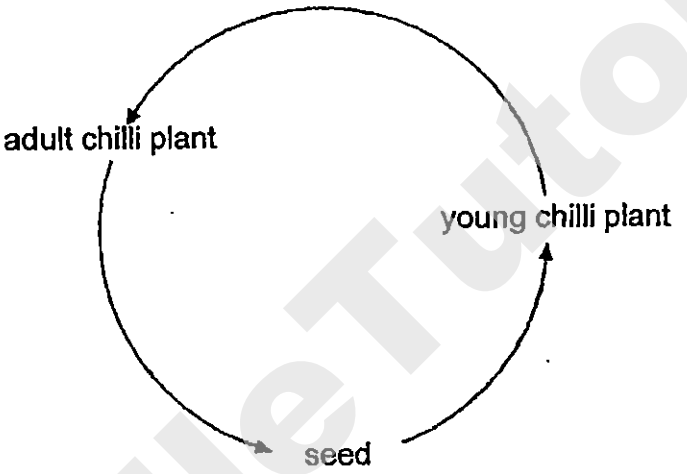
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5. Which one of the following is true for all bacteria and fungi?

	Bacteria	Fungi
(1)	Harmful	Useful
(2)	Living things	Living things
(3)	Have the same shape and size	Have different shapes and sizes
(4)	Can only be seen using a microscope	Can be seen using the naked eye

6. The diagram below shows the life cycle of a chilli plant.



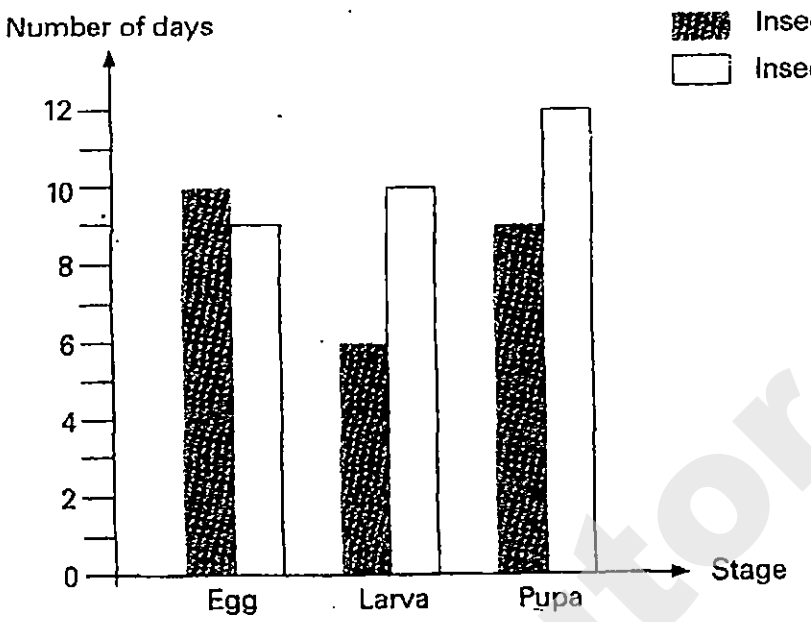
Which one of the following statements about the life cycle of the chilli plant is **not true**?

(1) All chilli plants go through the same life cycle.
(2) The life cycle of the chilli plant is made up of three stages.
(3) The life cycle of the chilli plant ensures the continuity of its kind.
(4) Sunlight is necessary for each stage of growth of the chilli plant.

(Go on to the next page)

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7. The graph below shows the number of days that each stage of the life cycles of insects P and Q lasts.



At which stage respectively, would insects P and Q be on the 17th day after the eggs were laid?

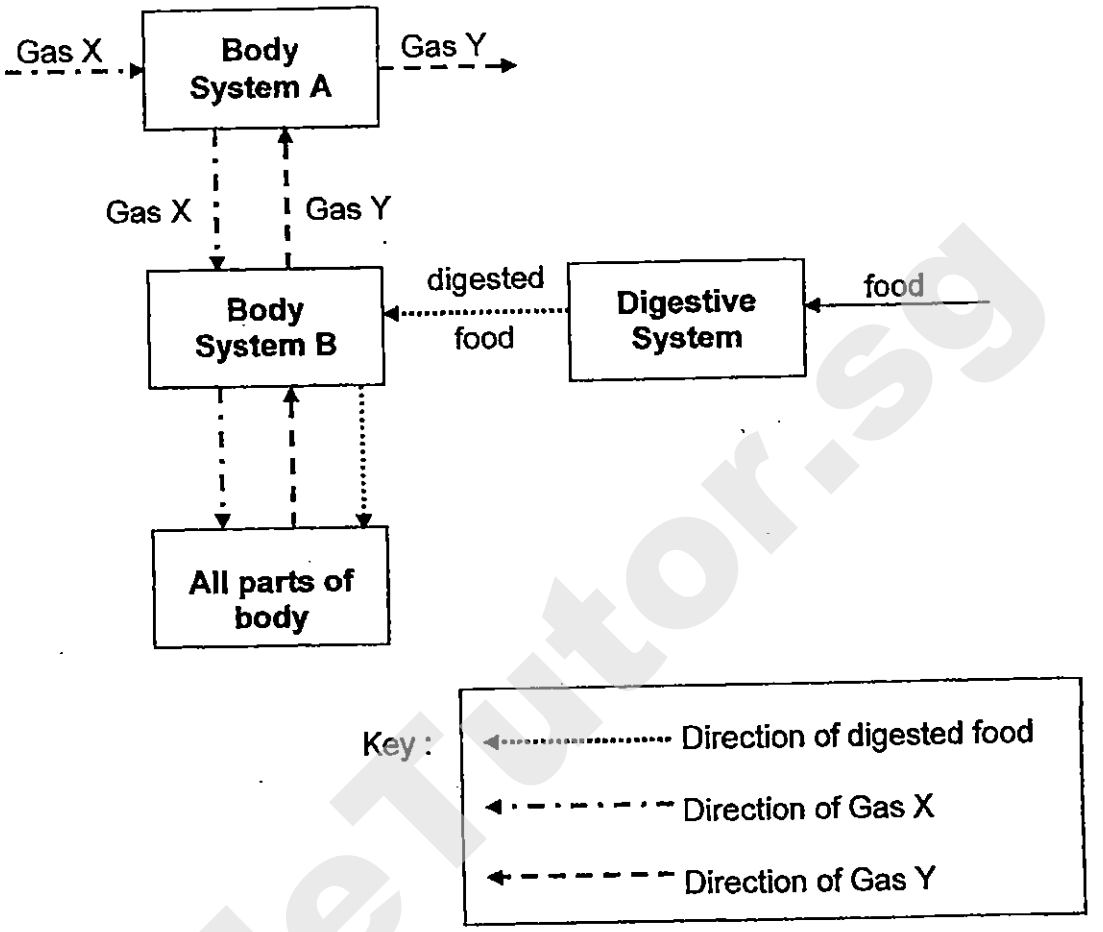
	Insect P	Insect Q
(1)	Larva	Pupa
(2)	Larva	Larva
(3)	Pupa	Pupa
(4)	Pupa	Larva

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(Go on to the next page)

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8. The diagram below shows how our body systems, A, B and the digestive system, work closely together to help our body function properly.



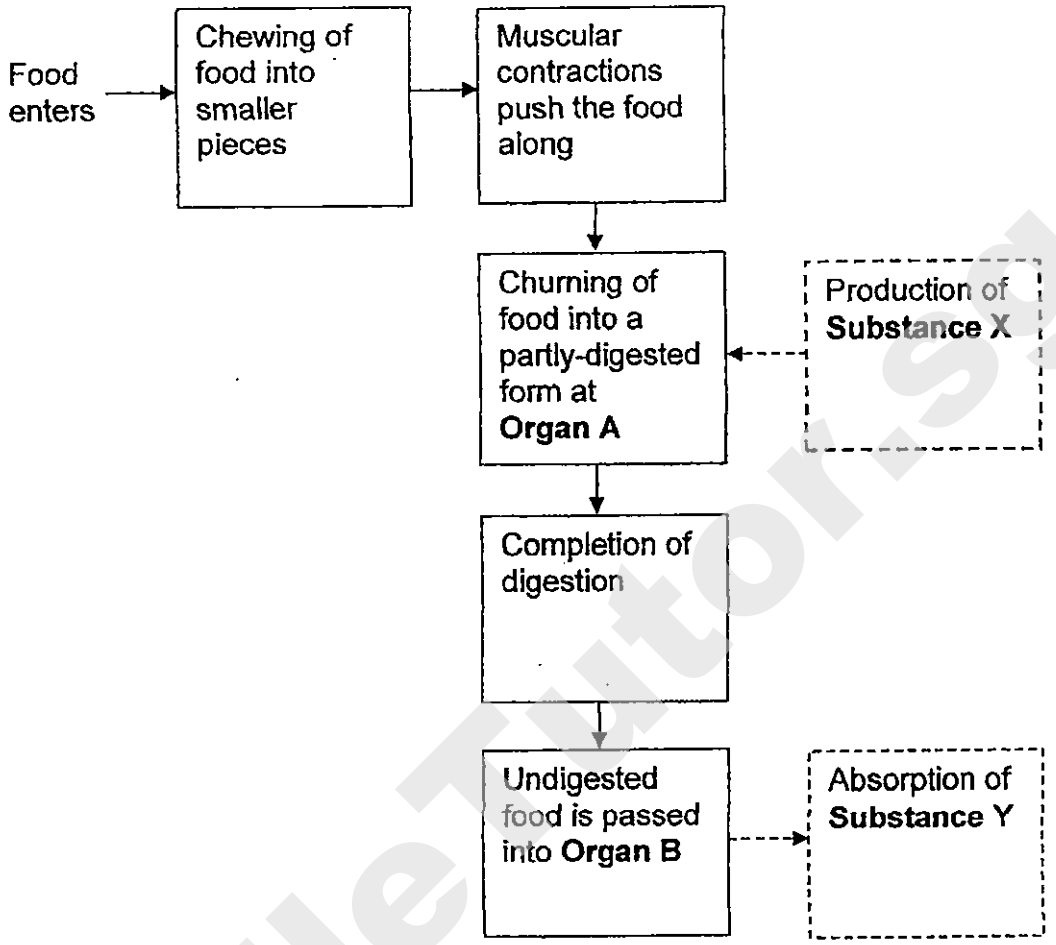
What body systems do A and B represent and what are gases X and Y?

	Body System A	Body System B	Gas X	Gas Y
(1)	respiratory	circulatory	carbon dioxide	oxygen
(2)	circulatory	respiratory	carbon dioxide	oxygen
(3)	respiratory	circulatory	oxygen	carbon dioxide
(4)	circulatory	respiratory	oxygen	carbon dioxide

(Go on to the next page)

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9. The flow chart below shows the processes involved in the human digestive system.



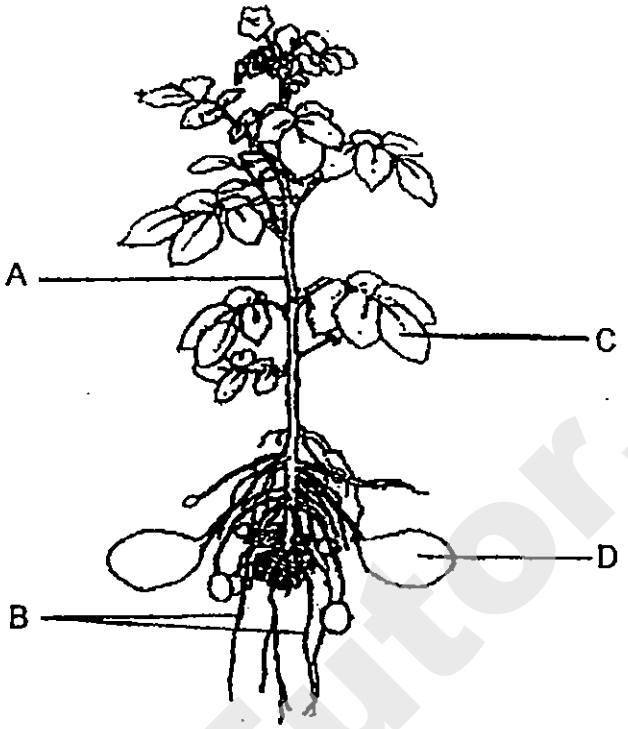
Based on the information given in the flow chart, which one of the following is correct?

	Organ A	Organ B	Substance X	Substance Y
(1)	stomach	large intestine	digestive juice	water
(2)	stomach	anus	saliva	water
(3)	small intestine	large intestine	digestive juice	nutrients
(4)	small intestine	anus	saliva	nutrients

(Go on to the next page)

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10. Four students, Jane, Ming Wei, Rani and Azman were asked to observe the potato plant below.



Each student made a statement about a certain part of the potato plant.

Jane : The tubes inside A carry food, water and mineral salts from one part of the plant to another.

Mingwei : B supports the plant and keeps it upright.

Rani : C makes food for the plant.

Azman : D absorbs water and mineral salts from the soil.

Whose statements are correct?

(1) Jane and Rani
(2) Mingwei and Azman
(3) Mingwei, Rani and Azman
(4) Jane, Mingwei, Rani and Azman

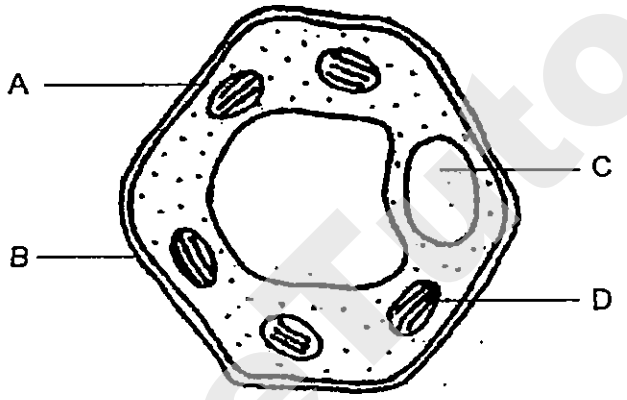
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11. Which one of the following is the basic unit of life for a plant, an animal and a fungi respectively?

	Plant	Animal	Fungi
(1)	cell wall	cell membrane	cell wall
(2)	cell	cell	cell
(3)	chloroplast	cytoplasm	nucleus
(4)	nucleus	nucleus	nucleus

12. The diagram below shows a plant cell.



Which two parts are also found in animal cells?

(1) A and C
(2) A and D
(3) B and C
(4) C and D

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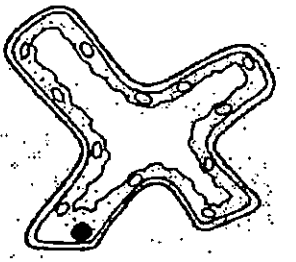
13. Five different types of cells are shown below.



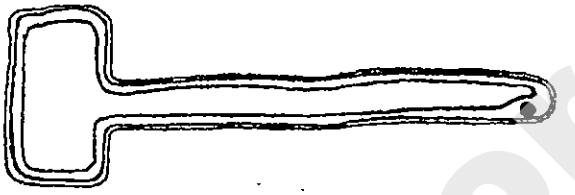
P



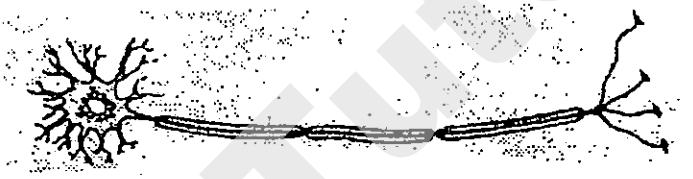
Q



R



S



T

What are cells P, Q, R, S and T?

	Plant Cells	Animal cells
(1)	P and Q	R, S and T
(2)	R and S	P, Q and T
(3)	P, Q and T	R and S
(4)	Q, S and T	P and R

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14. Some plant and animal cells are placed in a container filled with liquid P. After some time, the cells are removed and observed. The observations are recorded in the table below.

Plant Cells	Animal cells
Keep their shape	Burst into smaller pieces

Based on the above observations, which of the following statements are correct?

A : The cell wall keeps the shape of the plant cell.

B : The animal cell breaks into smaller pieces because it lacks the cell wall.

C : The cytoplasm of both the animal and plant cells controls the movement of the liquid in and out of the cell.

(1) A only

(2) B only

(3) A and B only

(4) A, B and C

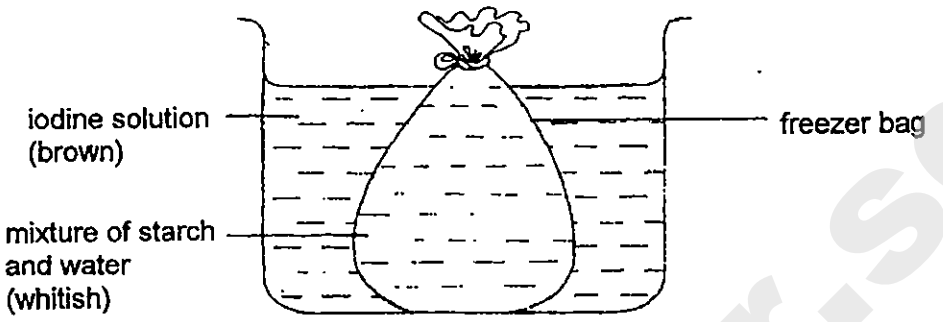
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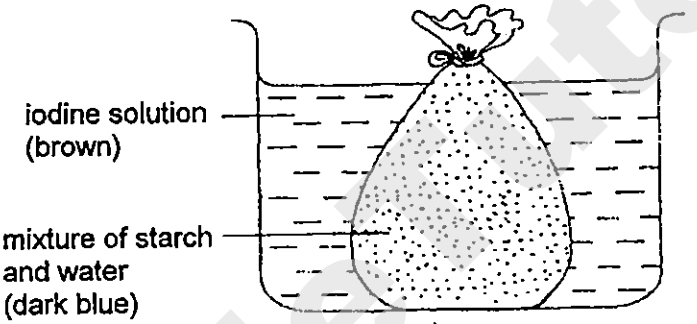
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15 The following experiment is carried out to investigate the movement of substances in and out of a freezer bag.

Iodine solution is used to test for the presence of starch. If starch is present, the brown iodine solution turns dark blue.



Beginning of experiment



End of experiment

Which of the following statements about the experiment are correct?

A : Iodine is able to pass through the freezer bag but not starch.

B : The iodine solution in the beaker remained brown as no starch is present.

C : The freezer bag is similar to the cell membrane as both allow certain substances to pass through and not others.

D : The mixture of starch and water turns dark blue at the end of the experiment as starch has been broken down into simple substances.

(1) D only

(2) A and C only

(3) B and C only

(4) A, B and C only

End of Booklet A1

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METHODIST GIRLS' SCHOOL

Founded in 1887

CONTINUAL ASSESSMENT 2015
PRIMARY 5
SCIENCE

BOOKLET A2

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____

Class: Primary 5_____

Date : 5 March 2015

This booklet consists of 12 printed pages including this page.

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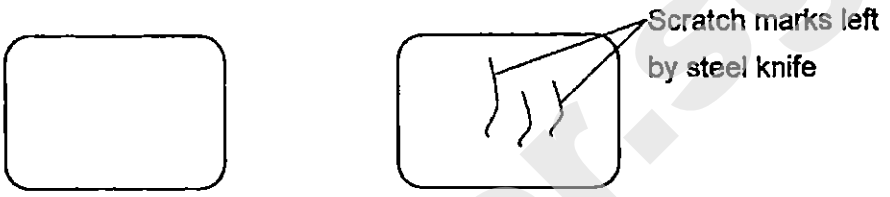
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For each question from 16 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet (OAS).

(30 marks)

---

16. Joey used a steel knife and scraped it against two different materials, P and Q as shown in the diagram below. She noticed that the knife left some scratch marks on material Q but not on material P.



Based on her observations, which of the following statement(s) is/ are true?

A: Material P is harder than steel.
B: Material Q is harder than steel.
C: Material P is stronger than material Q.
D: Material Q is stronger than material P.

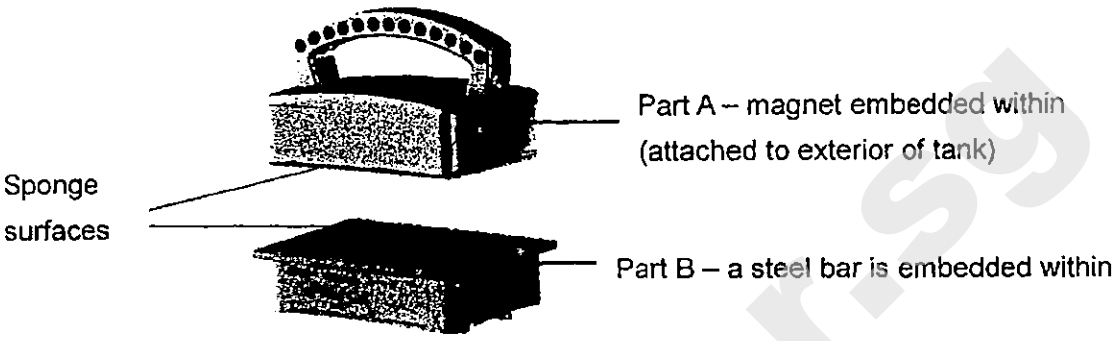
(1) A only
(2) B only
(3) A and C only
(4) B and D only

17. Which one of the following is **not** a source of light?

(1) The Sun
(2) The Moon
(3) A lighted bulb
(4) A candle flame

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18. Mr Lee uses a two-piece device as shown below to clean his glass tank. The device allows both sides of the fish tank to be cleaned at the same time. When part A, which has a magnet embedded within, is moved over the glass surface of the exterior of the fish tank, part B follows it, moving over the glass surface of the interior of the fish tank.



What properties of a magnet are applied in this device?

A: Magnets repel each other.
B: Magnets attract magnetic materials.
C: The magnetic force is the strongest at its poles.
D: Magnetic force can pass through some materials.

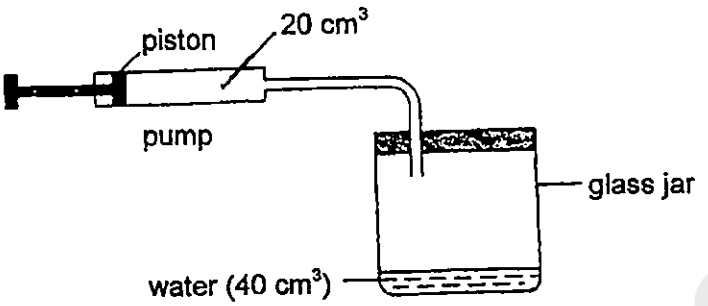
(1) A and C only
(2) B and D only
(3) B, C and D only
(4) All of the above

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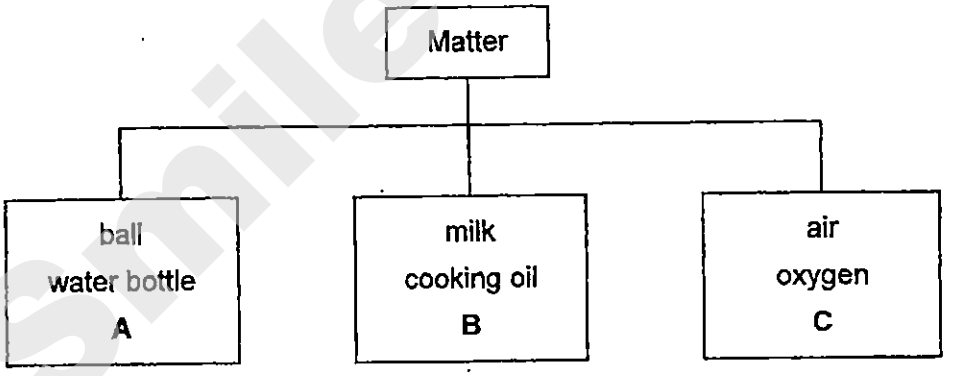
19. An experiment was set up using a pump which is connected to a glass jar as shown below. The volume of the glass jar is 200 cm^3 and it contained 40 cm^3 of water.



The piston was pushed in completely to force the 20 cm^3 of air into the glass jar. What is the final volume of air in the jar?

(1) 160 cm^3
(2) 180 cm^3
(3) 200 cm^3
(4) 220 cm^3

20. Study the classification diagram below.



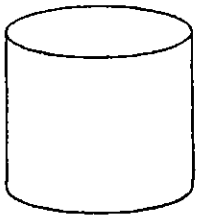
Which of the following objects best represent A, B and C?

	A	B	C
1)	snow	water vapour (gas)	steam
2)	iceberg	mist	cloud
3)	hailstone	fog	steam
4)	ice	steam	cloud

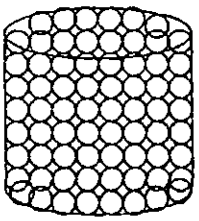
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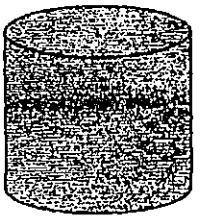
21. Ali added different substances to containers P, Q, R and S as shown below. Each container has a volume of 100ml.



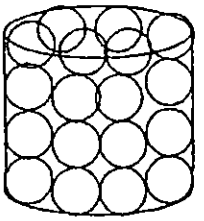
P: air



Q: marbles



R: orange juice



S: tennis balls

A pot with 50 ml of water is poured into each container at the same time. The speed and amount of water poured in is the same for all containers.

Which of the statements below correctly describe Ali's observations?

A: The water in container R overflowed first.
B: The water in container P did not overflow.
C: Water filled up container P faster than container S.
D: Water filled up container Q slower than container S.

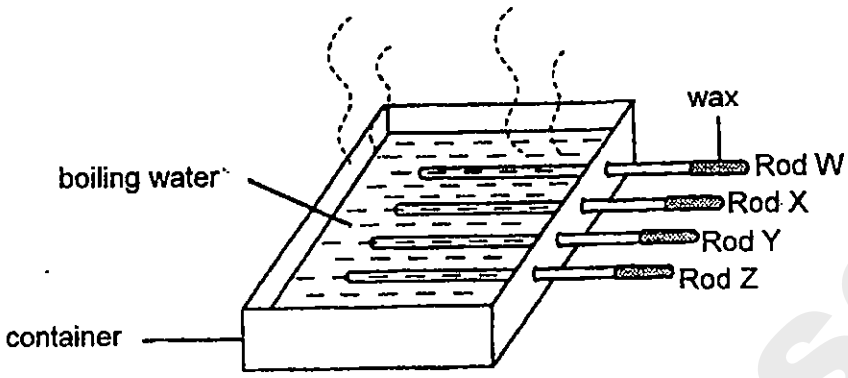
(1) A and B only
(2) A and D only
(3) B and D only
(4) C and D only

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22. Siti set an experiment as shown below to investigate which material is the best conductor of heat. Four rods made of different materials were heated on one end to melt the drop of wax that was on the other end.



The time taken for the drop of wax to melt completely is recorded in the table below.

Rod	Time taken for the drop of wax to melt completely (s)
W	120
X	70
Y	190
Z	210

Based on the results above, what conclusions can she draw from the experiment?

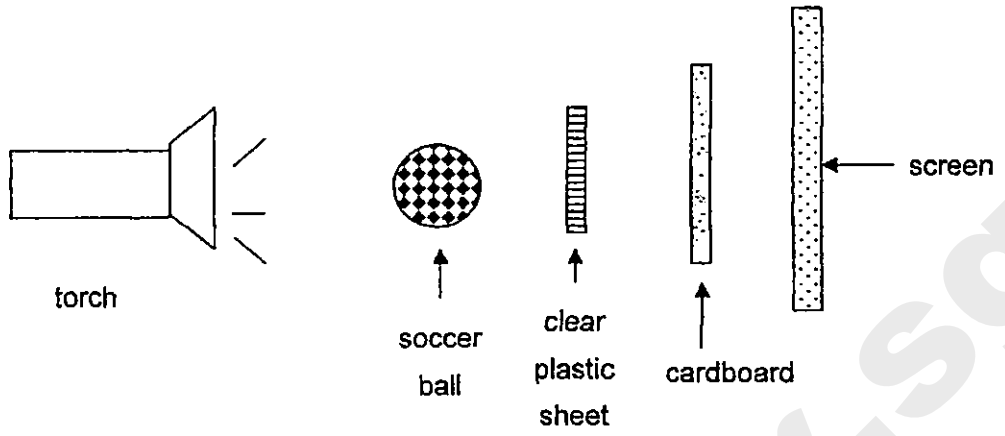
A: Rod Z is the best conductor of heat.
B: Rod W is a better conductor of heat than Rod Y.
C: The four metal rods conduct heat at different rates.
D: Material for Rod X can be used to make the handle of a frying pan.

(1) A and C only
(2) B and C only
(3) B, C and D only
(4) All of the above

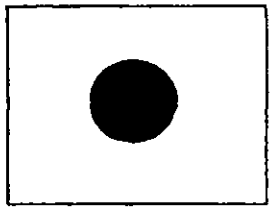
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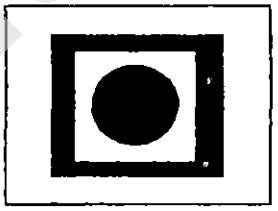
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23. The diagram below shows a torch shining at a soccer ball, a square piece of clear plastic sheet and a rectangular piece of cardboard. A shadow is formed on the screen.



Which one of the following is the shadow that will be cast on the screen?

(1) 

(2) 

(3) 

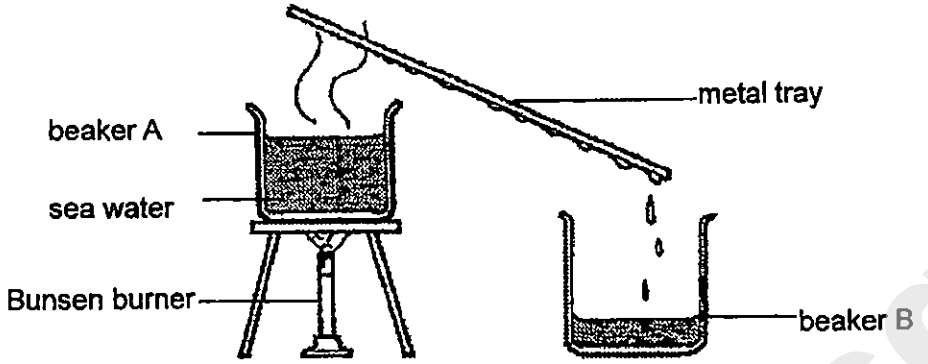
(4) 

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24. Judy set up the experiment as shown below.



She heated some sea water in Beaker A. After a while, droplets of liquid were formed under the metal tray. These droplets then dripped into Beaker B.

Which of the following statements about the above set-up are true?

A: Pure water is collected in Beaker B.
B: The steam condenses into water droplets as the metal tray was hot.
C: The steam can be seen rising from the sea water when it was heated.
D: Only water evaporates so salt and other impurities will be left in Beaker A.

(1) A and D only
(2) A, B and C only
(3) A, B and D only
(4) B, C and D only

25. Which one of the following actions does **not** help to conserve water?

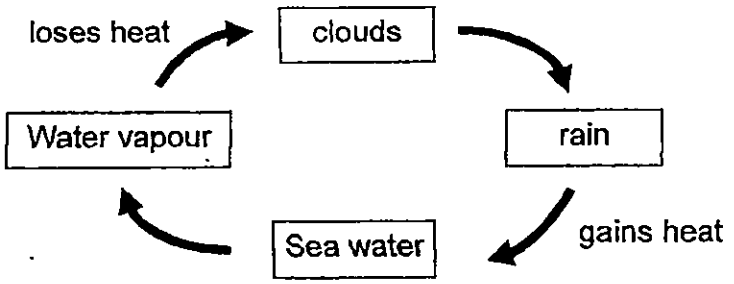
(1) Conduct water rationing exercise.
(2) Turn off the tap when you are brushing your teeth.
(3) Drinking bottled mineral water instead of tap water.
(4) Use water that was used to wash rice to water the plants.

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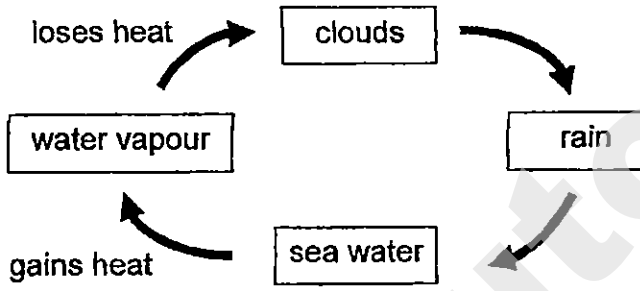
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26. Which one of the following diagrams correctly shows the water cycle?

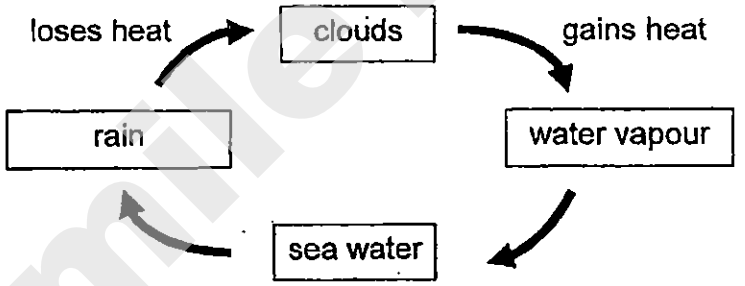
(1)



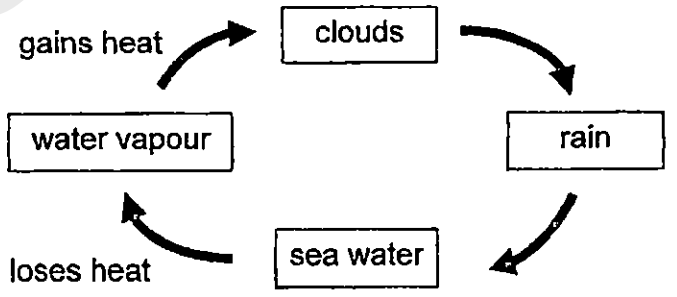
(2)



(3)



(4)

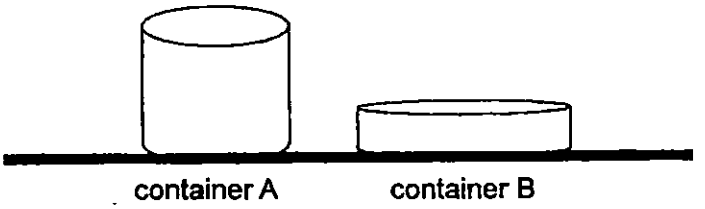


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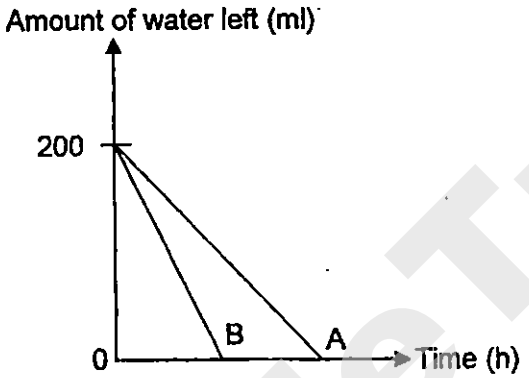
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27. Container A and B were each filled with 200ml of water. The containers were placed near the window to allow the water to evaporate. A graph was plotted to show the time taken for the water in each container to evaporate.

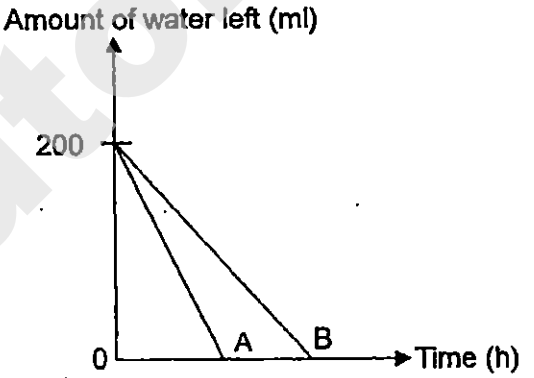


Which graph below shows the results correctly?

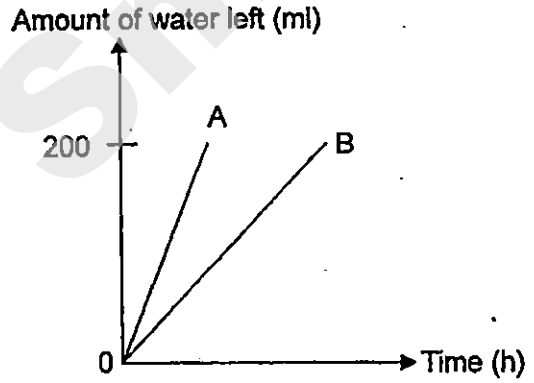
(1)



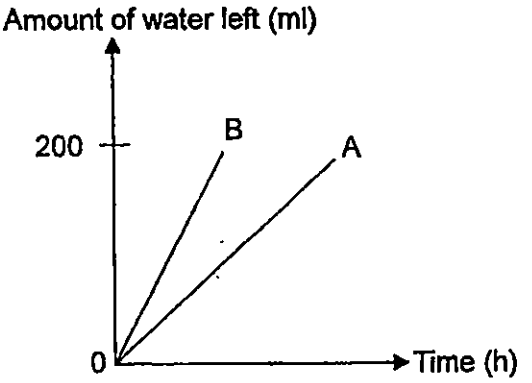
(2)



(3)



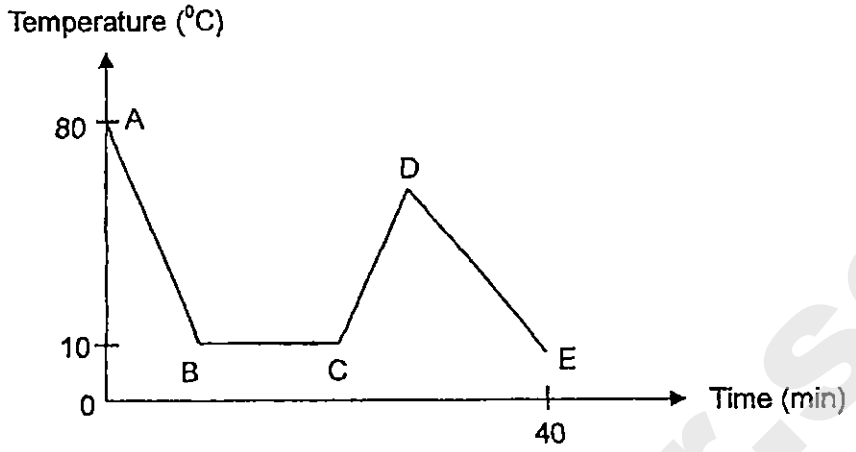
(4)



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28. The graph below shows the changes in temperature of a liquid in a beaker over a period of 40 minutes.



Which of the following statements are definitely true?

W: The boiling point of the liquid is 80°C.
X: Line DE shows a loss of heat energy.
Y: A heat source was introduced at point D.
Z: The temperature of the liquid remained constant at Line BC.

(1) X and Y only
(2) X and Z only
(3) W, Y and Z only
(4) X, Y and Z only

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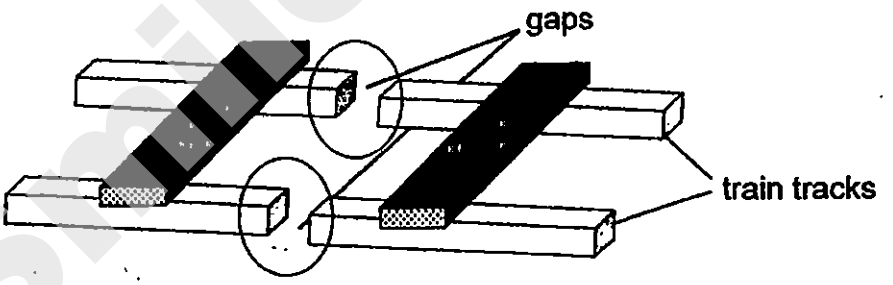
29. The table below shows the melting point and boiling point for three different substances, A, B and C.

Substance	Melting point (°C)	Boiling point (°C)
A	80	218
B	0	100
C	39	356

Which one of the following represents correctly the states of substances A, B and C respectively at 55°C?

	State of substance at 55°C		
	A	B	C
(1)	gas	solid	liquid
(2)	liquid	liquid	solid
(3)	solid	liquid	solid
(4)	solid	liquid	liquid

30. The diagram below shows part of a train track of the Mass Rapid Transit (MRT) station.



The gaps on the train track allow the _____.

(1) tracks to gain heat on hot days
(2) tracks to lose heat on cold days
(3) expansion of the track on hot days
(4) contraction of the track on cold days

End of Booklet A2

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METHODIST GIRLS' SCHOOL

Founded in 1887

CONTINUAL ASSESSMENT 2015
PRIMARY 5
SCIENCE

BOOKLET B1

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____

Class : Primary 5 _____

Date : 5 March 2015

Booklet B1	20
Parent's Signature	

This booklet consists of 8 printed pages including this page.

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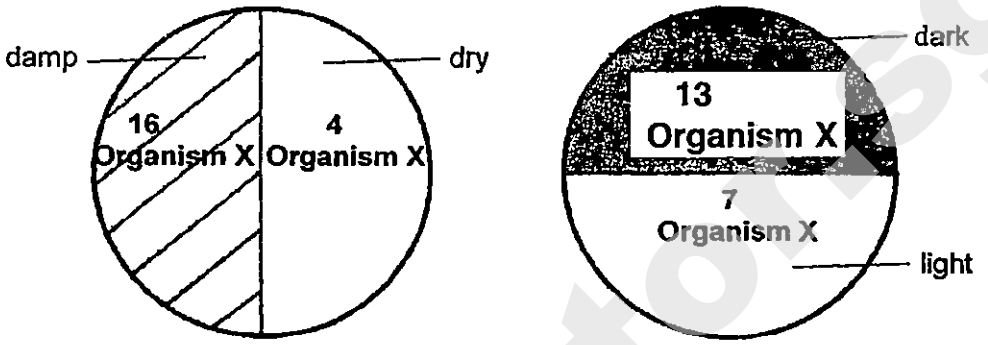
For questions 31 to 37, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[20 marks]

---

31. An experiment was carried out to study the preferred environment of organism X. Twenty organism X were put in the middle of Dish A. After thirty minutes, the number of organism X in each section of Dish A was counted.

The experiment was repeated with Dish B using the same number of organism X.



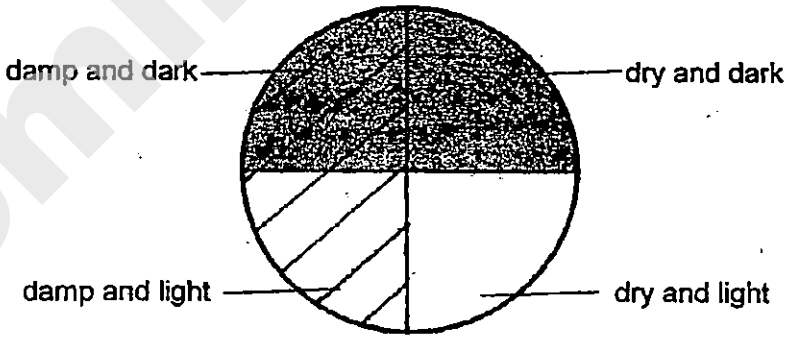
Dish A Dish B

(a) State two characteristics of living things that are shown in the above experiment. [1]

Characteristic 1: _____

Characteristic 2: _____

(b) The experiment was repeated with Dish C using the same number of organism X.



Dish C

In which area of Dish C would most organism X be found? [1]

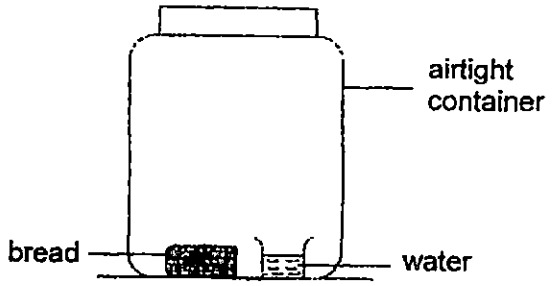
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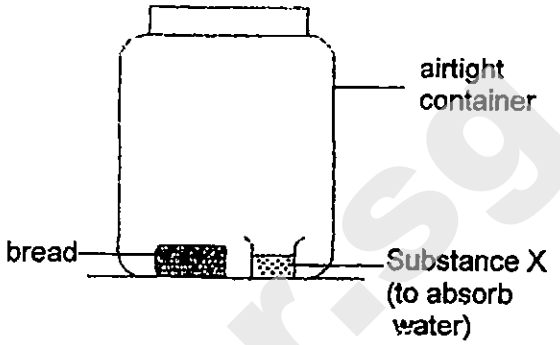
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32. Sarah set up the following experiment to find out the conditions needed to prevent bread from becoming mouldy. She placed a similar piece of bread in each of the containers, A, B, C and D. She put containers A and B in a warm place and containers C and D in a cold place.

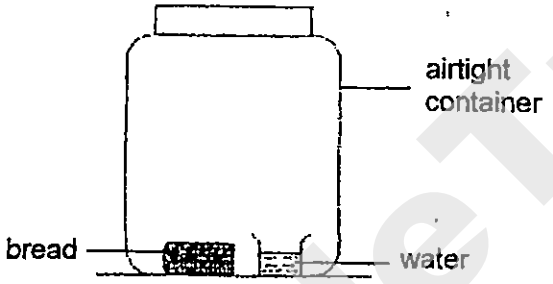
Container A - warm place



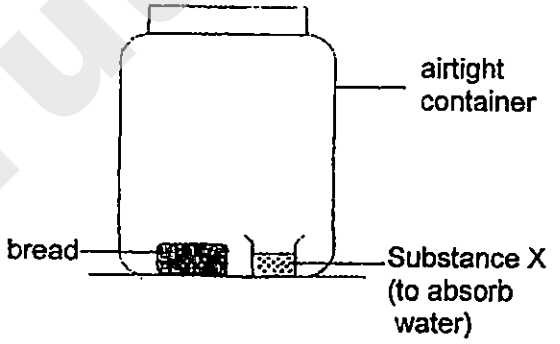
Container B- warm place



Container C- cold place



Container D- cold place



(a) Besides using similar pieces of bread, name another variable that Sarah must keep the same in the experiment. [1]

_____

(b) In which container, A, B, C or D, would the bread turn mouldy first? Give a reason for your answer. [2]

_____

_____

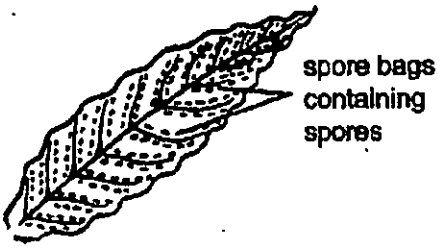
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33. Look at the diagram below.

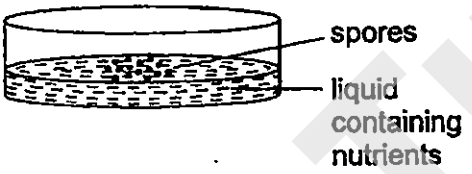


fern leaf

(a) What is the role of the spores in the life cycle of the fern? [1]

_____

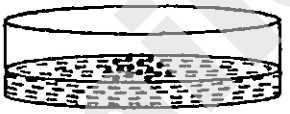
(b) An experiment was carried out to find out the conditions under which spores will germinate. Four identical dishes were set up and placed in four different places as shown below.



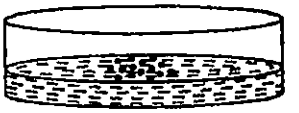
Dish 1 was in a dark place at 1°C.



Dish 2 was in a bright place at 1°C.



Dish 3 was in a dark place at 30°C.



Dish 4 was in a bright place at 30°C.

At the end of the experiment, it was observed that only the spores in dishes 3 and 4 germinated.

Based on this observation only, which condition is necessary for spores to germinate and which condition is not necessary? [1]

Condition **necessary** for spores to germinate : _____

Condition **not necessary** for spores to germinate : _____

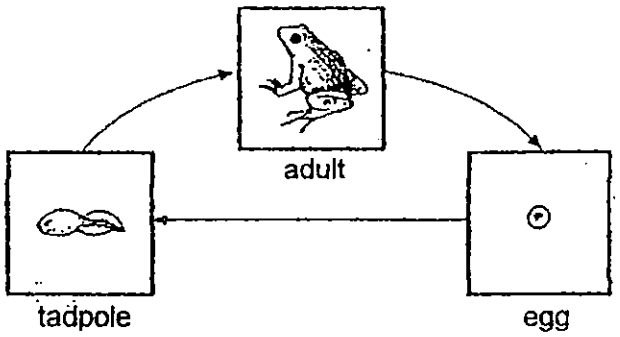
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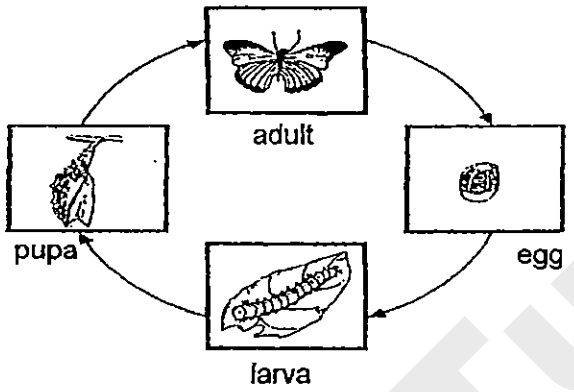
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34. Study the diagrams below.

Life cycle of a frog



Life cycle of a butterfly



(a) Why are life cycles important to animals? [1]

_____

_____

(b) The frog and the tadpole do not feed on the same food. The butterfly and the larva also do not feed on the same food. What is the advantage of this to the adults and their young? [1]

_____

_____

(c) State a difference between the life cycle of a frog and a butterfly. [1]

_____

_____

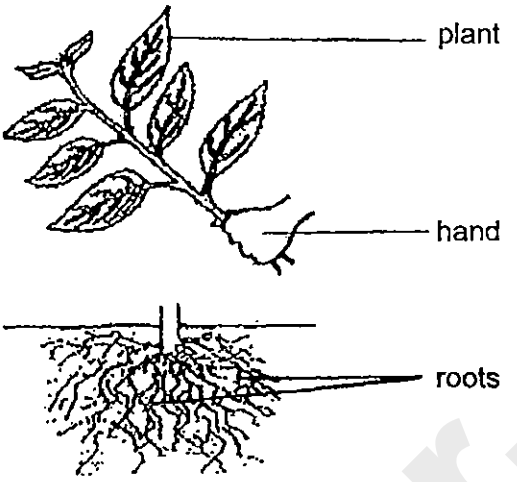
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35. Peter tried to pull out a plant from the ground but was unable to do so. Then he used a knife to cut the plant as shown in the diagram below.



(a) Based on the fact that Peter was not able to pull out the plant at first, what is the function of the roots? [1]

_____

(b) Peter planted the part of the plant that was cut off in a pot of rich soil. The plant received sufficient water and sunlight.

What happened to the plant after two weeks? Give a reason for your answer. [2]

_____

_____

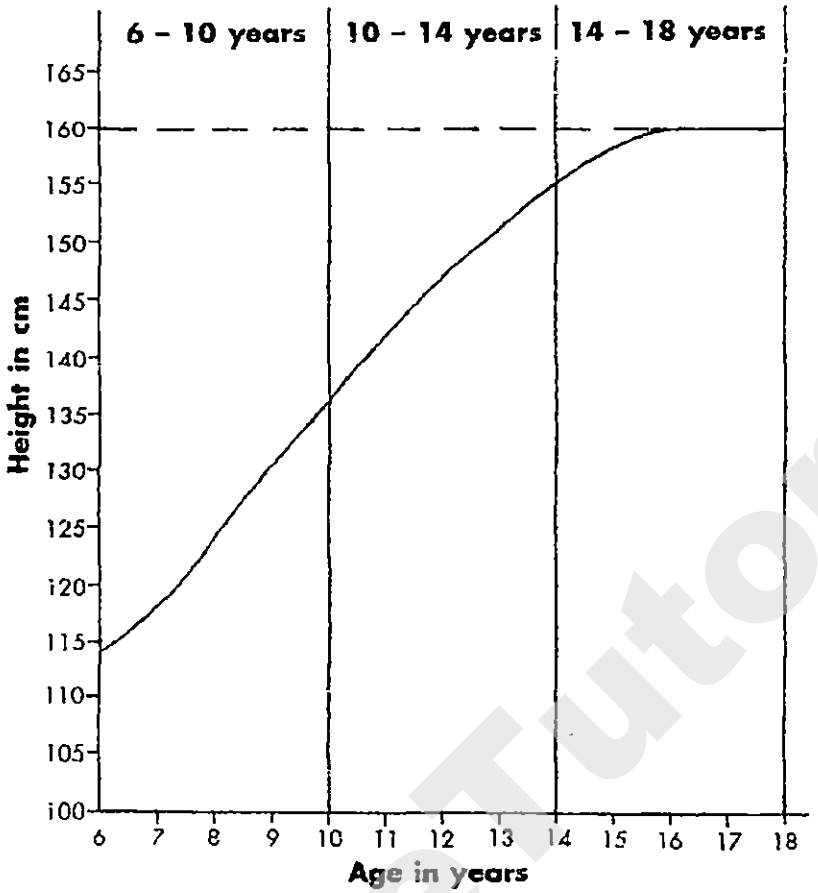
3

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36. The graph below shows the height of Siti from 6 to 18 years of age.



(a) What is the relationship between Siti's age and her height? [1]

_____

_____

(b) As Siti grows taller, what happens to the number of cells in her body? [1]

_____

(c) Siti stopped growing taller at the age of sixteen. Did Siti's cells still divide when she was sixteen? Explain your answer. [1]

_____

_____

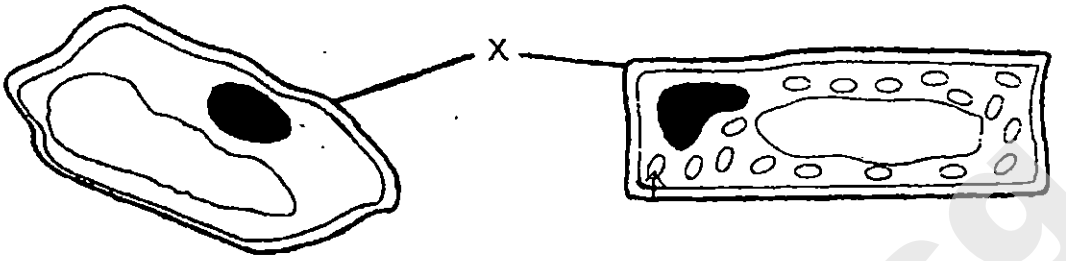
3

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37. The diagram below shows two different types of cells, A and B, from the same plant.



Cell A Cell B

(a) What is the function of part X? [1]

_____

_____

(b) In the diagram above, **draw in an arrow and name** the part of the cell that makes food for the plant. [1]

(c) In which part of the plant are you likely to find cell A? Give a reason for your answer. [2]

Cell A is likely to be found in the _____ of the plant.

Reason : _____

_____

4

End of Booklet B1

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METHODIST GIRLS' SCHOOL

Founded in 1887

CONTINUAL ASSESSMENT 2015
PRIMARY 5
SCIENCE

BOOKLET B2

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____

Class: Primary 5._____

Date: 5 March 2015

Booklet A1 & A2	60
Booklet B1	20
Booklet B2	20
Total	100
Parent's Signature	

This booklet consists of 9 printed pages including this page.

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For questions 38 to 44, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

(20 marks)

38. The table below shows the properties of material A, B, C and D.

Material	Waterproof	Strong	Heavy
A	No	No	No
B	No	Yes	No
C	Yes	Yes	Yes
D	Yes	Yes	No

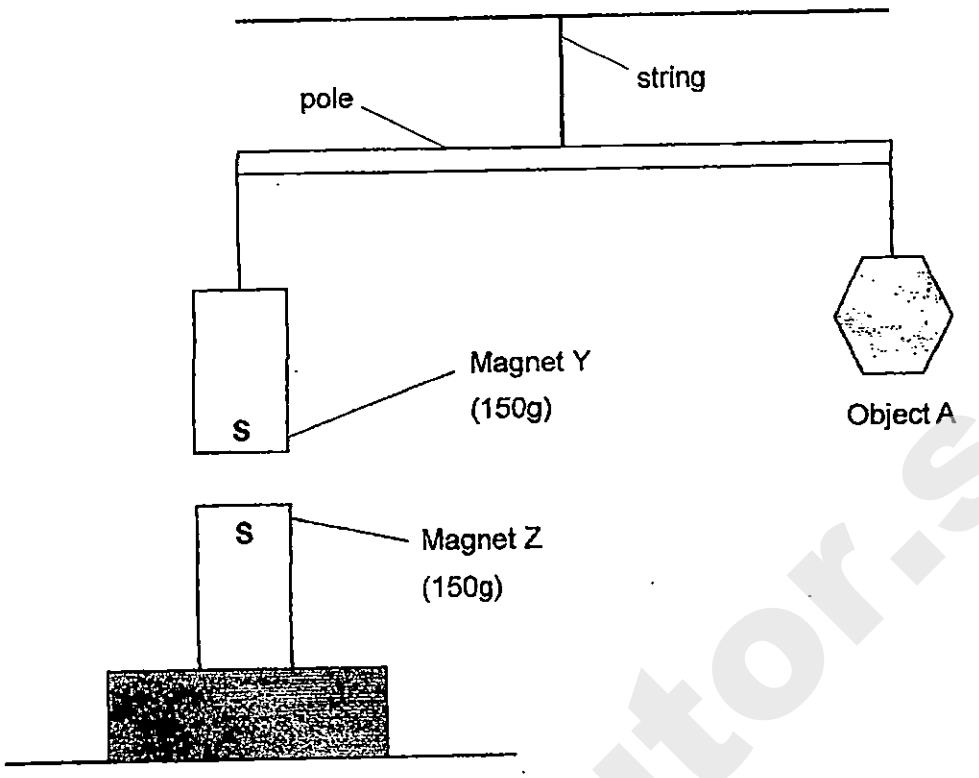
Which material, A, B, C or D is most suitable for making a walking stick? Explain your answer. [2]

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2

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39. Study the diagram below carefully.



Magnet Z is held securely and resting on a box with its South-seeking pole facing the South-seeking pole of magnet Y. As a result, Object A and Magnet Y are **balanced** on an equal beam balance.

(a) Is Object A less than or greater than 150g? Explain your answer. [2]

b) What would happen to Object A if Magnet Z is replaced with an iron block? Give a reason for your answer. [1]

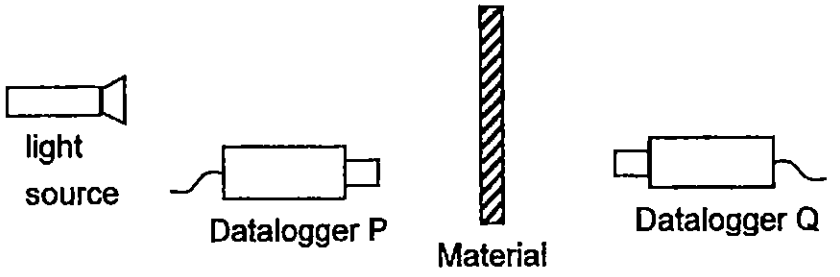
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40. Mr Lim set up an experiment in a dark room as shown below to test three different materials, A, B and C, one at a time.



He recorded his results from both dataloggers in the table below.

Material	Amount of light (Lux)	
	Datalogger P (Lux)	Datalogger Q (Lux)
A	100	0
B	2100	0
C	30	1900

(a) Based on his results above, what could Mr Lim conclude about the properties of Materials A and B? [1]

_____

_____

(b) Which material, A, B or C most likely has a shiny surface? Give a reason for your choice. [1]

_____

_____

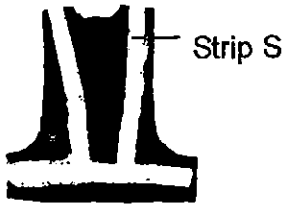
2

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The safety vest below has a shiny strip S. It is used by construction workers who are required to put them on while doing road works, especially at night. This ensures the workers' safety when drivers on the road spot them in the dark.



(c) Explain how strip S could help drivers spot the workers while driving at night. [1]

_____

_____

_____

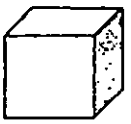
1

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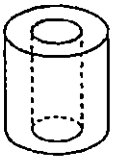
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41. Mrs Tan was preparing a cold dessert for her daughter's birthday party. She put an equal amount of dessert in two identical plastic containers A and B. She then added ten pieces of normal ice cubes in container A and ten pieces of ice in the shape of a hollow cylinder in container B. She measured the temperature of the dessert in each container after 5 minutes and compared these with the initial temperature. She then recorded her findings in the table below.



Normal ice cube in container A



Hollow cylindrical ice in container B

	Initial temperature	Temperature after 5 min
Dessert with normal ice cube	25°C	11°C
Dessert with hollow cylindrical ice	25°C	5°C

(a) What can Mrs Tan conclude based on the table above? [1]

(b) Give a reason for Mrs Tan's conclusion.

(c) Would Mrs Tan be able to keep the dessert cold for a longer period of time in a metal container as compared to the plastic container? Explain your answer. [1]

3

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42. Diagram 1 below shows three substances X, Y and Z in a container. When more of substance Y is added into the container, the level of substance X changed but not Z, as shown below in Diagram 2.

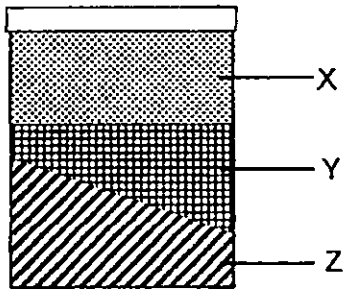


Diagram 1

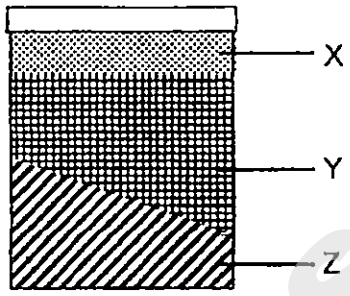


Diagram 2

(a) What is the state of substance X? Explain your answer. [2]

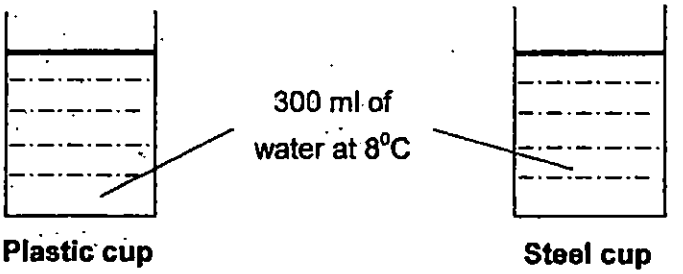
(b) What are the **two** properties of substance Z as shown by the demonstration? [1]

3

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43. Alan placed two similar cups on a table in the kitchen on a warm day. The two cups contained the same amount of water at the same temperature.



(a) On which cup will water droplets first appear on its outer surface? Explain your answer clearly. [2]

(b) Describe one difference in the formation of water droplets if the cups of water are now placed in an air-conditioned room at 16°C as compared to room temperature. [1]

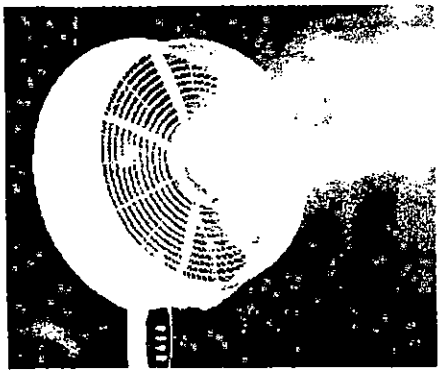
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44. Ahmad finds out that the new mist fans installed in the school canteen will help to keep the canteen cool. The mist fans give out fine water droplets when they are switched on.



(a) Explain how the mist fan works to cool the school canteen on a warm day. [1]

(b) Ahmad also observed that the mirror in the bathroom turned misty after he has taken a hot shower.



Why did the mirror turn misty after Ahmad has taken a hot shower? [2]

3

End of Booklet B2

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : METHODIST GIRLS' SCHOOL (PRIMARY)
SUBJECT : SCIENCE
TERM : CA1

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
2	**4**	**3**	**2**	**2**	**4**	**4**	**3**	**1**	**1**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
4	**2**	**2**	**3**	**4**	**3**	**1**	**3**	**1**	**1**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	**2**	2	**1**	**3**	**2**	1	2	3	**3**

Q31a. Characteristic 1 : Living things move by themselves.
Q31a. Characteristic 2 : Livings respond to changes around them.
Q31b. Damp and dark.

Q32a. She must keep the type of containers the same.
Q32b. Container A. Mould grows in damp and most places. These conditions match container A. Thus, the bread in A would turn mouldy first.

Q33a. The spores grow into young so that the fern can reproduce.
Q33b. **necessary :** warmth
Q33b. **not necessary** : light

Q34a. To ensure the continuity of its own kind.
Q34b. To reduce the competition of food for the young and adult.
Q34C. The life cycle of a frog has three stages in its life cycle while the butterfly has four stages in its life cycle.

Q35a. The roots anchored the plant firmly to the ground.
Q35b. The plant died. The plant could not receive water and mineral salts as there were no roots.

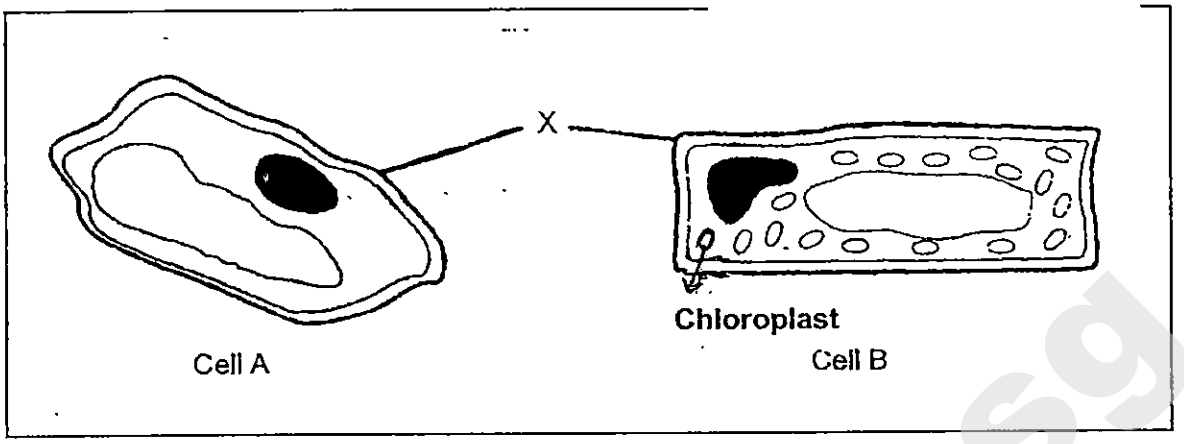
Q36a. As Siti's age increases, her height increases. Beyond the age of sixteen, as her age increases, her height remains constant.
Q36b. The number of cells increase.
Q36c. Yes, the cells still divide to replace old and damaged cells but it happens at a slower rate.

Q37a. To give the cell a regular shape and protect the cell.

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Q37b. SEE PICTURE



Q37c. **roots.**
Reason : The roots do not make food for the plant and do not contain chloroplasts in the cell unlike leaves.

Q38. Material D. It has to be strong so that it can support the person who is using the walking stick. It also has to be light so that old people can carry it around with them easily.

Q39a. Only an object with a mass less than 150g will be able to balance magnet Y as magnet Y and magnet Z are repelling each other.
Q39b. Object A would be rose higher. Magnets attract magnetic materials such as iron. The magnet will then lower itself in order to attract it which makes the other end of the pole balancing object A to rise higher.

Q40a Both materials are opaque.
Q40b. B. Data logger P detected the greatest amount of light as it could reflect the most amount of light.
Q40c. As it is shiny it will reflect the light off strips which reflects into the driver's eyes. As a result, this can help drivers spot the workers while driving at night.

Q41a. The hollow cylindrical ice helps cool down the dessert faster.
Q41b. The hollow cylindrical ice has a larger exposed surface area than the normal ice cube so it gains heat faster.
Q41c. No. Metal is a good conductor of heat so the dessert will gain heat quickly and its temperature will increase.

Q42a. Gaseous state. Gas can be compressed as it does not have a definite shape and volume.
Q42b. Substance Z is a solid as it has a definite shape and volume.

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Q43a. Steel cup. Steel is a better conductor of heat than plastic so it conducts heat away and the water vapour condenses faster into water droplets.
Q43b. The formation of water droplets is slower at room temperature compared to an air – conditioned room.

Q44a. The water droplets from the mist fan will gain heat from the surrounding to evaporate, so it cools down the air of the canteen.
Q44b. The hot water vapour from the hot water, rise to touch the cooler surface of the mirror. The water vapour then cools and condenses to form tiny water droplets. The tiny water droplets then gather themselves up as mist.

THE END

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NAN HUA PRIMARY SCHOOL
CONTINUAL ASSESSMENT 1 2015
PRIMARY FIVE
SCIENCE

Name : _____( )

Class : Primary 5 / ____

Date : 26 February 2015

Duration : 1 h 45 min

MARKS	
Sect A:	/ 60
Sect B:	/ 40
Total :	**/ 100**

<u>Section A:</u> (30 x 2marks = 60marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

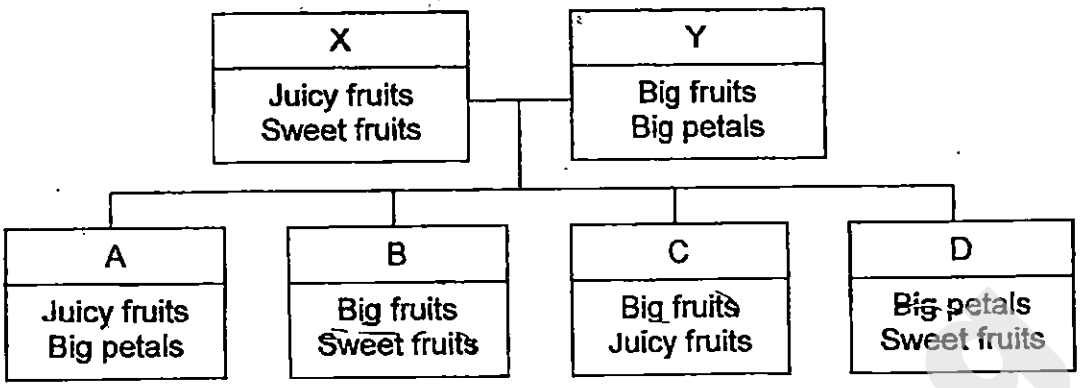
1. What is the importance of reproduction?

   (1) Organisms need to reproduce to ensure continuity of its own kind.
   (2) Organisms need to disperse its young to ensure continuity of its own kind.
   (3) Organisms need to move to a new area to ensure continuity of its own kind.
   (4) Organisms need to prevent competition with its young for air, food and water to ensure continuity of its own kind.

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2. The diagram below shows the characteristics of parent plants, X and Y.

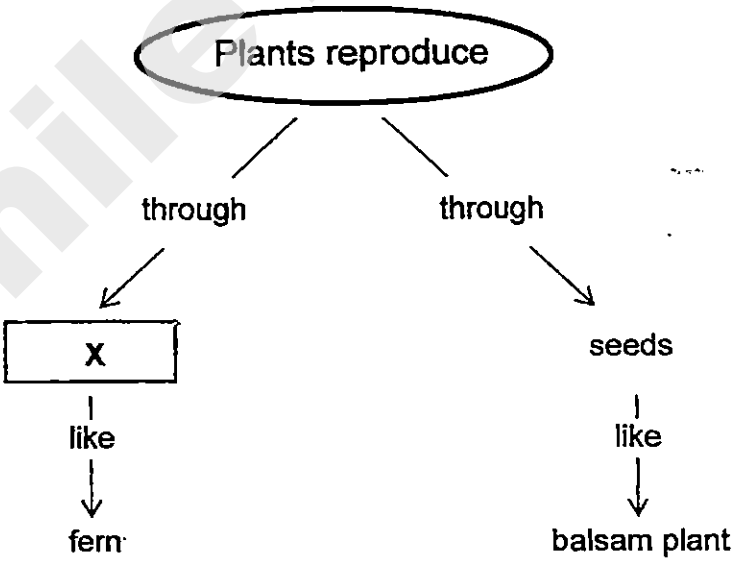


A, B, C and D are offsprings of Plant X and Plant Y. When A, B, C and D grew into adult plants, two of them were used to breed a new young plant V, which has big, sweet and juicy fruits.

Which of the two plants A, B, C and D are parents of V?

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

3. Study the chart below.

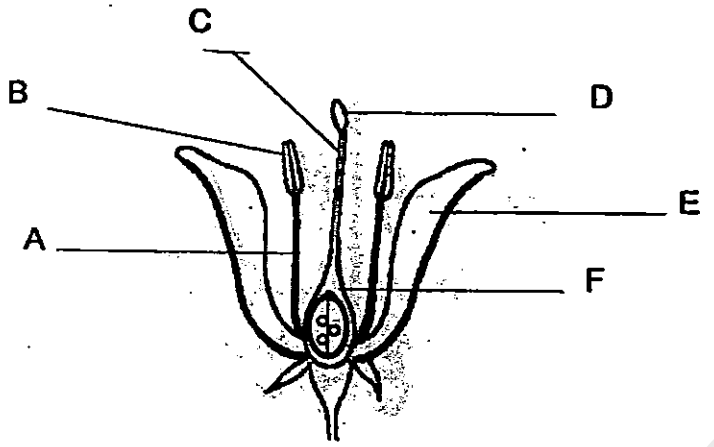


Which of the following can X be?

(1) seeds
(2) mould
(3) spores
(4) pollen grains

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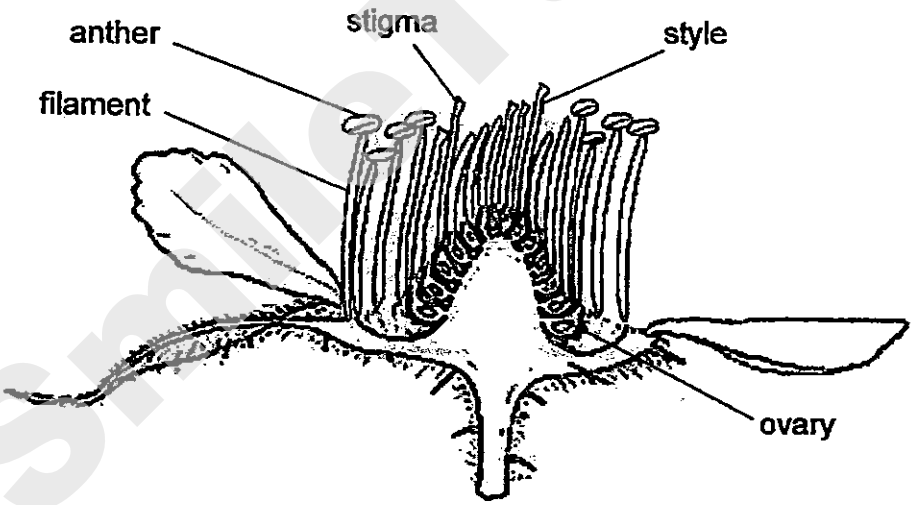
4. The diagram below shows the cross-section of a flower.



Which are the female reproductive parts of the flower?

1) A and B only
2) D and E only
3) C, D and F only
4) A, B, C, D and F only

5. The diagram below shows the cross-section of a raspberry flower.

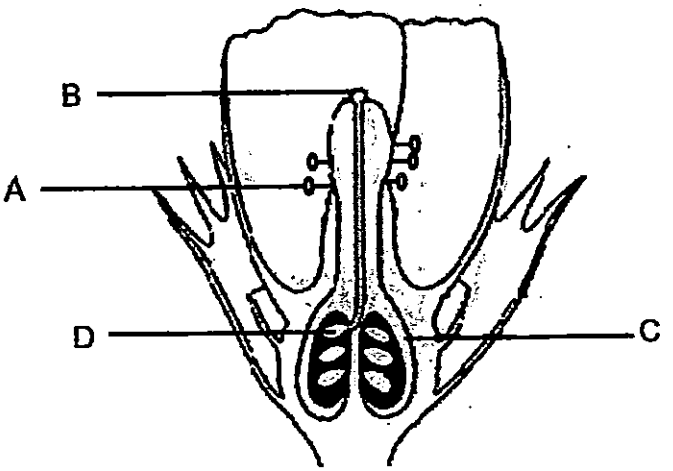


For fertilisation to occur, what is the path taken by the male sex cell after pollination of the flower?

1) anther → stigma
2) stigma → style
3) stigma → style → ovary
4) anther → stigma → style → ovary

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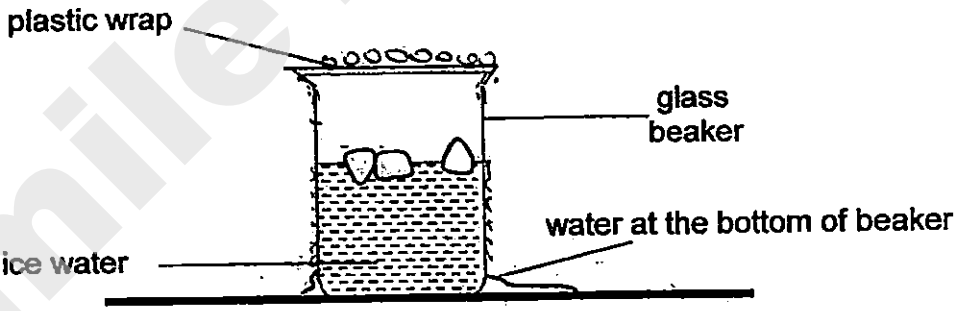
6. The diagram shows a cross-section of a flower.



Based on the diagram, in which of the labelled parts will fertilization take place?

(1) A
(2) B
(3) C
(4) D

7. A beaker of ice water was left on the table in room temperature.



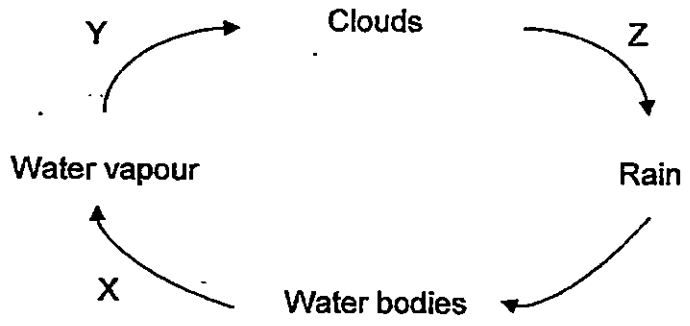
Which of the following statement(s) is/are correct?

A The water in the glass beaker will evaporate after some time.
B Water droplets will be formed on the underside of the plastic wrap.
C The formation of water at the bottom of the beaker needs water vapour in the surrounding air.

(1) B only
(2) A and B only
(3) A and C only
(4) A, B and C

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8. The diagram below shows the changes in state in the different stages in the water cycle.



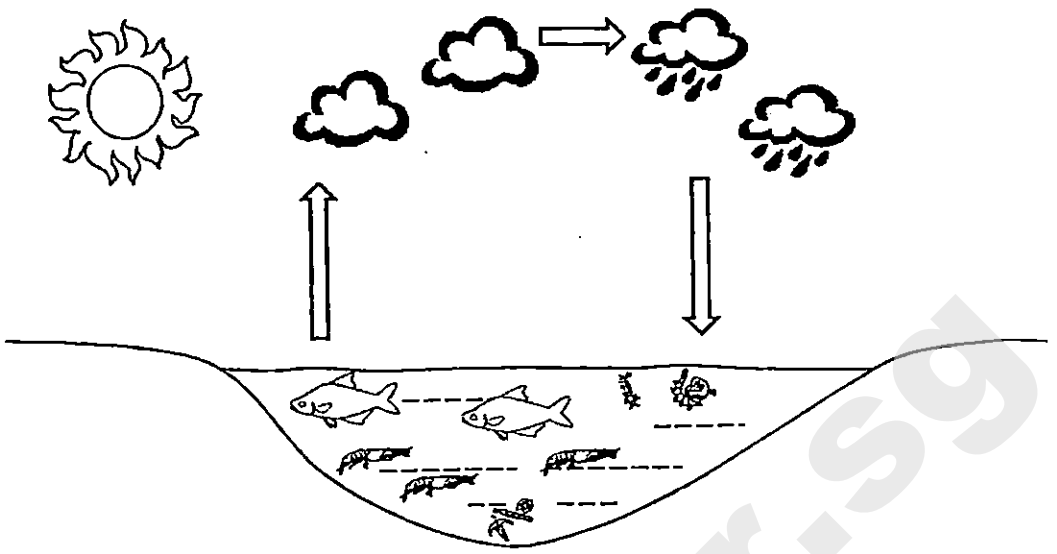
Which of the following correctly shows what takes place at X, Y and Z?

	X	Y	Z
(1)	Gain heat	Lose heat	Change of state
(2)	Gain heat	Lose heat	No change of state
(3)	Lose heat	Gain heat	Change of state
(4)	Lose heat	Gain heat	No change of state

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9. The diagram shows the water cycle.



Why is the water cycle important to the aquatic organisms in the pond?

(1) It provides a continuous supply of water for the organisms to live in.
(2) It provides a continuous supply of water to keep the body of all the organisms wet.
(3) It provides a continuous supply of water to keep temperature of the pond constant.
(4) It provides a continuous supply of water for the organisms to keep their body temperature down.

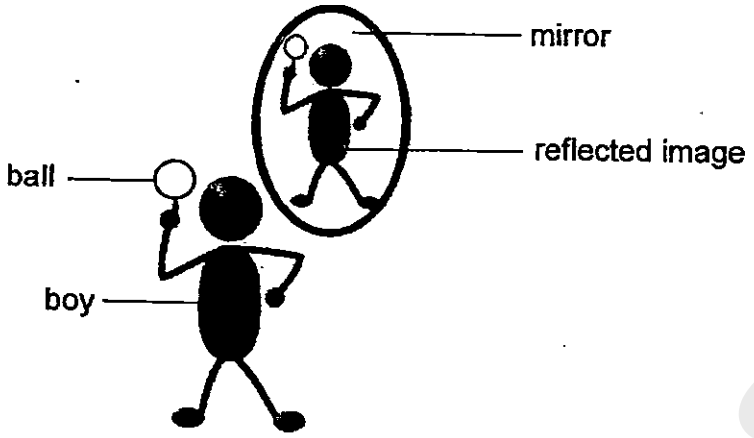
10. Which of the following activities are ways to help in the conservation of water?

A Use a water-efficient washing machine to do laundry.
B Watering plants at noon instead of early morning hours.
C Use a toilet system that has half-flush and full-flush options.

(1) A only
(2) A and C only
(3) B and C only
(4) A, B and C

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11. Study the diagram below.



Which of the items below is/are not a matter?

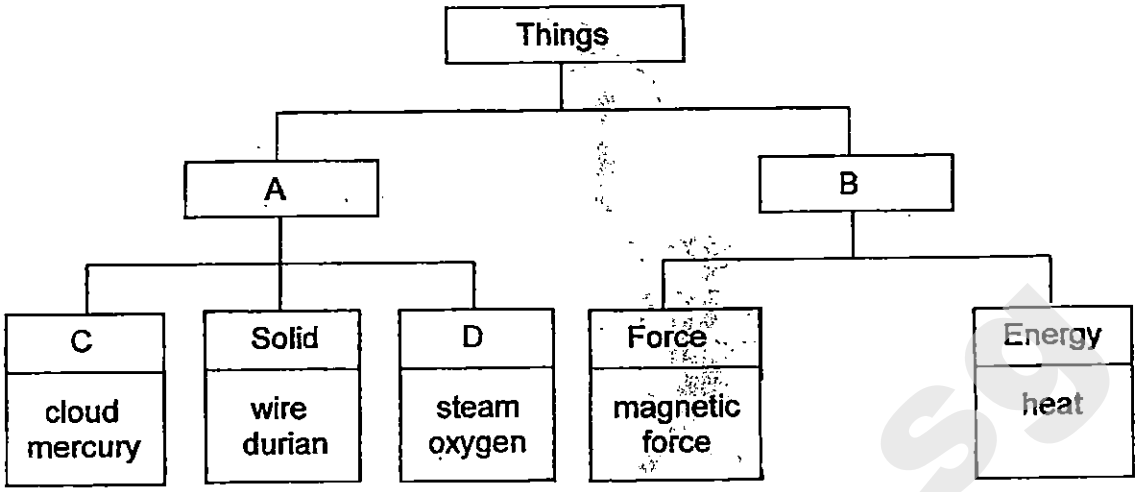
A boy
B ball
C mirror
D reflected image

(1) D only
(2) C and D only
(3) A and B only
(4) A, B and C only

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12. Study the classification chart below.



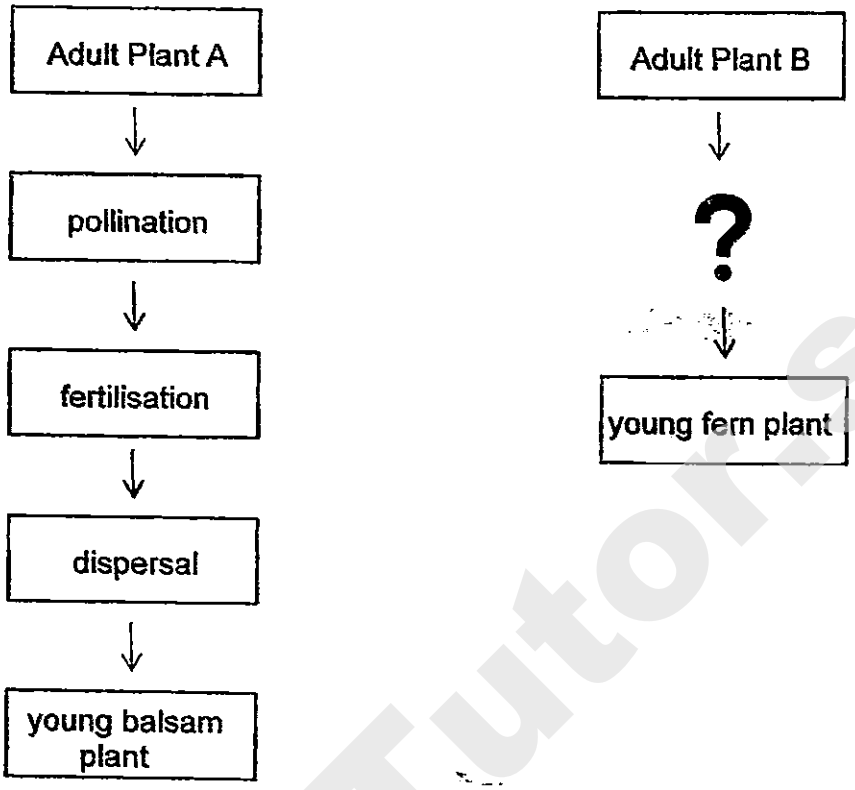
Which of the following correctly represent A, B, C and D?

	A	B	C	D
(1)	Matter	Non-living	Gas	Liquid
(2)	Living	Non-living	Liquid	Air
(3)	Matter	Non matter	Water	Air
(4)	Matter	Non matter	Liquid	Gas

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13. The diagrams show the reproduction processes of two different plants. The reproduction processes are all stated for Plant A.



Which one of the following shows the missing reproduction process(es) of the fern plant?

(1) dispersal
(2) fertilisation → dispersal
(3) dispersal → fertilisation
(4) pollination → fertilisation → dispersal

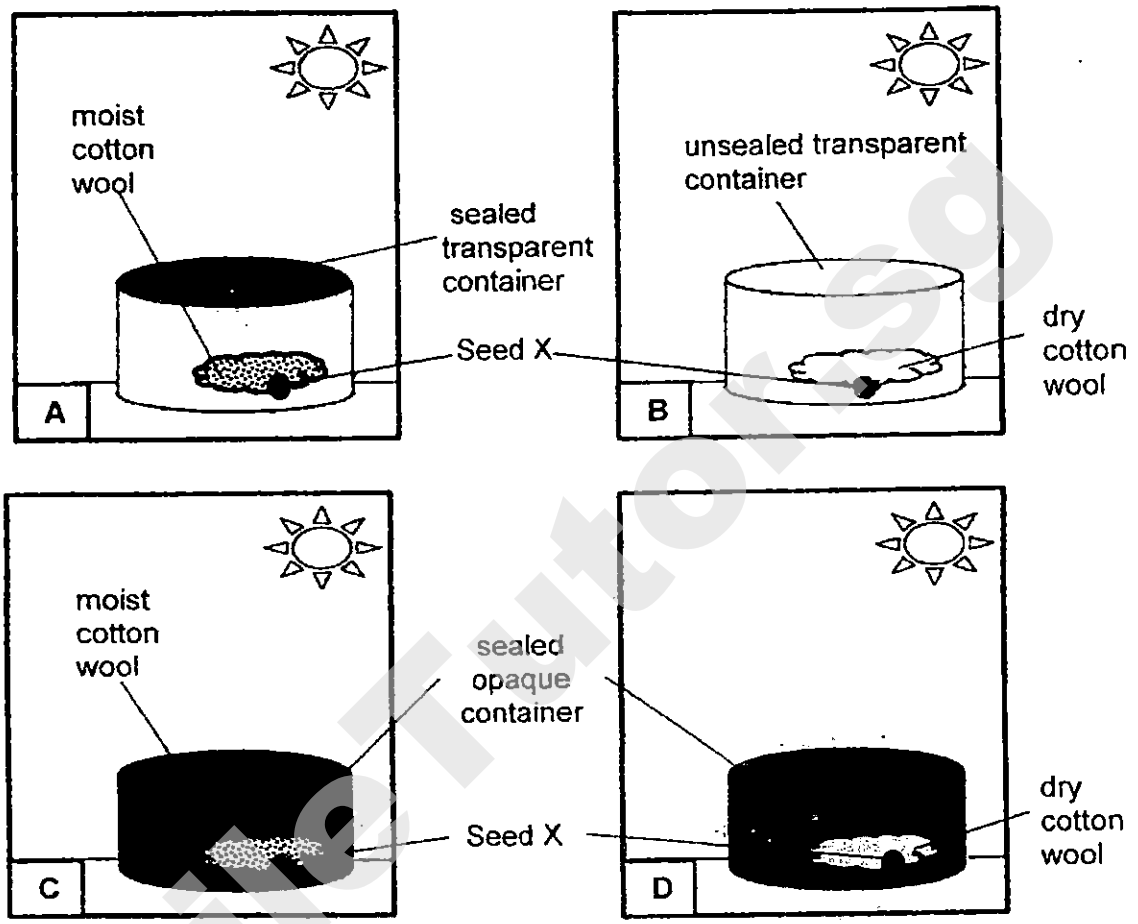
14. Which of the following statement(s) about germination is/are correct?

A When a seed starts to germinate, the shoot appears first.
B The baby plant is found enclosed between the seed leaves.
C A seed left in the freezer can remain inactive until the conditions are favourable for germination.

(1) B only
(2) A and C only
(3) B and C only
(4) A, B and C

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15. Priya wants to determine if sunlight is essential for the germination of seeds. Of the following four setups, which two should she use to conduct her experiment?

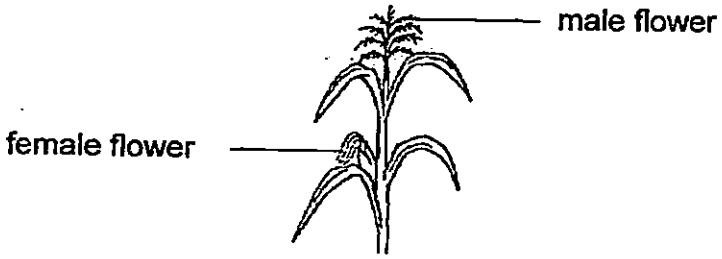


1) Setups A and B
2) Setups A and C
3) Setups B and C
4) Setups B and D

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16. Four pupils observed two different plants in a garden. They made some statements on the flowers of both plants. The diagrams below show the flowers of the two different plants.



Flowers of Plant G



Flower of Plant H

Alice	All three flowers have both male and female parts on it.
Bella	Only the female flower of Plant G and the flower of Plant H will develop into fruits.
Celine	Fertilisation is required in both the female flower of Plant G and the flower of Plant H before seeds can develop.
Dave	Since Plant G has both the male and female flowers on it, there is no need for pollination.

Which pupil(s) made a correct statement?

1) Alice only
2) Bella and Celine only
3) Celine and Dave only
4) Bella, Celine and Dave only

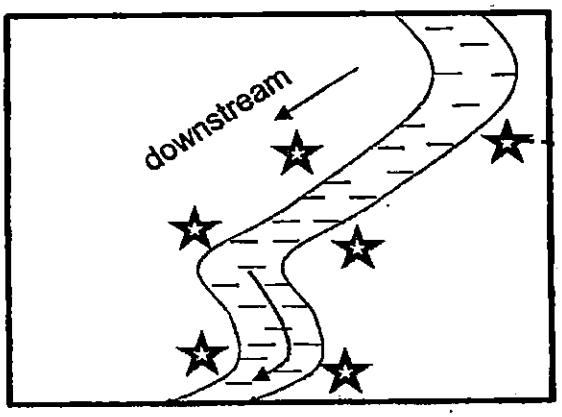
17. The female flesh flies are commonly found on dead bodies of animals. Some flowers depend on these female flesh flies for pollination.

What could most likely be the characteristics of such flowers?

(1) They have small flowers.
(2) They are sweet-smelling.
(3) They do not have any scent.
(4) They have strong and unpleasant scent.

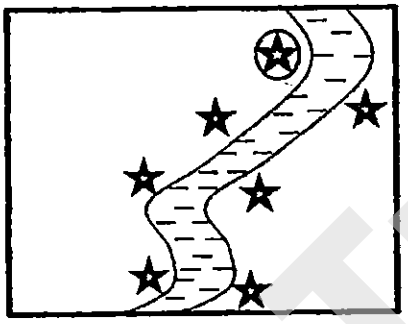
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18. The diagram shows part of an island where the seedlings of a type of plant are growing.

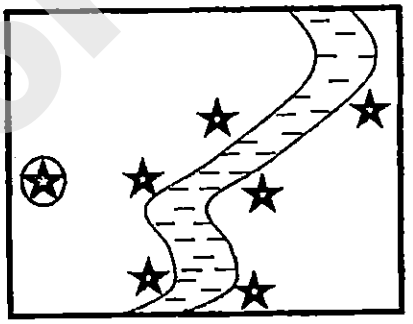


Which one of the following correctly shows the location of the parent plant, ⊛, of the seedlings?

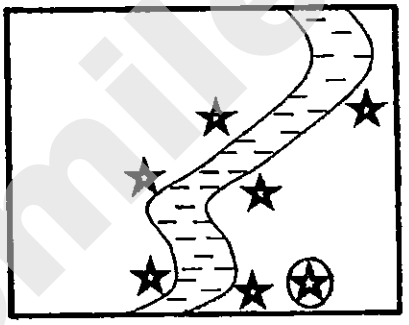
(1)



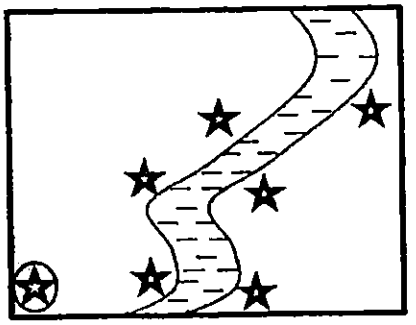
(2)



(3)



(4)



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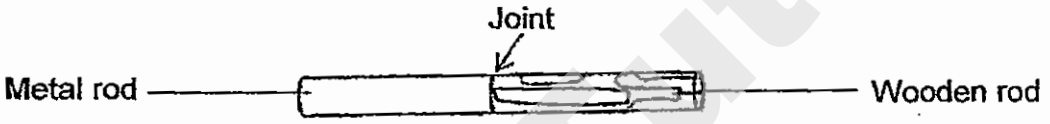
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19. A type of flower only blooms at night. Some of them only bloom once a year for a single night. The night-blooming flower has a distinct characteristic that ensures pollination will take place.

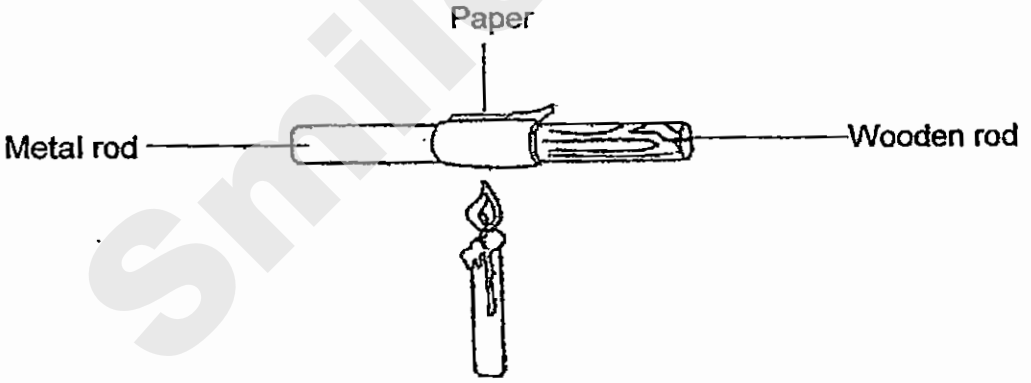
For the purpose of pollination, which of the following characteristics of the night- blooming flower and its pollinators are correct?

	Characteristics of night-blooming flower	Characteristics of night-blooming pollinators
(1)	It is brightly-coloured	They are active at night
(2)	It has a strong scent	They are active at night
(3)	It ~~has~~ is dull-coloured	They are only active in the day
(4)	It has large amount of pollen	They have keen sense of smell

20. Sally joined a metal and a wooden rod together.



She then wrapped a piece of paper around the section where the 2 rods were joined as shown in the diagram below.



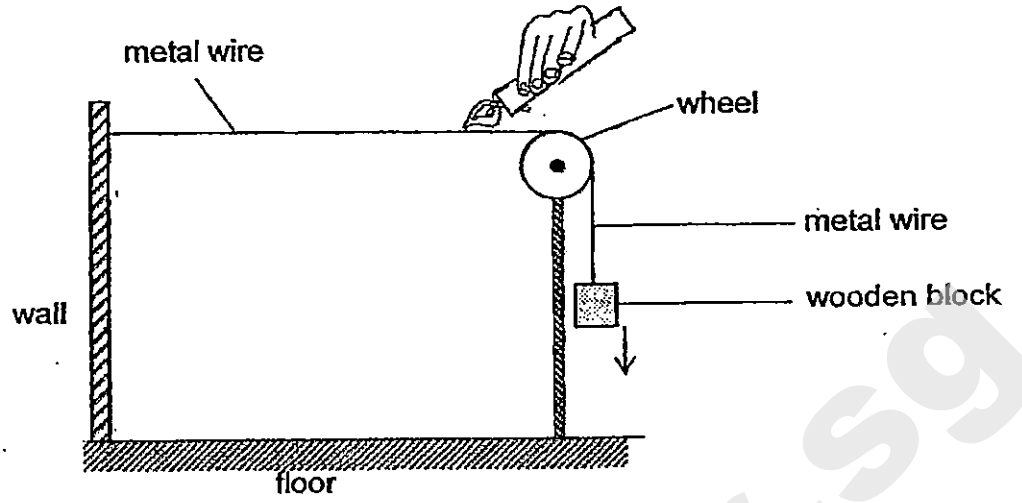
She heated the joint for a few seconds and found that the section of paper around the metal rod showed no sign of being burnt, but the section of paper around the wooden rod appeared slightly burnt.

Which one of the following can she conclude from the experiment?

(1) Wood burns paper while metal does not.
(2) Metal and wood burn at different temperatures.
(3) Metal is able to conduct heat away faster than wood.
(4) Metal conducts heat to wood and caused the wood to burn.

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21. Ali set up an experiment as shown in the diagram below.



Ali heated the metal wire for 45 minutes. He observed that the wooden block moved a little in the direction of the arrow as shown above.

Which one of the statements is the correct explanation for his observation?

(1) The metal wire lost heat and contracted.
(2) The metal wire gained heat and expanded.
(3) The wooden box lost heat and contracted.
(4) The wooden box gained heat and expanded.

22. The table below shows the melting points and boiling points of 3 substances, X, Y and Z.

Substance	Melting point (°C)	Boiling point (°C)
X	7	51
Y	32	83
Z	75	114

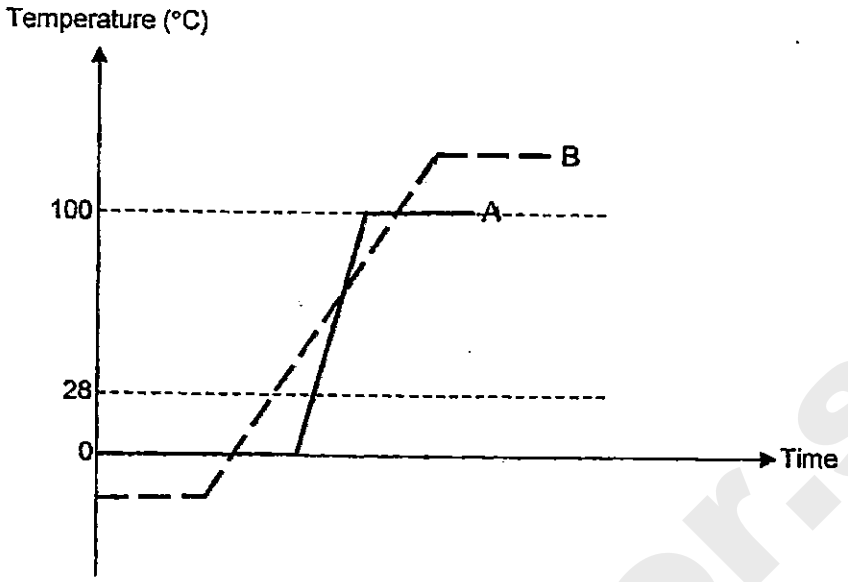
Which of the following statements are correct?

A Substance X is a gas at 60°C.
B Substance Y is a liquid at 70°C.
C Substance Z is a solid at 120°C
D From melting point to boiling point, all 3 substances need to gain heat to change state.

(1) A and B only
(2) C and D only
(3) B and C only
(4) A, B and D only

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23. Study the graph below carefully.



A and B are different types of substances.

Which of the following statement(s) about A and B is/are correct?

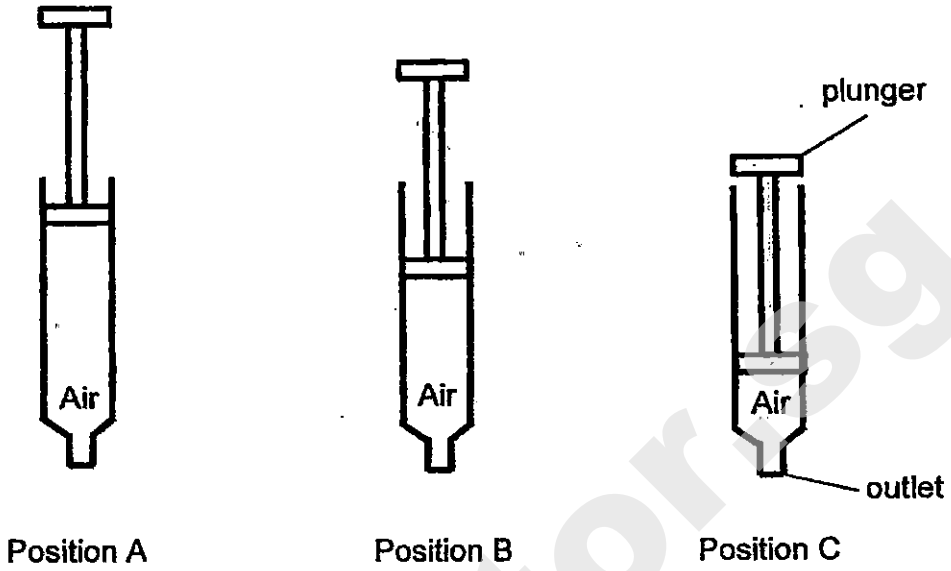
A At 100°C, both Substance A and Substance B will become steam.
B Substance B takes a longer time to boil compared to Substance A.
C All of Substance A has to be in the liquid state before its temperature starts to rise.

(1) A only
(2) C only
(3) B and C only
(4) A, B and C only

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24. A syringe is sealed at its outlet and its plunger is pushed towards the outlet to three different positions as shown in the diagrams below.



Position A Position B Position C

The syringe was weighed three times, each time with the plunger in the different positions as shown above.

Which of the following statements are **incorrect**?

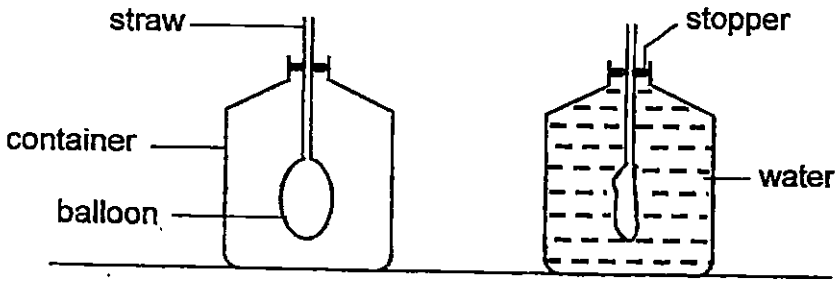
A The mass of the air in the syringe at position A is greatest.
B The mass of the air in the syringe at position A, B and C is the same.
C The volume of the air in the syringe at position C is the least.
D The volume of the air in the syringe at position A, B and C is the same.

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

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25. Ali prepared a set-up as shown below. He inflated the balloon through the straw. The balloon inflated slightly. Next, he released all the air in the balloon and filled the container with water before sealing it with a stopper. Then he blew air into the balloon again, but the balloon did not inflate at all.

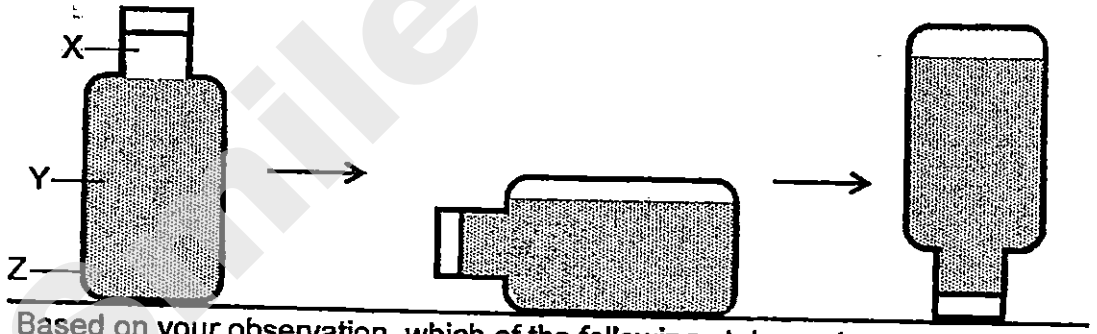


Based on his observation on the experiment, Ali made some notes. Which statement(s) is/are correct?

A Air occupies space.
B Water has a definite mass.
C Water has a definite volume.

(1) A only
(2) B only
(3) A and C only
(4) A, B and C

26. Matters X and Y are placed in Matter Z which is put on a table as shown in the diagram below. Matter Y does not fill up Z completely. The bottle is turned on its side and then inverted upside down consecutively without stopping.



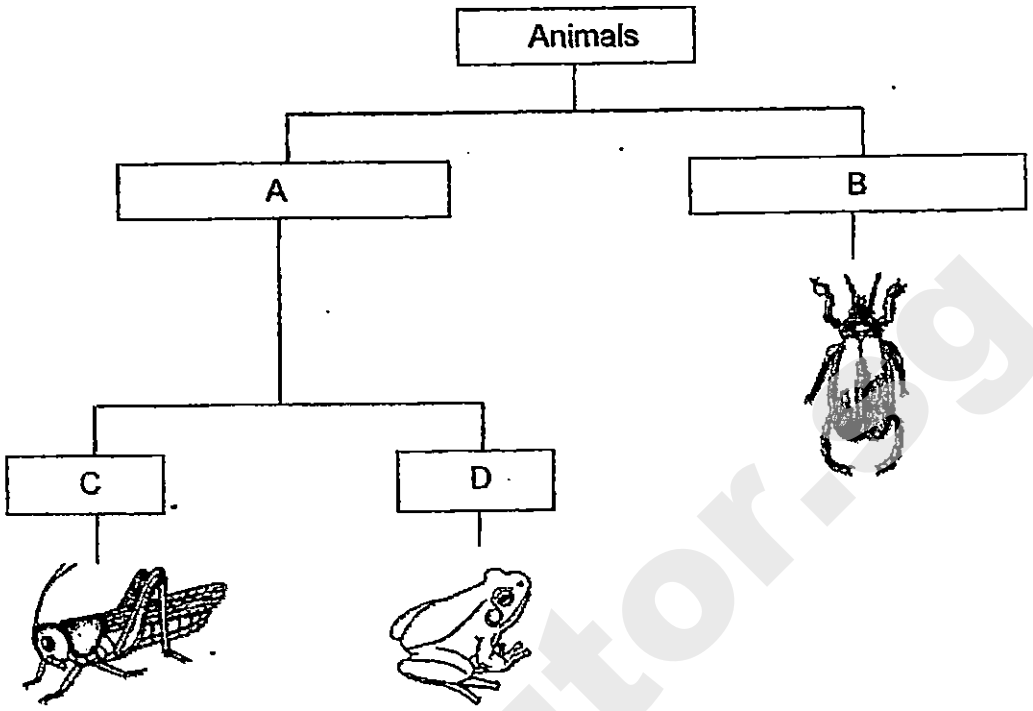
Based on your observation, which of the following statements are correct about X, Y and Z?

could be
A Matter X is a gas
B Matter Y is liquid.
C Matter Z is definitely a solid.
D Matter Y is at different states when Z is placed on its bottom, on its side or inverted upside down.

(1) A and C only
(2) B and D only
(3) A, B and C only
(4) B, C and D only

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27. Study the classification chart below.



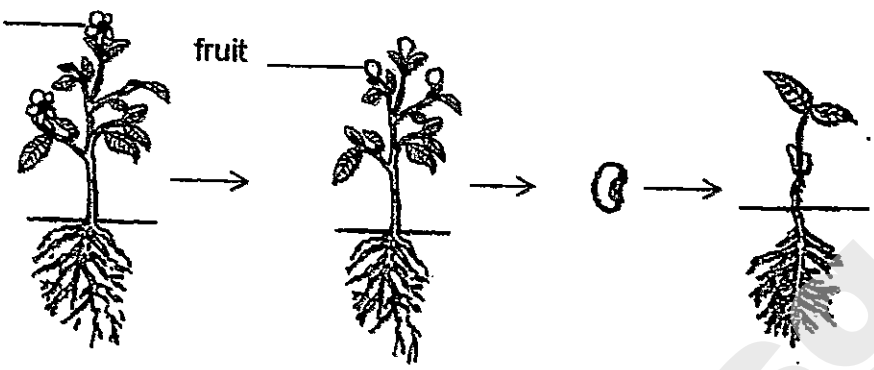
Which one of the following correctly represents A, B, C and D?

	A	B	C	D
(1)	4-stage life cycle	3-stage life cycle	Young resembles adult	Young does not resemble adult
(2)	3-stage life cycle	4-stage life cycle	Young resembles adult	Young does not resemble adult
(3)	4-stage life cycle	3-stage life cycle	Lays eggs	Lays eggs
(4)	4-stage life cycle	3-stage life cycle	Lives on land	Lives in water

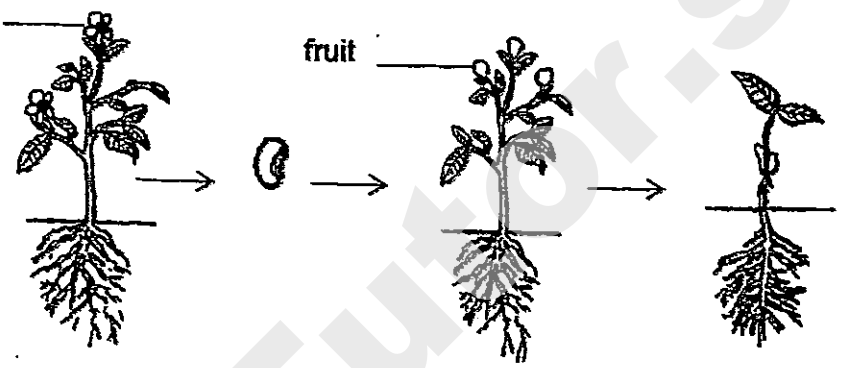
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28. Which one of the following diagrams shows the correct life cycle of a flowering plant?

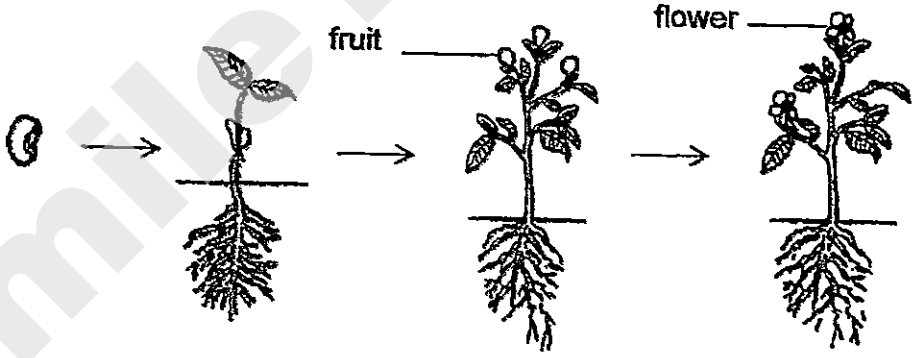
(1)



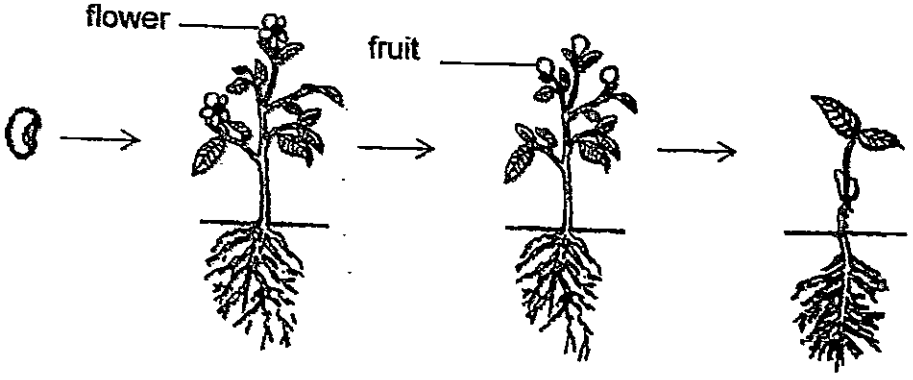
(2)



(3)

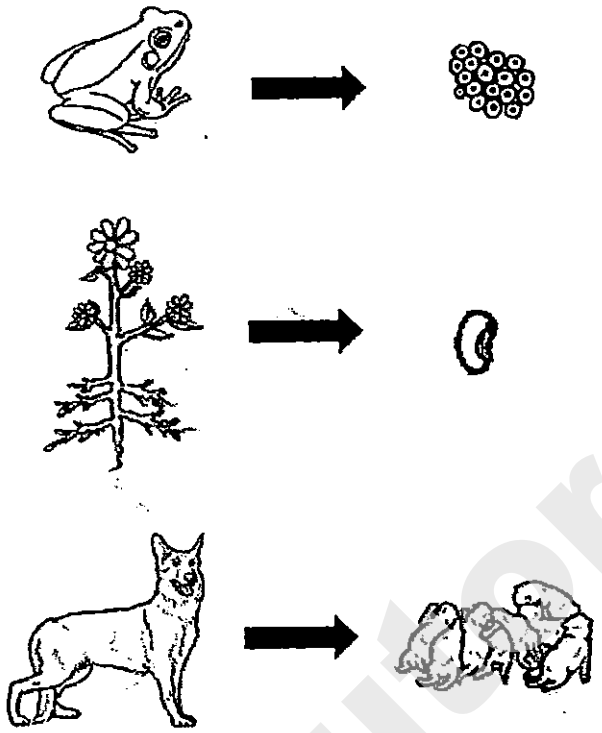


(4)



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29. Study the diagrams on the different types of living things.



Based only on the diagrams above, what can living things do?

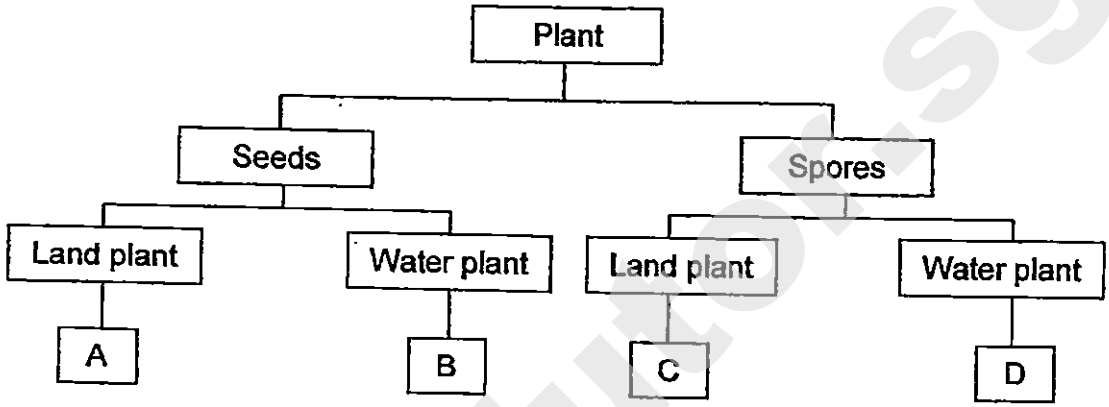
(1) Living things can grow.
(2) Living things can reproduce.
(3) Living things can respond to changes.
(4) Living things have 2-stage life cycle only.

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30. The following table gives information on four plants, ▲, ●, ■ and ⬣.
A tick (√) shows that the plant has the characteristics.

Characteristics \ Plant	▲	●	■	⬣
Has flowers		√		√
Does not have flowers	√		√	
Fully submerged in water		√	√	



Based on the information above, which one of the following best represents the four plants ▲, ●, ■ and ⬣ respectively?

	Plant ▲	Plant ●	Plant ■	Plant ⬣
(1)	A	D	B	C
(2)	B	C	A	D
(3)	C	B	D	A
(4)	D	A	C	B

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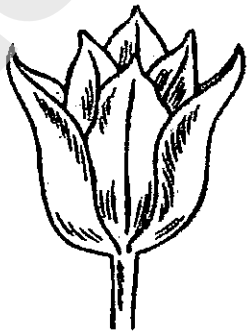
Class : Primary 5 / ____

Section B: (40marks)
Write your answers to question 31 to 44.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. Flowers are important for reproduction process. The diagrams below show two different types of full-bloomed flowers with the male and female reproductive parts still intact.



Flower A



Flower B

(a) On flower A, circle and label the part of the flower where the pollen grain should land for pollination to take place. [1]

(b) Name the agent of pollination for Flower A and Flower B. [2]

Flower A - _____

Flower B - _____

(c) Based on the diagrams, state one difference between the two flowers that result in the way the flowers are pollinated. [1]

_____

_____

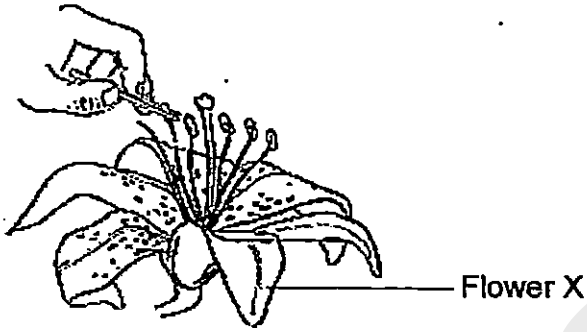
Score	/4

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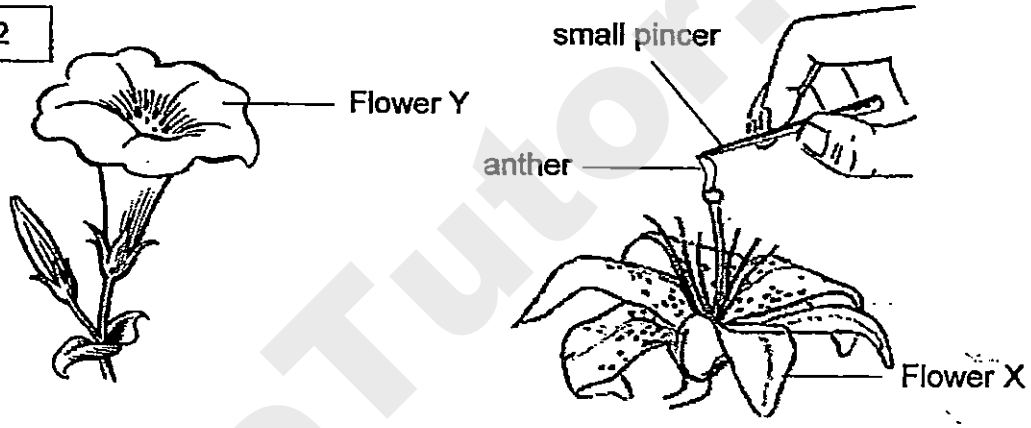
32. Mr Tan breeds flowers as a hobby. He decides to produce a new type of flower with Flower X and Flower Y.
~~Flower X only has anthers on it.~~ The diagram below shows Mr Tan removing all the anthers on Flower X.

Step 1



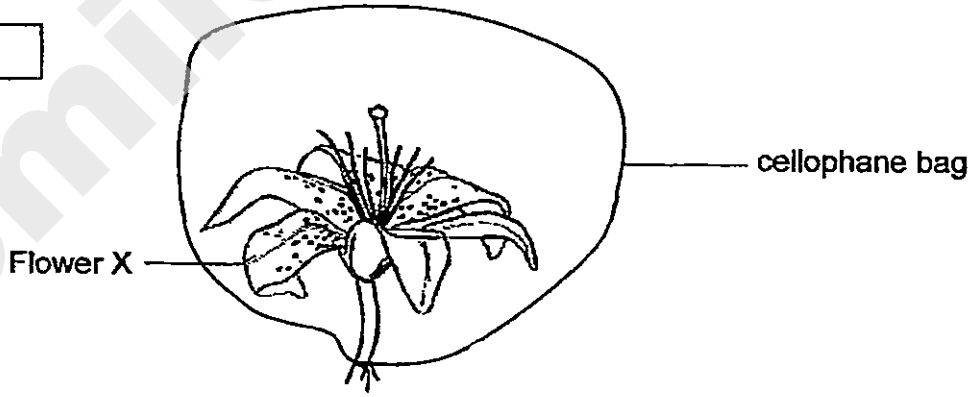
Next, he took a mature anther from Flower Y and brushed it on one part of Flower X.

Step 2



Lastly, he covered Flower X with a cellophane bag.

Step 3



(a) In step 1, give a reason why the anthers from Flower X need to be removed completely so that a new type of flower could be produced? [1]

_____

_____

Score	/ 1

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(b) Name the reproduction process that Mr Tan was trying to copy in step 2. [1]

_____

_____

(c) A few days after step 3, Mr Tan thought that the plant was dying as the base of the flower swelled, the male part and some of the female parts of the flower dried up. Will he be able to get the seeds of the new type of flower? Explain what had happened. [1]

_____

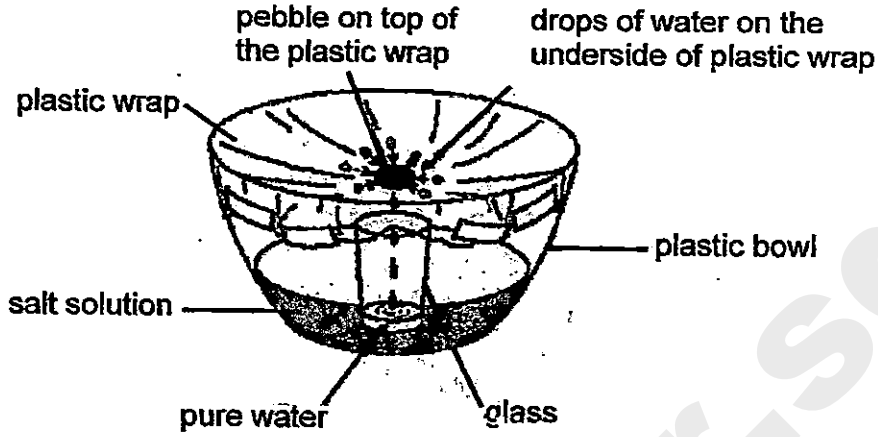
_____

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Score	/ 2

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33. Susan set up a model. She dissolved 3 grams of salt in 20 ml of tap water. The salt solution was placed in the plastic bowl. Then the set-up was left in a sunny location.



(a) After several days, it was observed that only white powdery substance was left in the plastic bowl. Susan tasted the white powdery substance and found that it was salty. She also weighed the white powdery substance and found that it weighed 3 grams.

What had happened to the water in the plastic bowl? [1]

_____

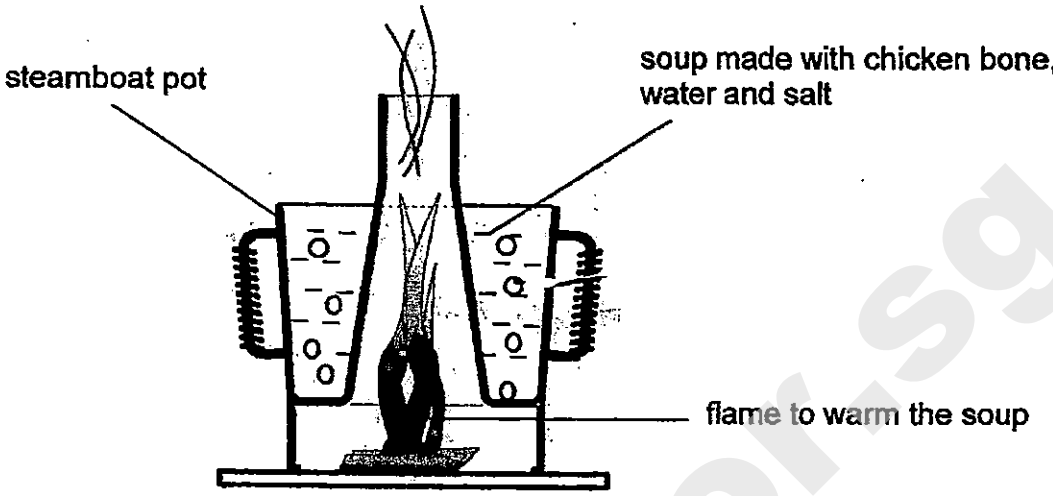
_____

Score	/ 1

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Susan had steamboat with her family. After an hour through the meal, she realized that the amount of soup decreased and the soup was getting more and more salty.



(b) Explain why the soup turned more salty. [2]

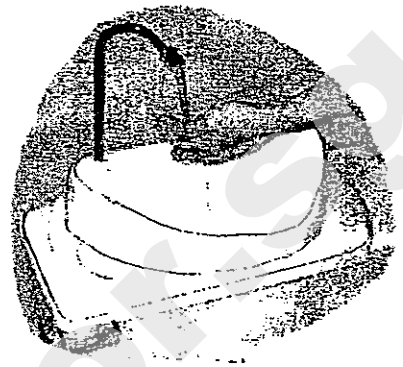
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Score 2

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34. The diagram below shows how we can save water at home after using the toilet. The water from the wash basin will flow down the pipe to the water tank of the toilet bowl. The water in the water tank is used to flush the toilet.





(a) Give a reason how this system of flushing the toilet can help to save water? [1]

_____

_____

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Score	/ 1

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After flushing, water refills the tank and the tank will stop filling when the water reaches level X.

(b) Explain how more water can be saved by putting stones in the above water tank? [2]

_____

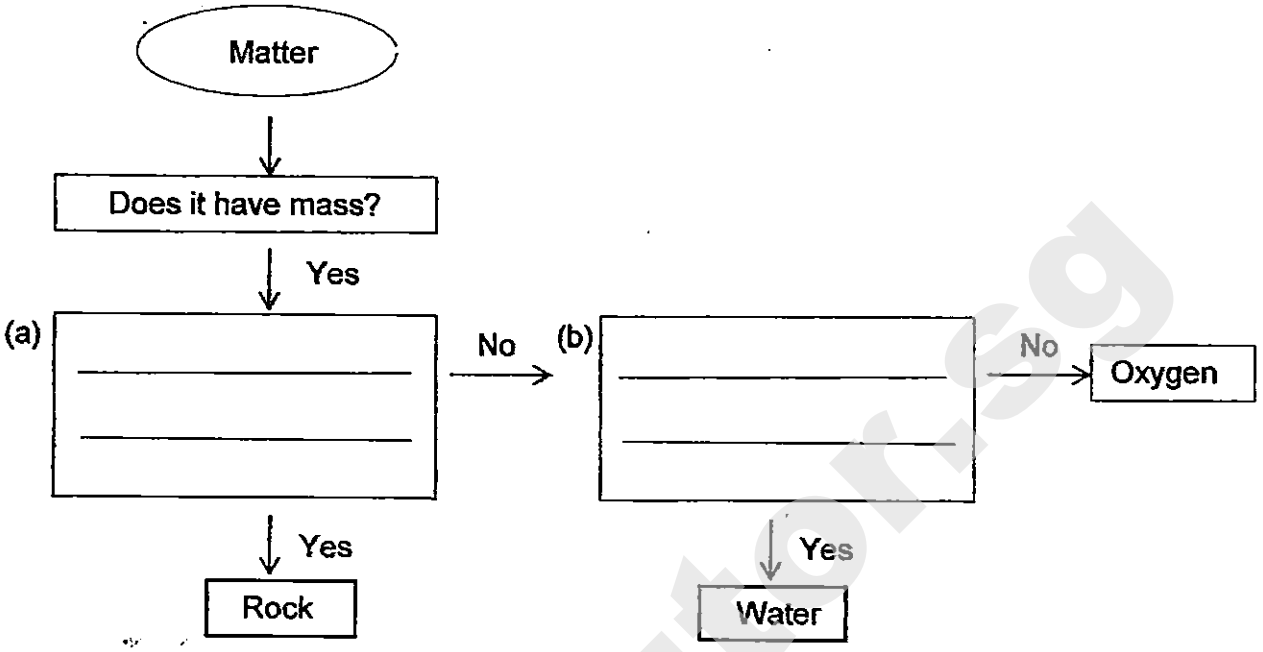
_____

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Score	2

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35. Study the flow chart below.



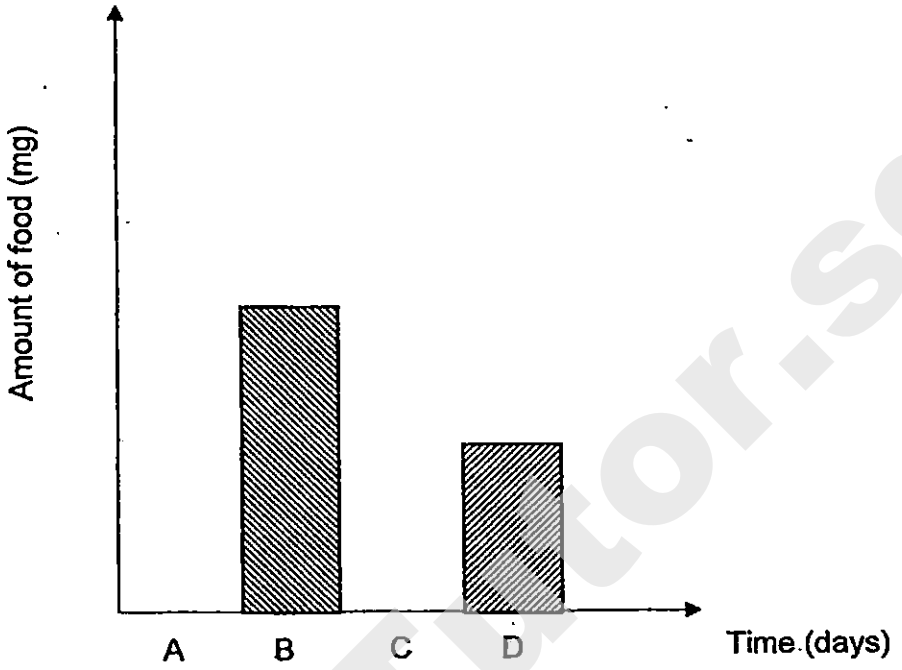
Complete the flow chart by filling in the correct questions in part (a) and (b). [2]

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Score 2

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36. In an experiment, the same amount of food is fed to Organism X throughout its 4-stage life cycle. The type of food given is based on the preference of food at different stages of its life cycle. A graph is then plotted to show the amount of food taken in.



(a) Which part of the graph represents the larva stage? [1]

_____

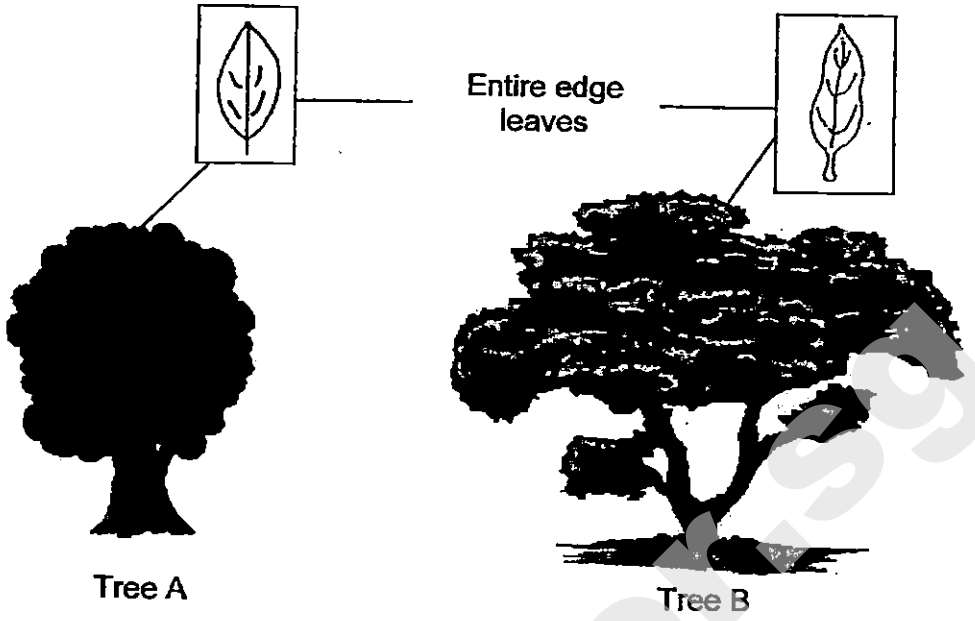
(b) Based on the information provided, give a reason for your answer in part (a) [1]

_____

Score	/ 2

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37. Study the diagrams of two adult trees below.



(a) If the parent trees are Tree A and B, write down the characteristic that the offspring, Plant X, will definitely have. [1]

_____

_____

(b) Explain your answer for part (a). [1]

_____

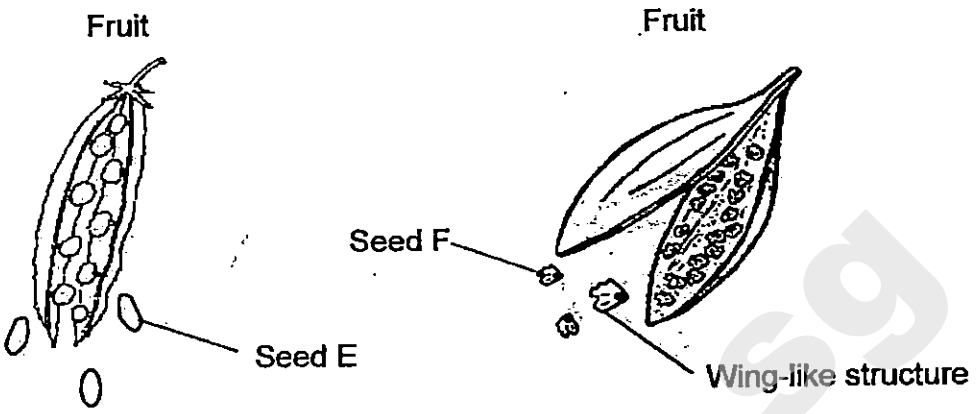
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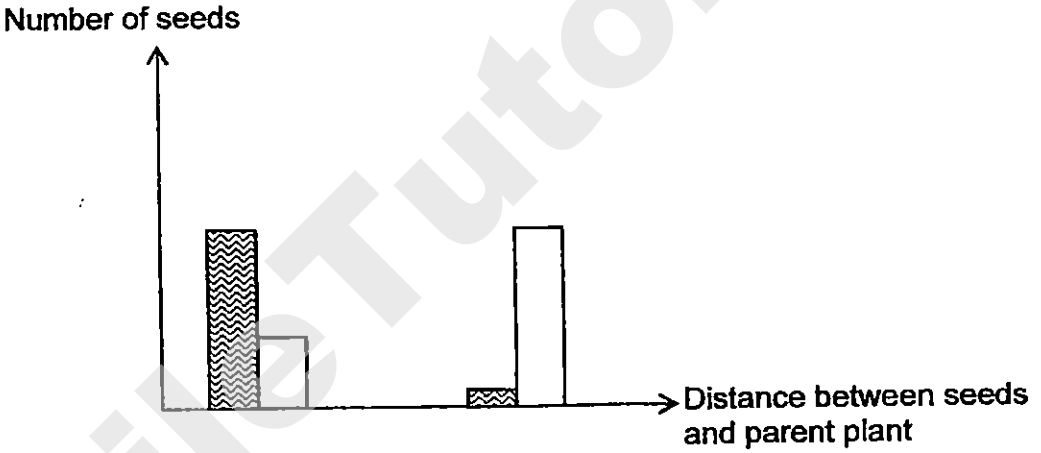
Score	2

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38. The diagrams below show how the seeds of two different types of fruit are dispersed when the fruits ripen and split.



Study the graph below which shows how far the seeds are dispersed from the parent plant.



(a) Which seeds, E and F, are represented by  and  respectively? [2]

 _____  _____

(b) State 1 difference in the characteristic between Seed E and F. Explain how this characteristic helps in the dispersal of Seed F compared to Seed E. [2]

_____

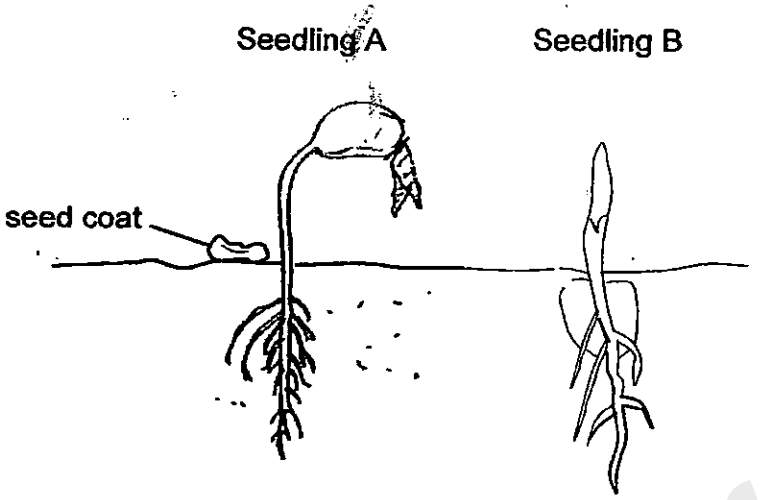
_____

Score	4

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of

39. The diagrams below show two different types seedling.



(a) On the diagrams above, label the part that provides food for Seedling A and Seedling B as "X". [2]

(b) Based on the diagrams above, how will the mass of the seed leaf change during germination? Will it increase, decrease or remain the same? Explain your answer. [2]

_____

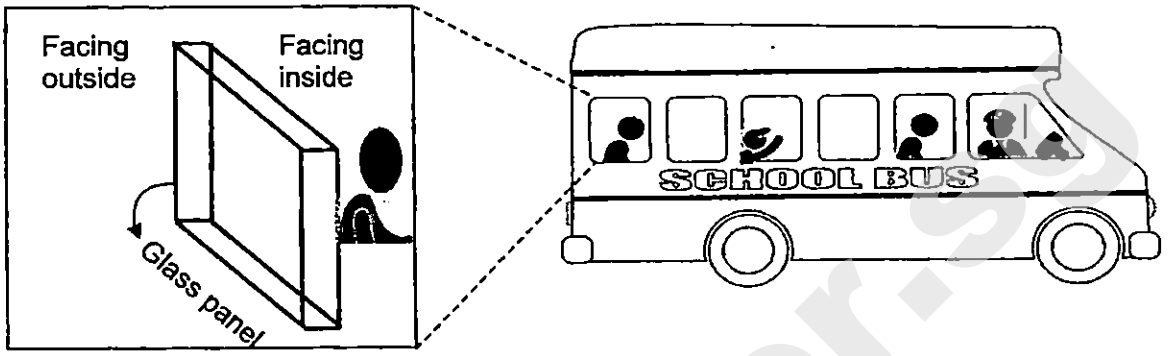
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Score	/ 4

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40. The temperature of the surrounding air outside the air-con bus is 32°C, while the temperature inside the bus is 25°C. Water droplets are found on the glass panels of the bus.



(a) After the bus started moving on the road for a while, water droplets are observed on the glass panel. On which side of the glass panel will the water droplets be found? [1]

_____

_____

(b) What condition must be present on the glass panel in order for water droplets to be formed? Explain. [2]

_____

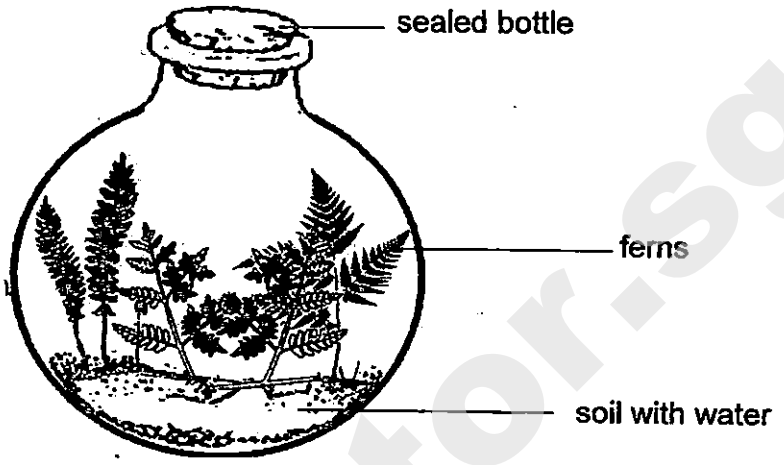
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Score	/ 3

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41. The bottle garden is prepared by putting garden soil and plants into a bottle. Suitable amount of water is added to the soil before the bottle is sealed. The bottle is never opened and the plants in the bottle are able to survive for years without adding any more water. Inside the bottle, water droplets are often found along the side of the bottle.



(a) Explain how the water in the soil helps in the formation of the water droplets along the side of the bottle? [2]

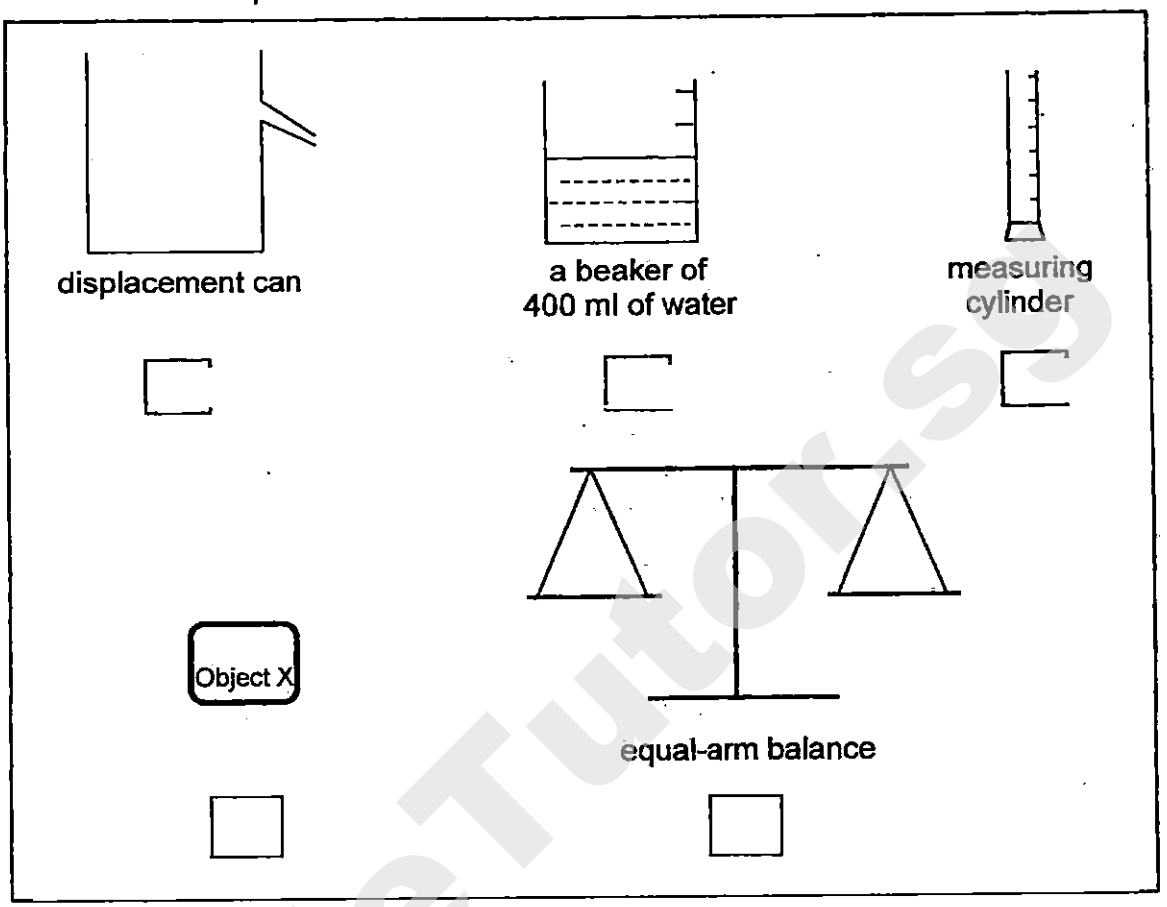
(b) Give a reason why the water droplets are important in the bottle garden?[1]

Score	3

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42. John wants to prove that Object X has mass. He is given some materials to conduct his experiment and he does not need to use all the items.



(a) Put a tick in the box(es) for the item(s) that he will need for the experiment. [1]

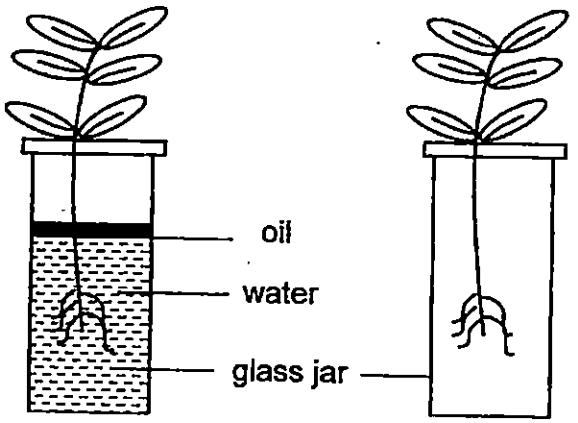
(b) Draw in the box below to show how the set-up should look like for him to confirm that Object X has mass. [1]

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Score 2

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43. Mary set up an experiment to find out if plants need water to survive.



Set-up A Control set-up B

(a) What is the purpose of the control set-up?

_____

_____

(b) What observation should Mary make in order to come to a conclusion for her experiment? [1]

_____

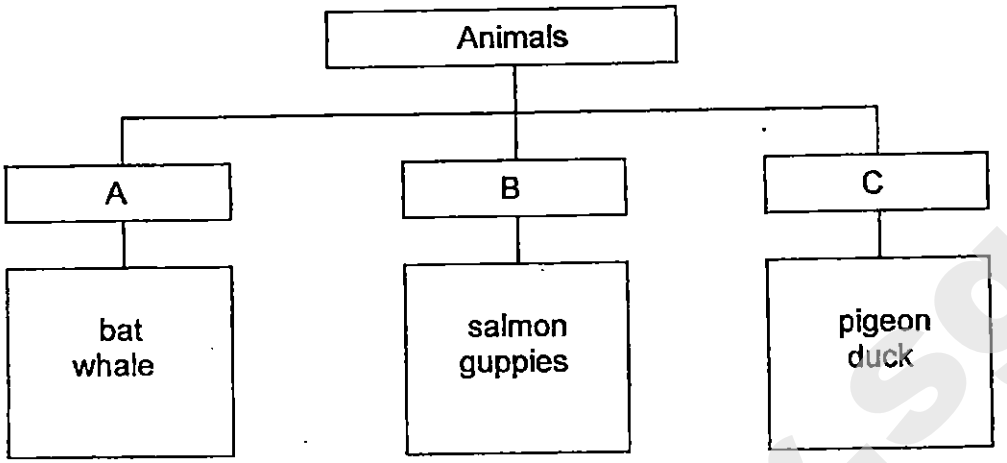
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Score 2

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44. Study the classification chart below.



(a) Write down the correct headings for A, B and C. [1]

A	B	C

(b) Which group should penguin belong to? [1]

_____

(c) State one characteristic that is found only in the animals in Group C. [1]

_____

-End of paper-

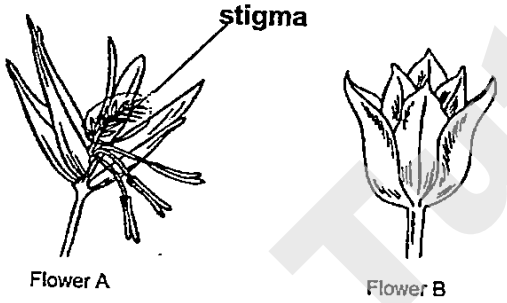
Score	/ 3

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LEVEL : PRIMARY 5
SCHOOL : NAN HUA PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : CA1

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
1	3	3	3	3	4	3	2	1	2
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
1	4	1	3	2	2	4	1	2	3
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	4	3	2	3	3	2	1	2	3

Q31a. **SEE PICTURE**



Q31b. Flower A – wind Q31b. Flower B – animals

Q31c. Flower A has anthers hanging out of the flower but flower B have anthers and stigma inside the flower.

Q32a. It is to prevent self – pollination.

Q32b. Pollination

Q32c. Yes, the ovary swelled as it was developing into a fruit and the ovules are developing into seeds.

Q33a. To get white powdery substance, salt, has to heat solution to dryness (no water left / all water to be evaporated)

Q33b. Only the water in the soup gained heat and boiled. With less water, the soup became salty.

Q34a. The used water for washing hands can be reused for flushing toilet so that lesser water will be wasted.

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Q34b. Stones takes up space and have a definite volume. If stones were placed in, lesser water would be needed to fill water tank until Level X, thus , we can save water using that way.

Q35a. Does it has a definite shape ?

Q35b. Does it has a definite volume ?

Q36a. B. Q36b. The larva eats the most amount of food.

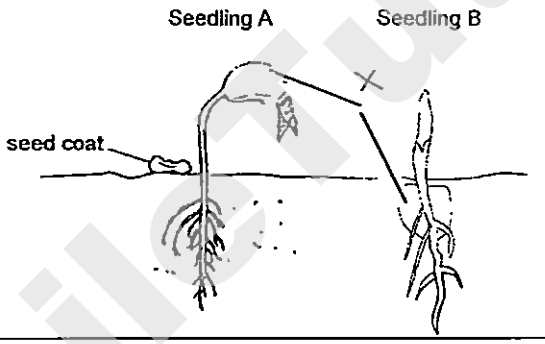
Q37a. Entire edge leaves.

Q37b. Since both the parents trees have entire edge leaves, the characteristic will also be passed down to the offspring.

Q38a. Shaded box – Seed E Q38a. Unshaded box – Seed F

Q38b. Seed F has wing like structure but Seed E does not. The wing like structure allows seeds to stay afloat in the air for a longer time to be dispersed further away from parent plant and other seedlings to avoid overcrowding and competition for nutrients , sunlight , water and space.

Q39a. **SEE PICTURE**



Q39b. The mass will decrease because the seedling cannot make its own food yet, so it depends on the seed leaves for food / nutrients.

Q40a. The water droplets will be found facing outside of the bus.

Q40b. The glass panel must be cooler than the water vapour outside the bus. To allow the water vapor outside the bus to lose heat and condense into water droplets.

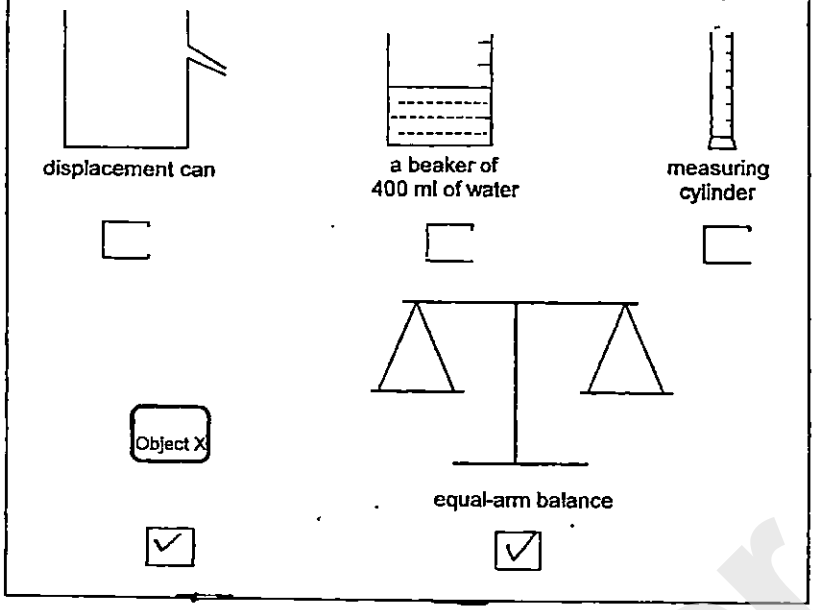
Q41a. The water in the soil will evaporate into water vapour. The water vapour condense into water droplets when it came into contact with the cooler surface of the bottle.

Q41b. The ferns in the bottle take in water to make food.

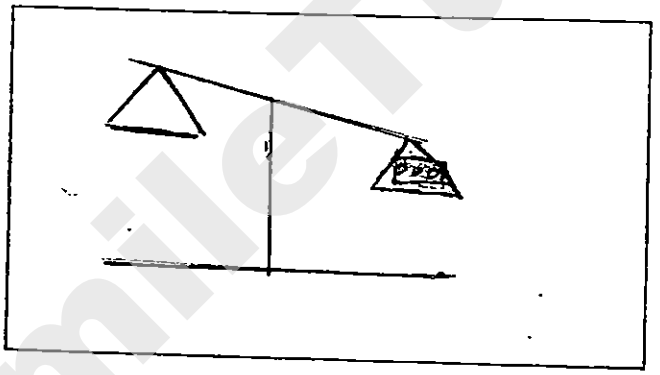
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Q42a. **SEE PICTURE** Q42b. **SEE PICTURE**

Q42a.



Q42b.



Q43a. The control is for comparison with set up A in order to confirm that plants need water to survive.

Q43b. Plant in set up A will survive but plant in set up B will wither and die.

Q44a. A – mammal Q44a. B – fish Q44a. C – birds

Q44b. Group C Q44c. They have feathers.

THE END

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Rosyth School
Continual Assessment 1 for 2015
STANDARD SCIENCE
Primary 5

Name: _____ Total Marks: ____/50

Class: Pr 5_____ Register No. _____ Duration: 1 h 15 min

Date: 2nd March 2015 Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 Parts, Part I and Part II.
4. For questions 1 to 15 in Part I, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 16 to 23, give your answers in the spaces given in the Part II.

	Maximum	Marks Obtained
Part I	30 marks	
Part II	20 marks	
Total	50 marks	

* This booklet consists of 17 pages.

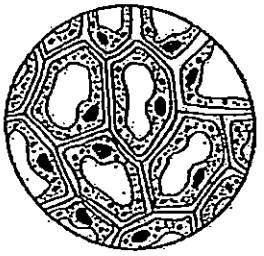
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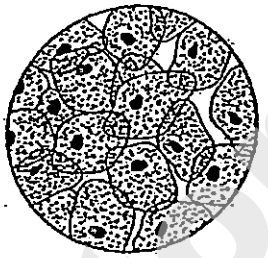
Part I (30 Marks)

For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Study the two groups of cells, K and L.



Group K



Group L

The table below shows the observations made of the two groups. A tick (√) indicates that the cell part is present.
Which observation in the table below is correct?

	Cell part	Group K	Group L
(1)	Cell wall	√	√
(2)	Cytoplasm	√	
(3)	Chloroplast		√
(4)	Cell membrane	√	√

2. Four pupils Alice, Bryan, Crystal and Daniel stated the importance of the cell wall in a plant cell as follows:

Alice : It supports the cell.
Bryan : It gives the cell its shape.
Crystal : It helps the cell to make food.
Daniel : It controls the movement of substances in and out of the cell.

Whose statements are true about the cell wall?

(1) Alice and Bryan only
(2) Bryan and Crystal only
(3) Alice, Bryan and Daniel only
(4) Bryan, Crystal and Daniel only

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3. Which of the following statement(s) about a cat and a tomato plant is/are true?

A: The cells in both organisms have the same size and shape.
B: The cells in both organisms have a nucleus, cytoplasm and cell membrane.
C: The cells in a cat can undergo cell division but the cells in a tomato plant do not.
D: The cells in a cat contain genetic information while the cells in a tomato plant do not.

(1) B only
(2) D only
(3) B, C and D only
(4) A, C and D only

4. Which of the following are made of cells?

A: Plant
B: Frog
C: Water
D: Wooden table

(1) A and B only
(2) C and D only
(3) A, B and D only
(4) A, B, C and D

5. Which one of the following correctly represents the path that shows how a plant takes in water?

(1) roots → root hairs → water-carrying tubes in the stem → leaf

(2) leaf → water-carrying tubes in the stem → roots → root hairs

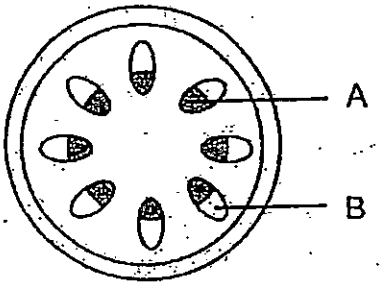
(3) leaf → water-carrying tubes in the stem → root hairs → roots

(4) root hairs → roots → water-carrying tubes in the stem → leaf

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6. The diagram below shows the cross section of a stem.



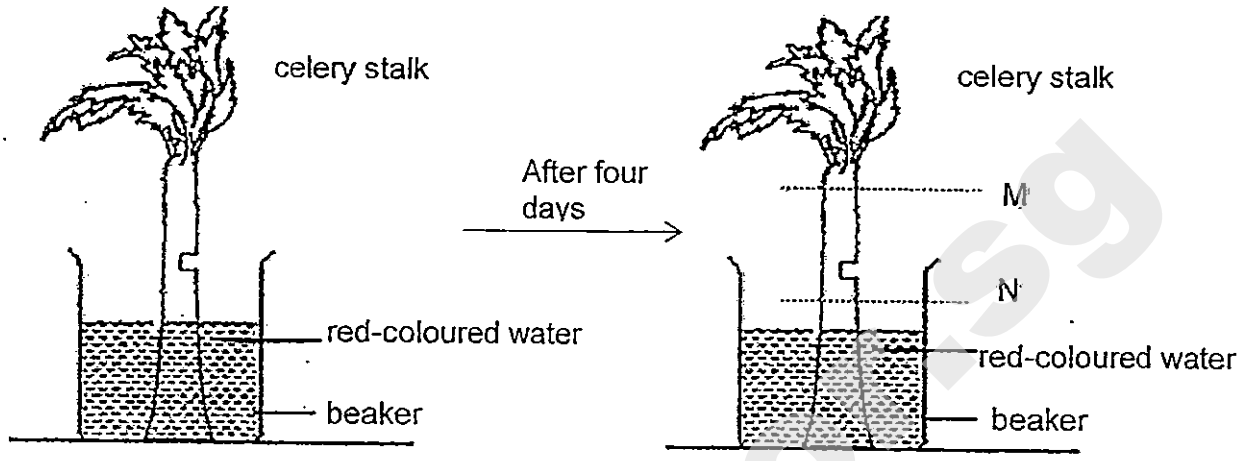
Which substances are transported by parts A and B of the stem respectively?

	A	B
1)	Food and carbon dioxide	Water and dissolved mineral salts
2)	Water and dissolved mineral salts	Food
3)	Food	Water and oxygen
4)	Water and oxygen	Food and carbon dioxide

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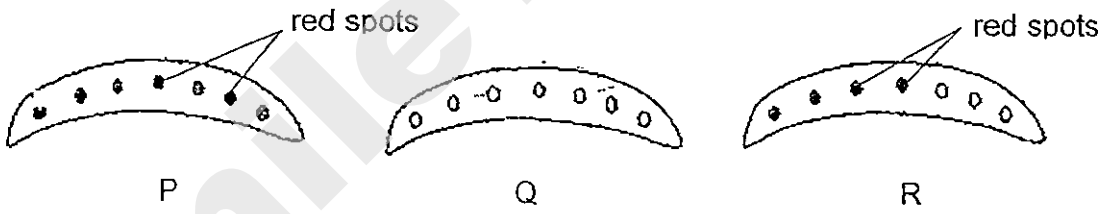
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7. Kelly conducted an investigation using the set-up as shown below. She lowered a stalk of a celery plant, with a part cut out, into a beaker containing some red-coloured water and left it for four days.



After four days, she removed the stalk from the beaker and cut two sections at M and N.

Which of the following best matches the observations at sections M and N respectively?



	Position M	Position N
(1)	P	Q
(2)	Q	R
(3)	Q	P
(4)	R	P

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8. Sam wanted to find out how the amount of soil will affect the growth of balsam plants. He planted 3 balsam plants of similar size in 3 pots F, G and H and placed them in the garden.

Which variables should Sam keep the same in order for a fair experiment?

A: Type of soil
B: Age of the plant
C: Amount of soil
D: Amount of water per day

(1) A and C only
(2) A and D only
(3) B, C and D only
(4) A, B and D only

9. Mrs Lee plucked 4 stalks of white flowers, A, B, C and D, from the same plant and placed each of them in a beaker of red-coloured water of different temperatures. She recorded the time taken for the flowers to turn red in the table below

Stalk of white flower	A	B	C	D
Temperature of water (°C)	20	25	30	35
Time taken for flower to turn red (hours)	6	4	3	2

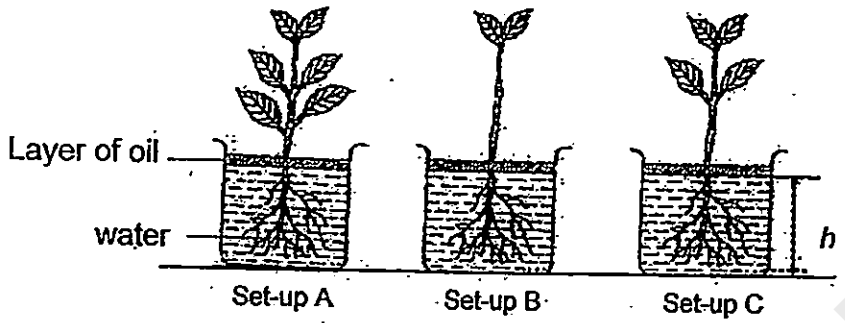
Based on the results table, which is the best conclusion?

1) Temperature of water has no effect on the time taken for flower to turn red.
2) The best temperature of water is 35°C for all plants to transport water.
3) At 10 °C, the time taken for flower to turn red will be 9 hours.
4) The higher the temperature of water, the faster the red-coloured water travels through the water-carrying tubes.

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Read the following and answer questions 10 and 11.

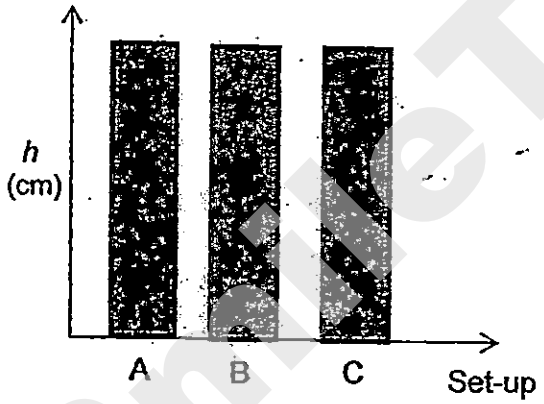
David wanted to find out how the number of leaves would affect the amount of water taken in by the plant. He placed three plants in three identical beakers, each containing an equal amount of water as shown in the diagram below. He then placed the three set-ups A, B and C near a window for a day.



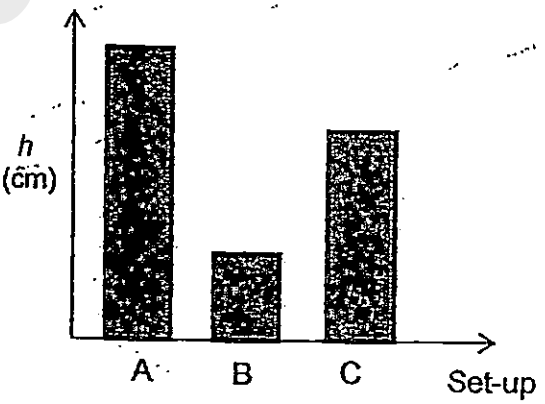
At the end of the experiment, David recorded the height of the water level, h, in each beaker.

10. Which one of the following graphs below shows the correct height of water level in set-ups A, B and C at the end of the experiment?

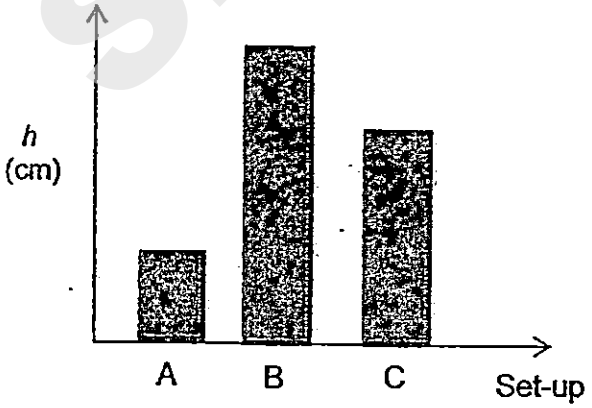
(1)



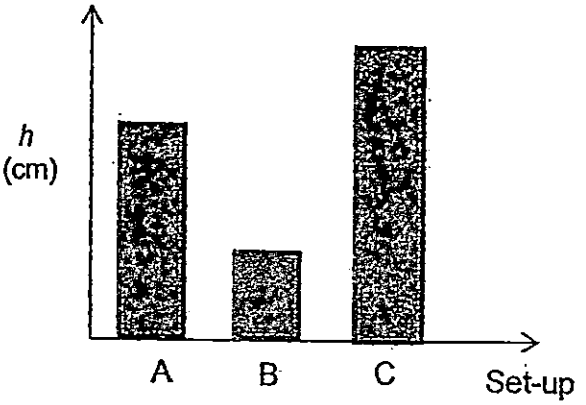
(2)



(3)



(4)



(Question is continued onto the next page)

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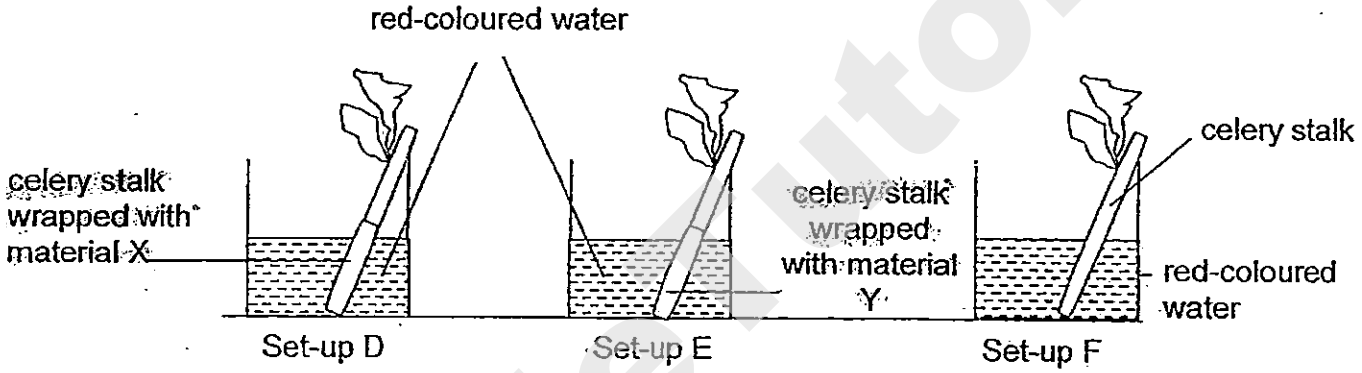
11. Other than the number of leaves, which variables will affect the height of water in the beaker?

(A) The presence of oil in each beaker.
(B) The amount of light in the surrounding.
(C) The number of roots of each plant.

(1) A and B only
(2) B and C only
(3) A and C only
(4) A, B and C

12. Max set up an experiment as shown below.

He placed three celery stalks in the beakers of red-coloured water of set-ups, D, E and F. Only the base of the celery stalks in Set-up D and E were wrapped with material X and Y respectively before placing them into the beaker of red-coloured water.



5 days later, Max recorded his observations of the 3 celery stalks in the table below.

	Set-up D	Set-up E	Set-up F
Observations	Leaves were yellowish and wilted	Leaves were green and not wilted	Leaves were red and not wilted

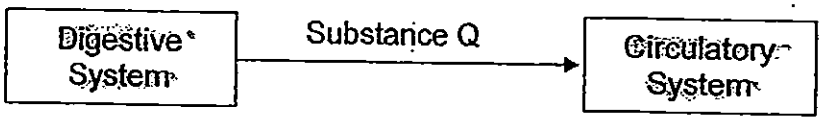
Which of the following statement(s) can be inferred from Max's observations?

A: Material Y allows only water to pass through.
B: Material X allows red-coloured water to pass through.
C: Material X does not allow red-coloured water to pass through.

1) A only
2) A and B only
3) A and C only
4) A, B and C

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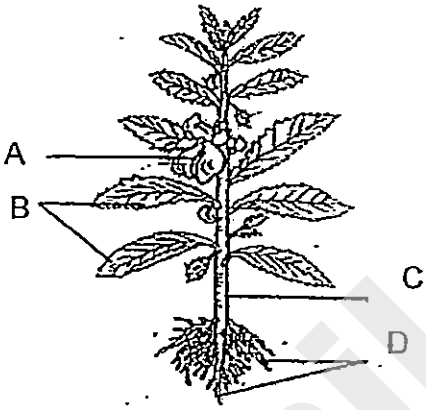
13. Study the diagram below.



What is substance Q?

1) water
2) Solid waste
3) digested food
4) undigested food

14. The picture below shows a plant.



Part	Function
A	Makes food for the plant.
B	Absorbs water for the plant.
C	Transports water to the plant.
D	Holds the plant firmly to the ground.

Which of the plant parts above are matched with the correct functions?

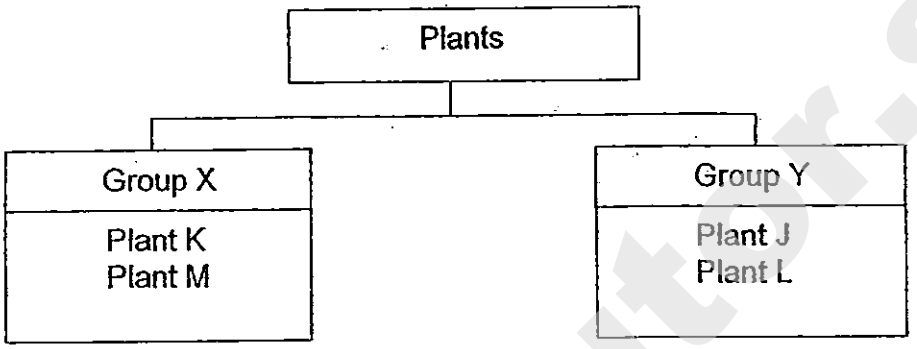
(1) A and B
(2) A and D
(3) B and C
(4) C and D

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15. The following table shows some characteristics of four plants J, K, L and M

Characteristics	Plant			
	J	K	L	M
It is a land plant.	Yes	Yes	No	No
It bears flowers.	Yes	No	Yes	No
It reproduces by spores.	No	Yes	No	Yes

Using the information above, Siti drew the following diagram to classify them.



What are the suitable sub-headings for group X and group Y?

	Group X	Group Y
(1)	ferns	fungi
(2)	fungi	flowering plants
(3)	land plants	water plants
(4)	non-flowering plants	flowering plants

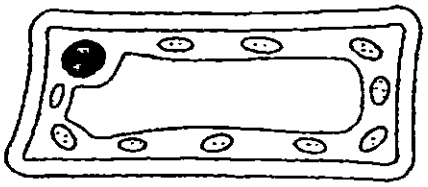
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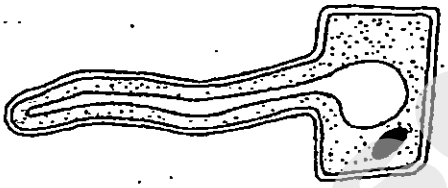
Part II (20 Marks)

For questions 16 to 23, write your answers in this booklet.

16. Tina examined two plant cells under a microscope. One was taken from the root and the other, from a leaf of the same plant.



Cell M



Cell N

(a) Which cell is taken from the leaf? Explain your answer. (1m)

_____

_____

(b) Why do cells have different shapes although they come from the same plant? (1m)

_____

_____

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17. The table below shows parts of a cell that is present in cells P, Q, R and S.

	Cell P	Cell Q	Cell R	Cell S
Nucleus		✓	✓	✓
Cell wall		✓		✓
Cytoplasm	✓	✓	✓	✓
Chloroplast		✓		
Cell membrane	✓	✓	✓	✓

(a) Which of the above cells is likely to be taken from an onion? Explain why. (2m)

_____

_____

Based on the table above, only Cell P cannot divide as the nucleus is absent.

(b) Why is it important that multi-cellular organisms divide? (1m)

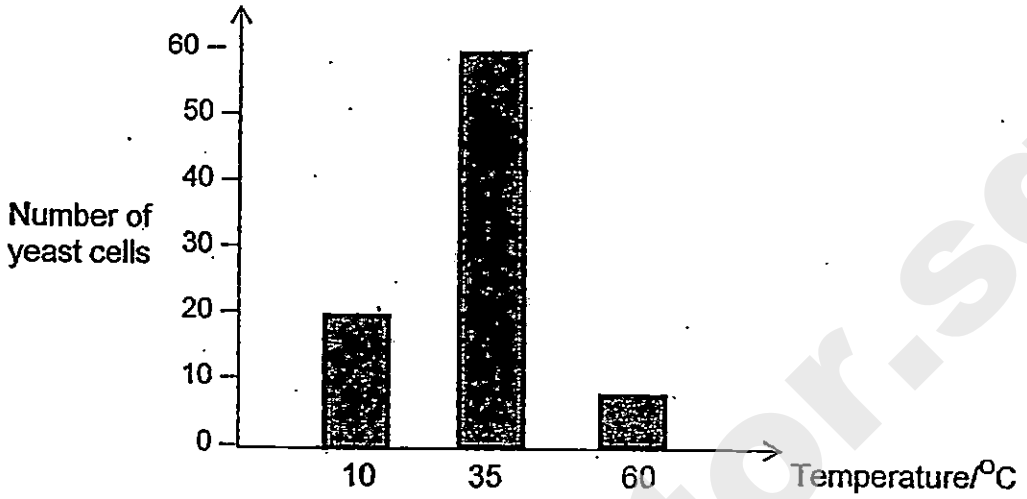
_____

_____

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18. Ravi wanted to **investigate the rate of cell** division of yeast cells. He placed 20 yeast cells into each **of the three set-ups containing** sugar solution at different temperatures. He then counted the number of cells after a period of time as shown on the graph below.



(a) State the aim of the experiment. (1m)

_____

_____

(b) **Describe how both the rate of cell division and the yeast cells are affected at the** different temperatures. (3m)

(i) 10°C: _____

_____

(ii) 35°C: _____

_____

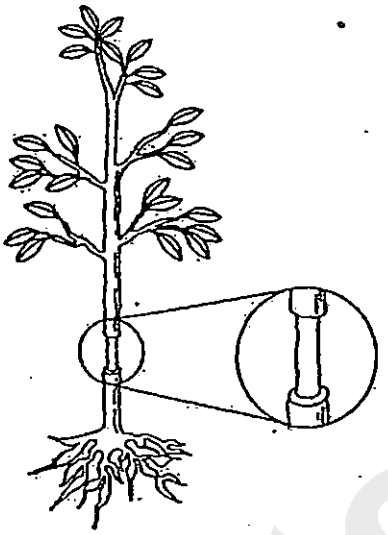
(iii) 60°C: _____

_____

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19. Martin cut the outermost covering of the stem of a plant as shown in the diagram below to remove one type of tube found in the plant.



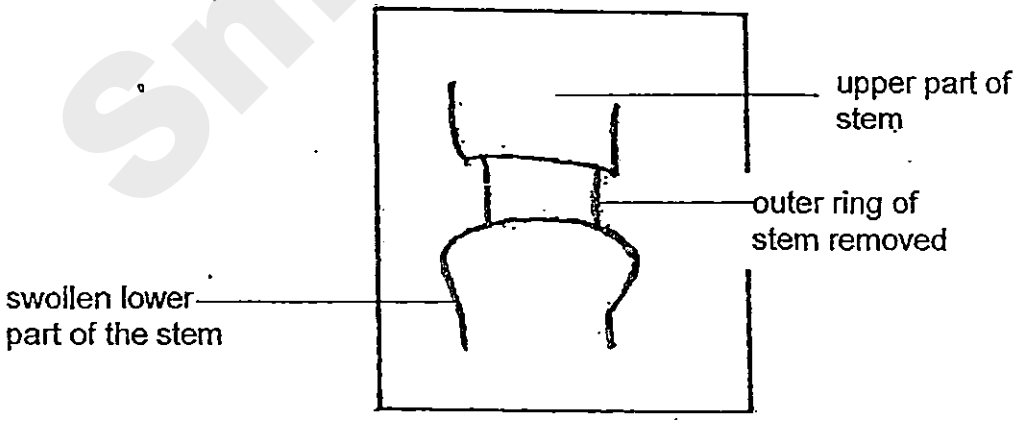
After two weeks, he observed that the leaves of the plant were still green.

(a) Explain why.

_____

_____

Martin drew his observation of the stem as shown in the figure below. His Science teacher told him that there was a mistake in his drawing.



Question 19(b) and 19(c) continues on page 14

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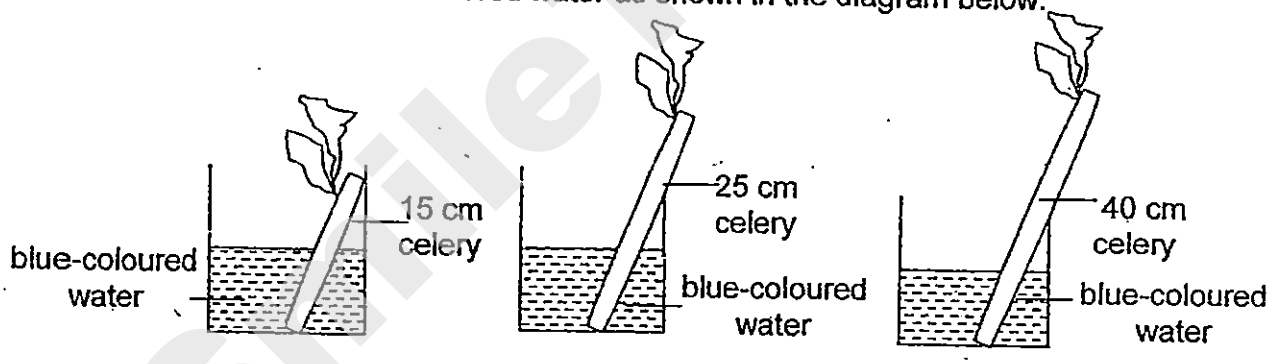
(b) Draw the correct observation Martin would have made and label the swollen part of the stem. (1m)

(c) Explain why the part of the stem will be swollen. (1m)

_____

_____

20. Sharifah wanted to find out if the length of the celery affects the time taken for water to reach the leaves. She cut out three stalks of celery of different lengths and placed them in 200ml of blue-coloured water as shown in the diagram below.



(a) Why did she use blue-coloured water instead of tap water in this experiment? (1m)

_____

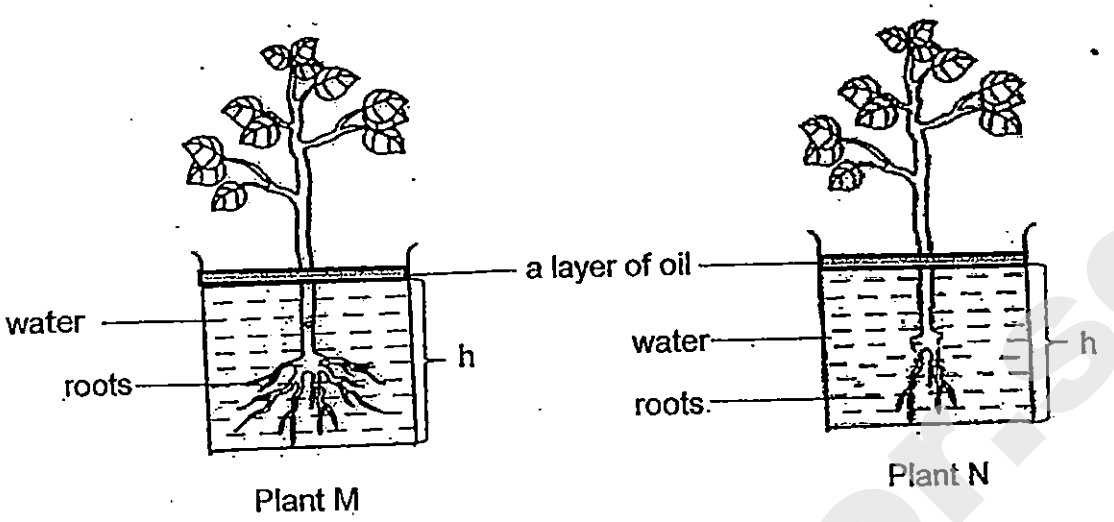
_____

(b) State another variable about the celery that must be kept the same in order to ensure a fair test. (1m)

_____

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21. Tom carried out an experiment in a classroom using the set-ups as shown. He removed most of the roots from one of the plants.

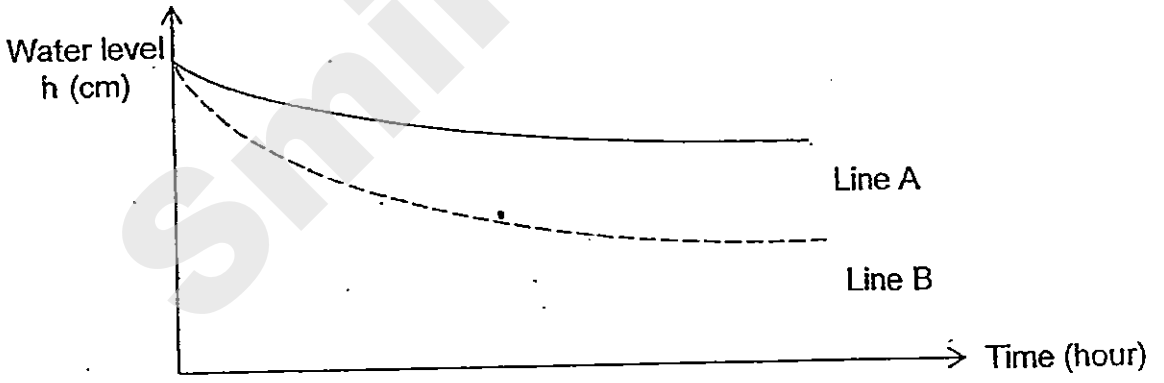


(a) How does the layer of oil in both beakers ensure that the results obtained are accurate? (1m)

_____

_____

He recorded the water level, h, at regular time intervals and showed the results in the graph below.



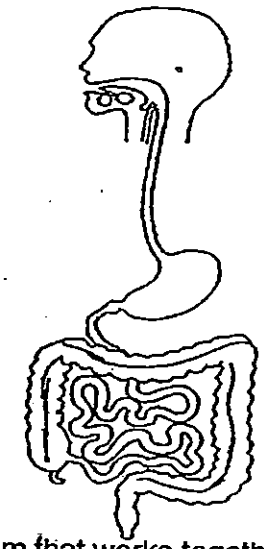
(b) Which line, A or B, represents the results collected for the plant N? Explain why. (1m)

_____

_____

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22. The diagram below shows the digestive system.



(a) State the body system that works together with the digestive system to push the food from the gullet to the stomach. (1m)

_____

(b) Adam was given two objects, a plastic bag and a sponge.

Which object should he use to make an analogy for the small intestine? Explain why. (1m)

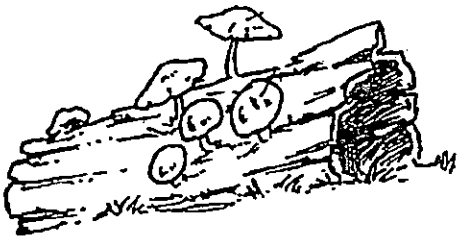
_____

_____

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23. Sam made some observations of the two organisms below.



Organism A



Organism B

Both organisms A and B reproduce by spores but Sam classified organism A as fungi and organism B as plants. Explain why. (2m)

_____

_____

_____

_____

End of Paper

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : ROSYTH SCHOOL
SUBJECT : SCIENCE
TERM : CA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	1	1	3	4	2	4	4	4	3
Q11	Q12	Q13	Q14	Q15					
4	3	3	4	4					

Q16a. Cell M. Cell M has chloroplasts, which contain a green pigment call chlorophyll to trap light energy from the sun to make food for the plant. Chloroplast is also found on the leaves.

Q16b. Cells have different shapes although they came from the same plant because they have specified functions to be carried out.

Q17a. Cell S. It contains a cell wall which only plant cells have but no chloroplasts as onion cells do not make food.

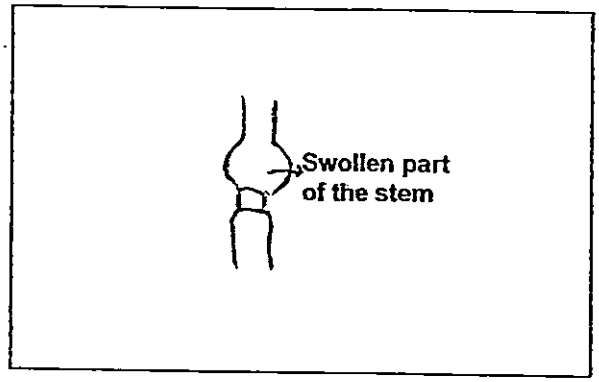
Q17b. It is important that multi-cellular organisms divide because they need to grow, repair the damaged cells and replace the old or dead cells.

Q18a. Ravi wanted to find out how the temperature of the sugar solution affects the number of yeast cells produced.

Q18b. i) 10°C : Rate is zero as at 10°, insufficient warmth to start reproduction so number remains unchanged at 20.
ii) 35°C : As the temperature increased from 10°C, the number of yeast cells increased by 40.
iii 60°C : Rate of reproduction decreased and stopped to 10, less than the original 20 means that the yeast population dies, killed by the heat.

Q19a. The leaves of the plant were still green because it had received air from the surrounding to make food, and water can be transported to the leaves to make food too.

Q19b. **SEE PICTURE**



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Q19C. Food produced by the leaves cannot be transported down so food is stored and accumulated.

Q20a. Some parts of the leaves will turn blue to show that the blue-coloured water has reached the leaves.

Q20b. Number of leaves on the celery. The thickness of the celery.

Q21a. The layer of oil prevents the water from evaporating so that the result is only because of the plant taking in water.

Q21b. Line A. The lesser the amount of roots, the lesser amount of water taken in by the plant, so the water level will be higher.

Q22a. Muscular system

Q22b. Sponge. The small intestine absorbs the digested food through the walls of it just like the sponge, which absorbs the water through the holes it has.

Q23. Organism A is a fungi because it feeds on dead matter. Organism B is a plant as it can make its own food.

THE END

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ANGLO-CHINESE SCHOOL
(JUNIOR)

SEMESTRAL ASSESSMENT 1 (2015)
PRIMARY 5

SCIENCE

BOOKLET A

FRIDAY **8 MAY** **1 hour 30 minutes**

Name : _____ **(** **)**

Class : P5 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 25 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The total marks for this booklet is 50.

The total time for Booklets A and B is 1 hour 30 minutes.

This question paper consists of 16 printed pages (inclusive of cover page).

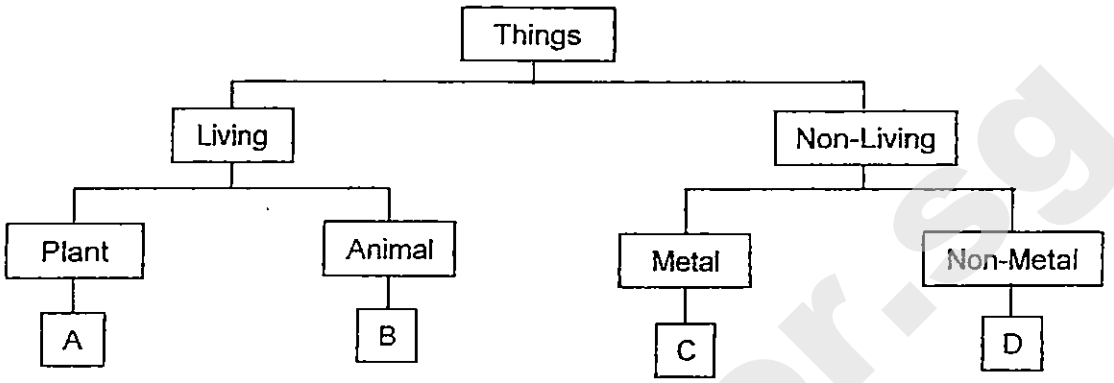
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Section A (50 marks)

For each question from 1 to 25, four options are given. One of them is the correct answer. Choose the correct option (**1, 2, 3 or 4**) and shade the correct oval on the Optical Answer Sheet (OAS).

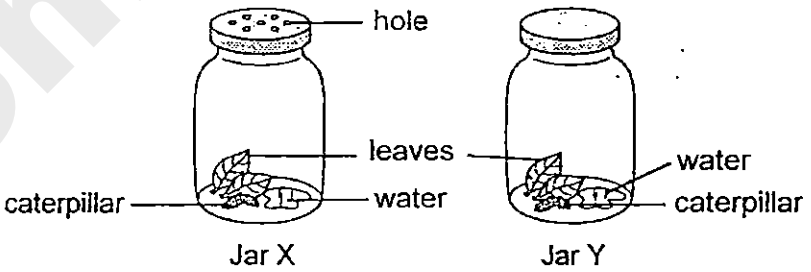
1 Study the flowchart.



Which of the following things can be classified correctly into the flowchart above?

	A	B	C	D
(1)	mushroom	frog	iron	glass
(2)	moss	dog	copper	plastic
(3)	fern	fish	nickel	steel
(4)	grass	ant	ceramic	clay

2 Study the set-ups shown below.



The caterpillar in Jar Y died before the caterpillar in Jar X. The aim of the experiment is to show that _____.

(1) air is required to keep living things alive
(2) food is required to keep living things alive
(3) water is required to keep living things alive
(4) warmth is required to keep living things alive

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3 Which of the following statements about fungi and bacteria are true?

A Both can be useful to man
B Both can make their own food
C Both can cause food to be spoiled
D Bacteria can only be seen with a microscope, but all fungi can be seen by the unaided eye

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

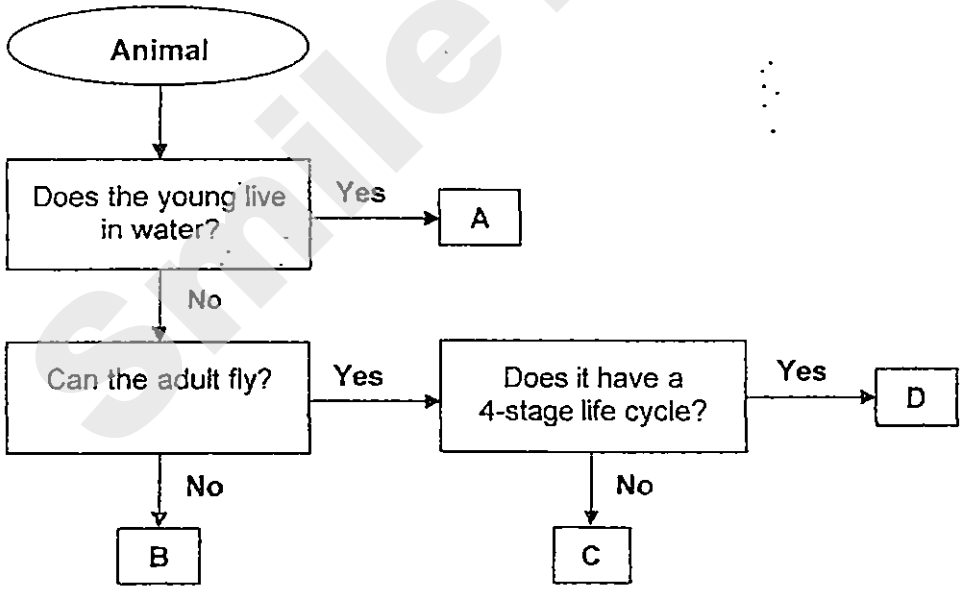
4 John listed some similarities between the life cycle of a butterfly and a housefly.

A They both lay eggs.
B They have the same number of stages.
C Their young look different from their adult.
D At the pupa stage of their life cycles, the young eats a lot.

Which one of the following is correct?

(1) A and D only
(2) A, B and C only
(3) B, C and D only
(4) A, B, C and D

5 Study the flowchart shown below.



Which of the following correctly shows where a mosquito, mealworm beetle and a grasshopper can be placed?

	Mosquito	Mealworm beetle	Grasshopper
(1)	A	D	C
(2)	D	B	C
(3)	A	B	D
(4)	C	A	B

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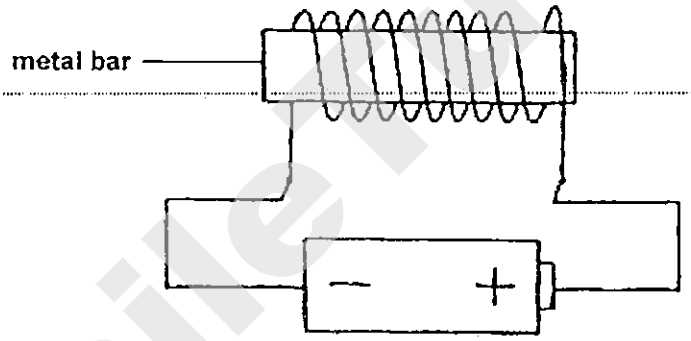
6 The table shows the properties of 3 objects, X, Y and Z.

Property \ Object	X	Y	Z
Can float on water?	No	Yes	Yes
Has a fixed shape?	Yes	Yes	No
Can be compressed?	No	No	No

Which of the following can be X, Y and Z?

	X	Y	Z
(1)	coin	styrofoam	marbles
(2)	oxygen	cork	plastic ruler
(3)	coin	cork	oil
(4)	stone	styrofoam	eraser

7 The metal bar in the following set-up **did not** become an electromagnet.



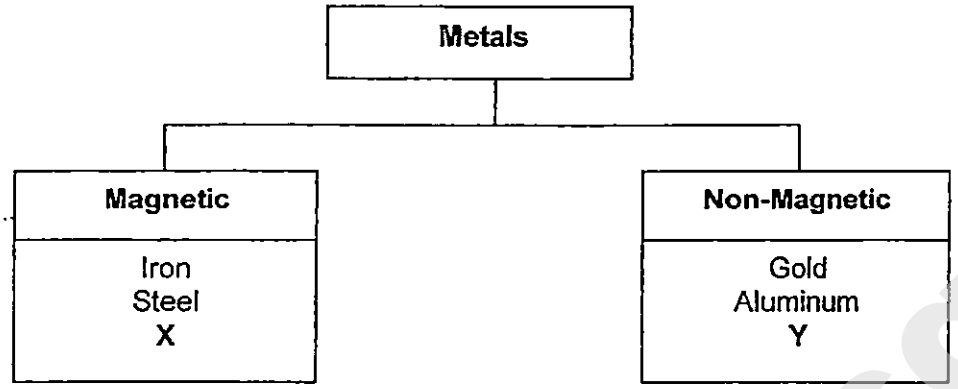
Which of the following are possible reasons for the metal bar not becoming an electromagnet?

A It needs a switch to work.
B The bar was made of copper.
C The battery was not able to provide energy.
D The wire was coiled around the metal bar too many times.

(1) A and C only
(2) B and D only
(3) B and C only
(4) A, B, C and D

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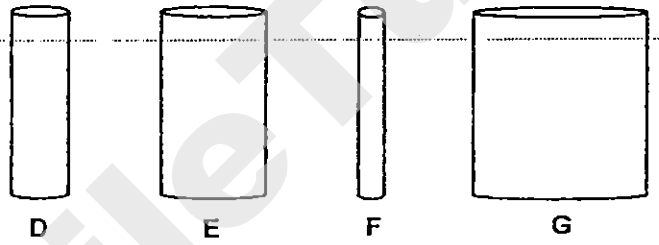
8 Some metals are classified into two groups as shown below.



Which of the following best represent **X** and **Y**?

	X	Y
(1)	Silver	Copper
(2)	Nickel	Silver
(3)	Copper	Silver
(4)	Silver	Nickel

9 Eddy had four magnets, D, E, F and G as shown below.



To compare the strength of the magnets, he brought each of them near a pile of pins. The table below records the number of pins attracted by the four magnets.

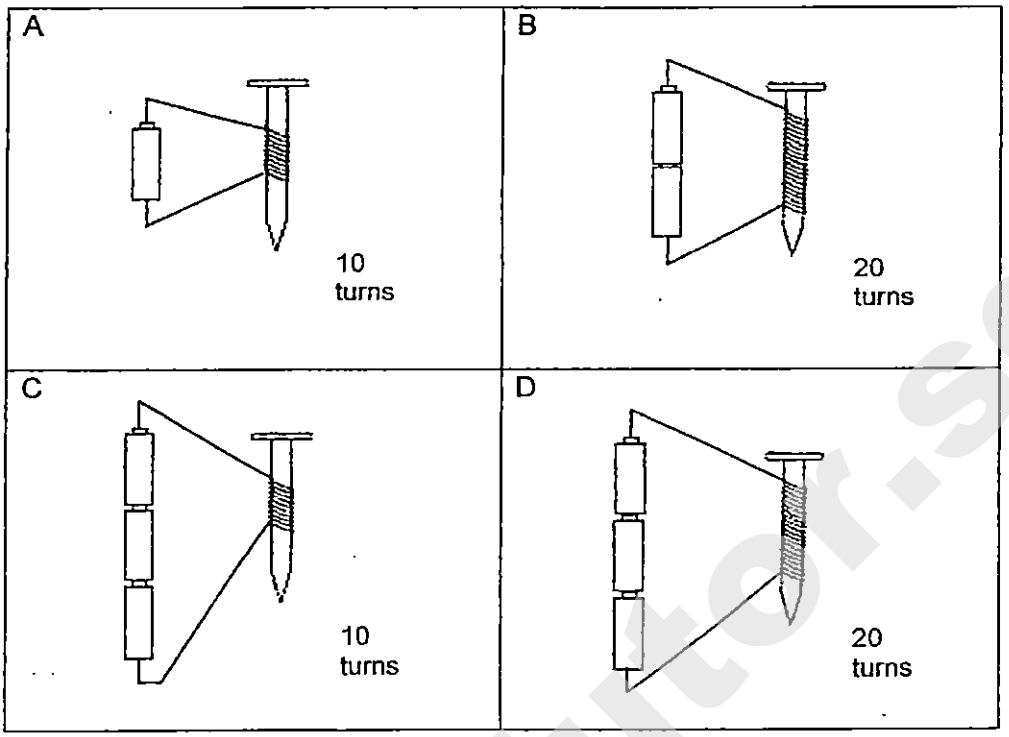
Magnet	Distance between magnet and pins (cm)	Number of pins attracted
D	4	18
E	4	16
F	4	11
G	4	13

Which of the following statements is correct?

(1) Magnet G is weaker than magnet F.
(2) Magnet G is as strong as magnet E.
(3) Magnet D is stronger than magnet E.
(4) All the magnets are of the same strength.

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10 Jasper wants to find out if the number of coils around an iron nail affects the strength of an electromagnet. He sets up two arrangements.



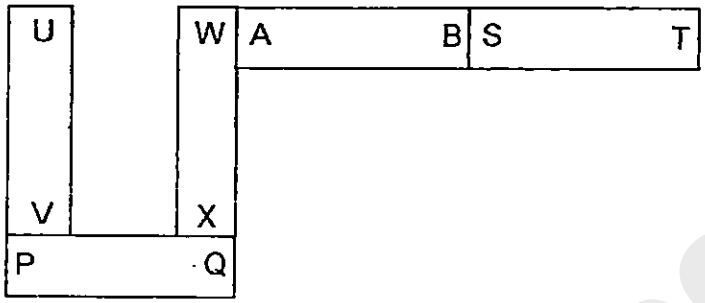
Which two arrangements shown above should he use to conduct a fair test?

(1) A and B
(2) A and C
(3) B and D
(4) C and D

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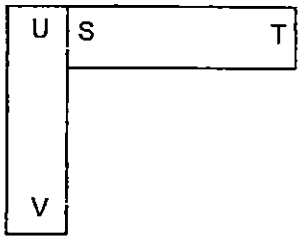
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11 The diagram below shows how 5 magnets can be arranged to attract one another.

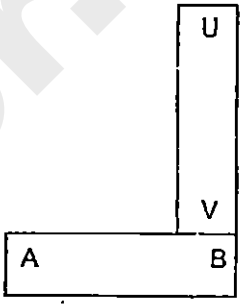


Which one of the following arrangements is correct?

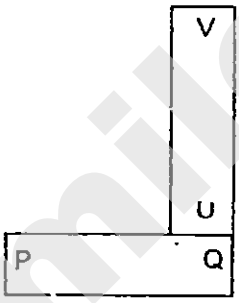
(1)



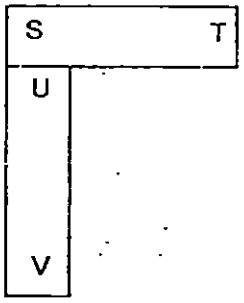
(2)



(3)



(4)



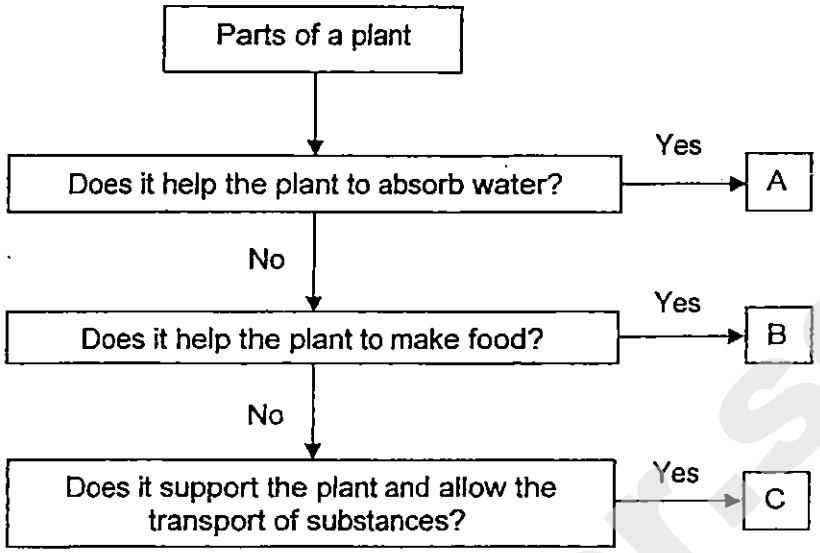
12 Which of the following is **not true** of the human skeletal system?

(1) It supports our body
(2) It gives our body its shape
(3) It protects the brain, heart and lungs
(4) It is made of bones and muscles which work together to allow us to move

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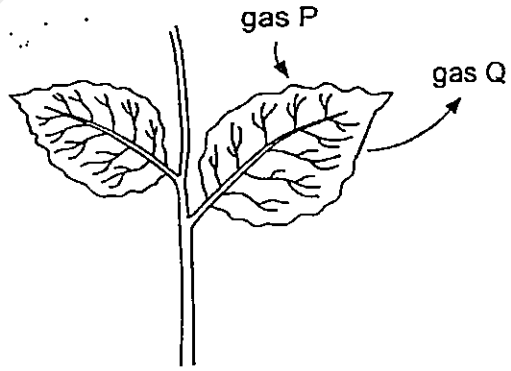
13 Study the flowchart below.



Which of the following correctly represent A, B and C?

	A	B	C
(1)	root	stem	leaf
(2)	stem	leaf	root
(3)	leaf	stem	root
(4)	root	leaf	stem

14 The diagram below shows gaseous exchange taking place in a plant at midnight.

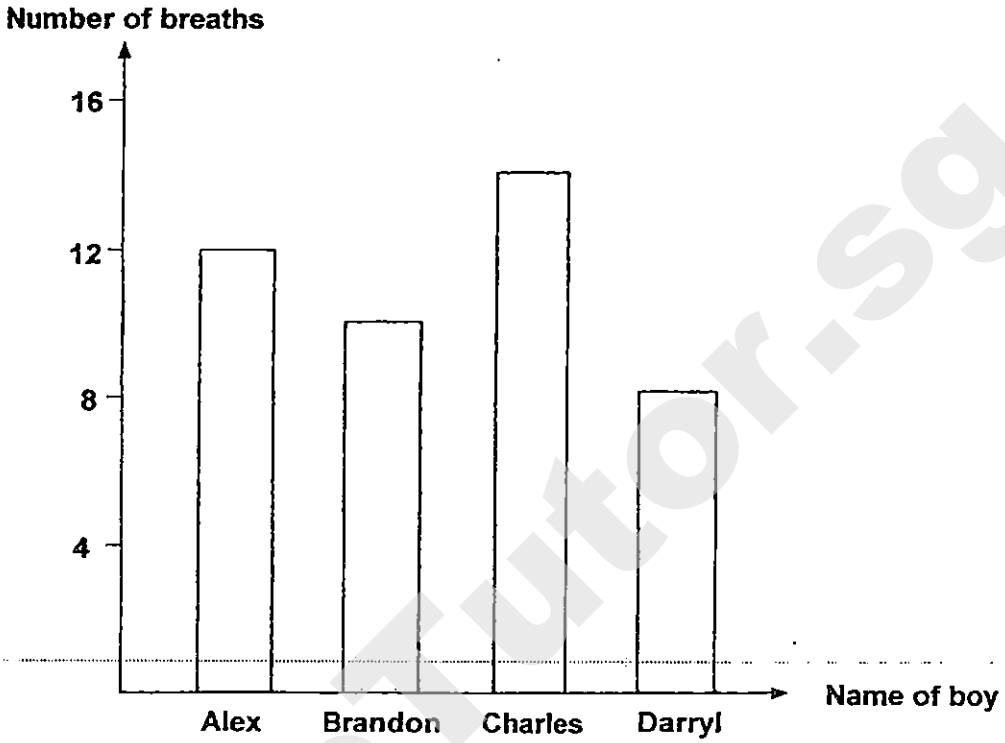


What are gases P and Q likely to be?

	P	Q
(1)	carbon dioxide	water vapour
(2)	oxygen	carbon dioxide
(3)	carbon dioxide	oxygen
(4)	water vapour	oxygen

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15 During a balloon-blowing competition, Alex, Brandon, Charles and Darryl were each given identical balloons and told to inflate the balloons to the fullest, using the least number of breaths. The graph below shows the number of breaths needed by each boy to inflate his balloon to the fullest.



Lung capacity is the greatest amount of air a person can take in with each breath. Which of the following statements are true?

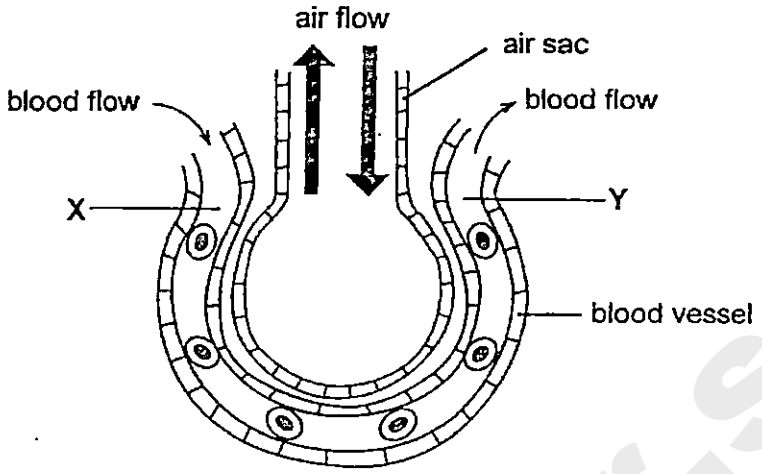
A Charles has the greatest lung capacity
B Alex has a greater lung capacity than Darryl
C Brandon has a greater lung capacity than Alex
D Darryl can inflate the balloon with the least number of breaths

(1) A and B
(2) A and D
(3) B and C
(4) C and D

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16 The diagram below shows an air sac and a blood vessel in the lungs of a man. Blood flows through the blood vessel from point X to Y.



Which of the following describes the oxygen and carbon dioxide levels of the blood at points X and Y?

	X		Y	
	Oxygen	**Carbon Dioxide**	**Oxygen**	**Carbon Dioxide**
(1)	high	high	low	low
(2)	low	low	high	high
(3)	high	low	low	high
(4)	low	high	high	low

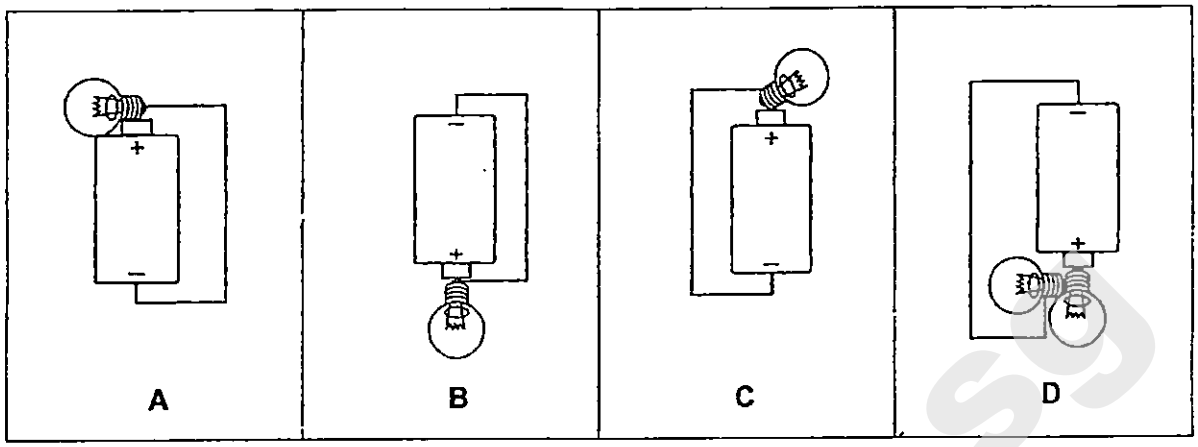
17 Which of the following statements about cells are correct?

A All living things are made of many cells.
B Cells have different shapes, sizes and functions.
C Cells reproduce to replace old and damaged cells.

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

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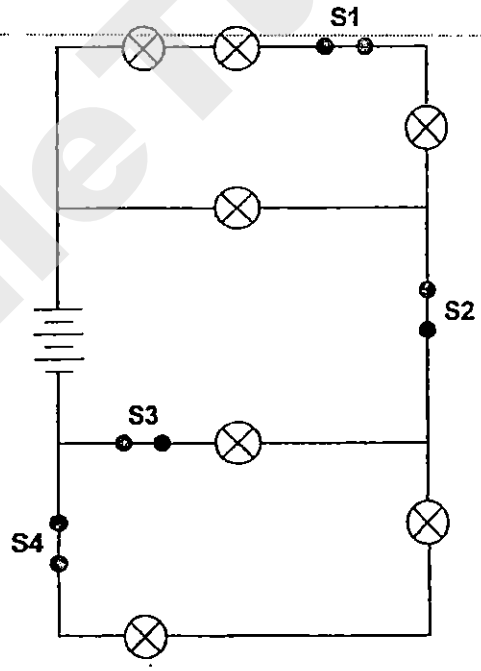
18 Study the diagrams below carefully.



In which circuits would the bulbs light up?

(1) A and B only
(2) B and C only
(3) C and D only
(4) A and D only

19 Study the electrical circuit diagram below carefully.



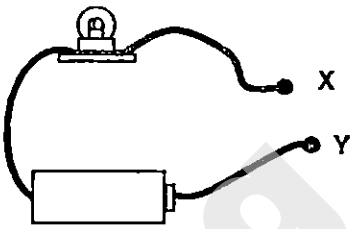
Which switch, S1, S2, S3 or S4, must you open if you want only 5 light bulbs to be lighted up?

(1) S1
(2) S2
(3) S3
(4) S4

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20 Ryan used a circuit tester to test a circuit card. He connected the points X and Y of the circuit tester to the various clips 1, 2, 3, 4, 5 and 6 on a circuit card to see if the bulb would light up. He recorded the results of his experiment in the table below.

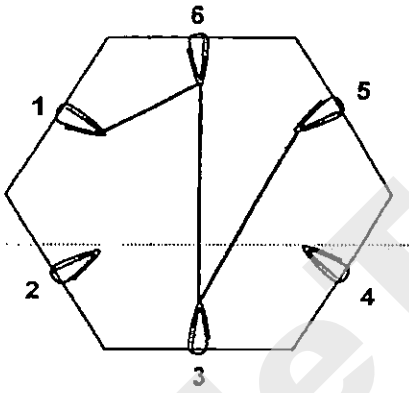
Connection tested	Did the bulb light up?
1 and 4	No
2 and 4	No
3 and 5	Yes
5 and 6	Yes
1 and 6	No



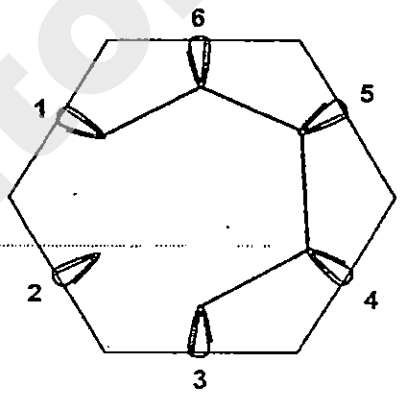
circuit tester

Which of the diagrams represent the circuit card that was tested?

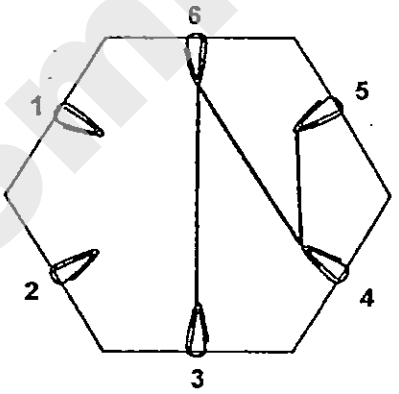
(1)



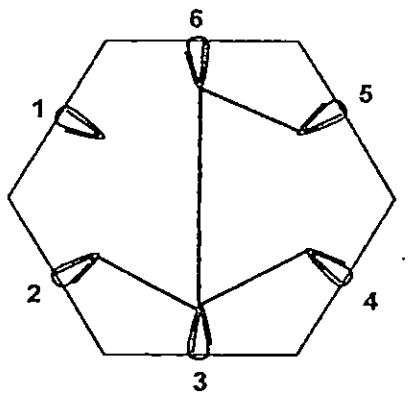
(2)



(3)



(4)



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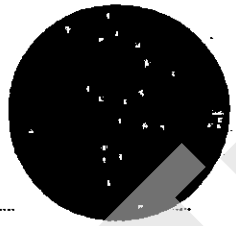
21 Calvin wanted to find out which of the 4 battery-powered toys, W, X, Y and Z used the most electricity. He connected the toys to an electric circuit and recorded the time taken for the batteries to be totally used up.

Which of the following should he do to ensure that his experiment is a fair test?

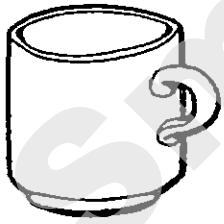
A Only fully charged batteries should be used.
B Only the same type and number of batteries must be used.
C Each toy must be switched on for the same amount of time.
D Only one toy should be connected to the test circuit at each time.

(1) A and C only
(2) A, B and D only
(3) B, C and D only
(4) A, B , C and D

22 The diagram below shows a shadow.



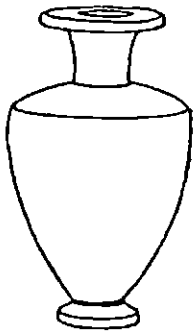
Which of the following objects below can cast the shadow above?



A



B

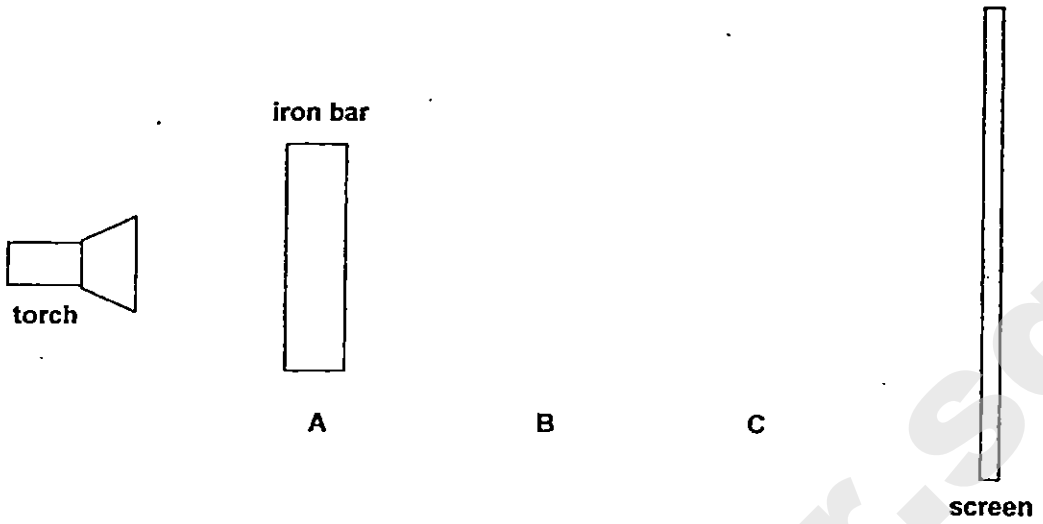


C

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

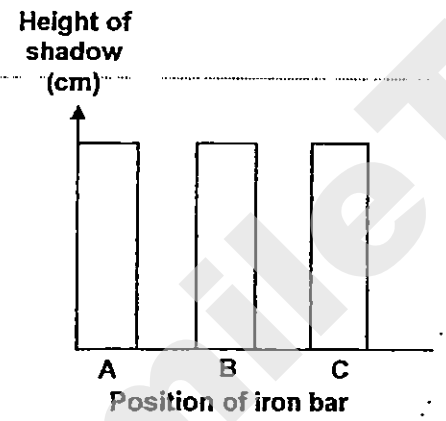
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23 In the set-up below, the iron bar casts a dark shadow on the screen when the torchlight is shone on it.

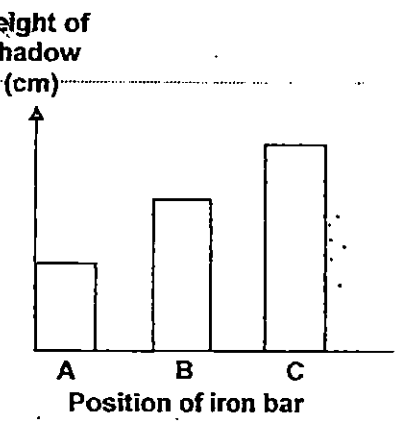


The iron bar is placed at positions A, B and C during the experiment. Which of the following graphs shows the correct height of the shadow formed on the screen for A, B and C?

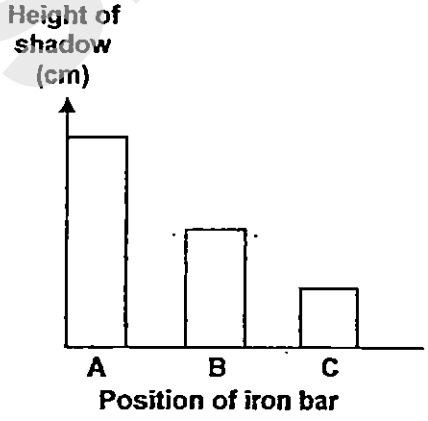
(1)



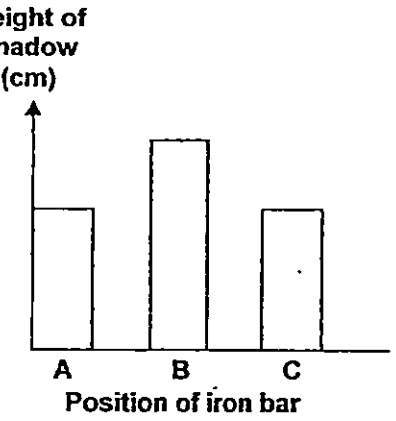
(2)



(3)



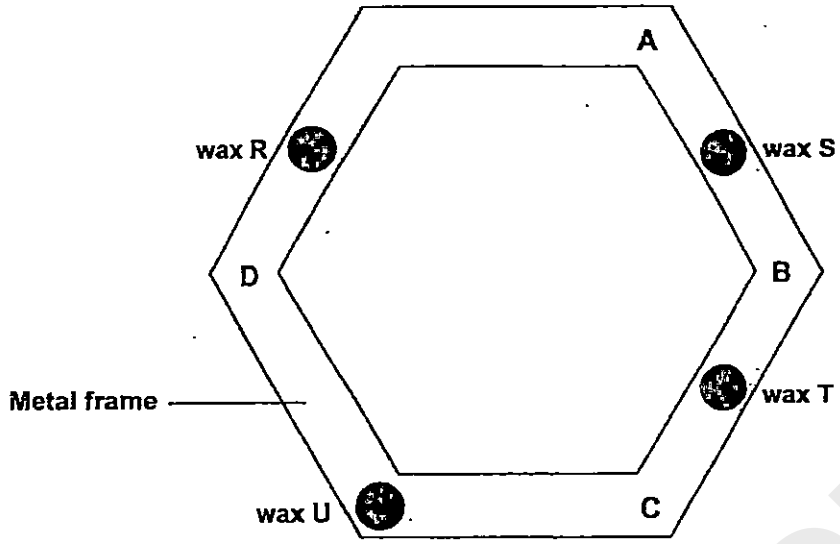
(4)



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24 The diagram below shows a hexagonal metal frame with four drops of wax at R, S, T and U.



Malcolm placed a lit candle under one of the four points, A, B, C and D. He then recorded the time taken for the drops of wax to melt, in the table below.

Drop of wax	Time taken for the drop of wax to melt (seconds)
R	91
S	52
T	16
U	35

At which **point** did Malcolm place the lit candle under?

(1) A
(2) B
(3) C
(4) D

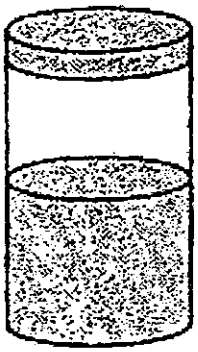
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25 Tyler filled three bottles with 400ml of water and 3 similar ice cubes each. He then wrapped each bottle with different numbers of similar sized sheets of newspaper.

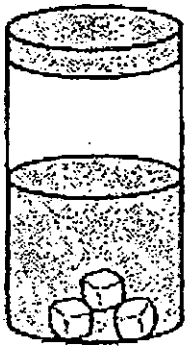
Bottle	Amount of water (ml)	Number of ice cubes	Number of sheets of newspaper
A	400	3	1
B	400	3	6
C	400	3	15

After 20 minutes, he removed the newspaper and the results are shown below.



No ice cubes observed

A



Small ice cubes observed

B



Big ice cubes observed

C

Which of the following best describes the relationship between the number of sheets of newspaper used and the rate at which the ice cubes melted?

(1) The more sheets of newspaper used, the faster the ice cubes melted.
(2) The more sheets of newspaper used, the slower the ice cubes melted.
(3) The fewer sheets of newspaper used, the slower the ice cubes melted.
(4) The number of sheets of newspaper used did not affect the speed at which the ice cubes melted.

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ANGLO-CHINESE SCHOOL
(JUNIOR)

SEMESTRAL ASSESSMENT 1 (2015)
PRIMARY 5

SCIENCE

BOOKLET B

8 MAY 1 hour 30 minutes

Name : _____ ( )

Class : P5 _____

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Follow all instructions carefully.

There are 14 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The number of marks is given in brackets [ ] at the end of each question or part question.

The total marks for this booklet is 40.

The total time for Booklets A and B is 1 hour 30 minutes.

This question paper consists of 17 printed pages (inclusive of cover page).

BOOKLET A	/ 50
BOOKLET B	/ 40
TOTAL	/ 90
Parent's signature/ Date:	

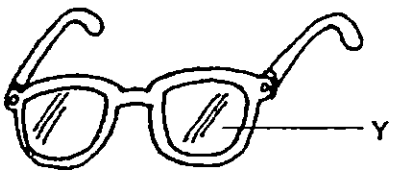
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For questions 26 to 39, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

(40 marks)

26 The diagram below shows a pair of spectacles.



(a) State 2 possible materials that can be used to make part Y. [1]

(b) State 2 properties of the materials mentioned in (a) which are suitable for making part Y. [2]

Property 1:

Property 2:

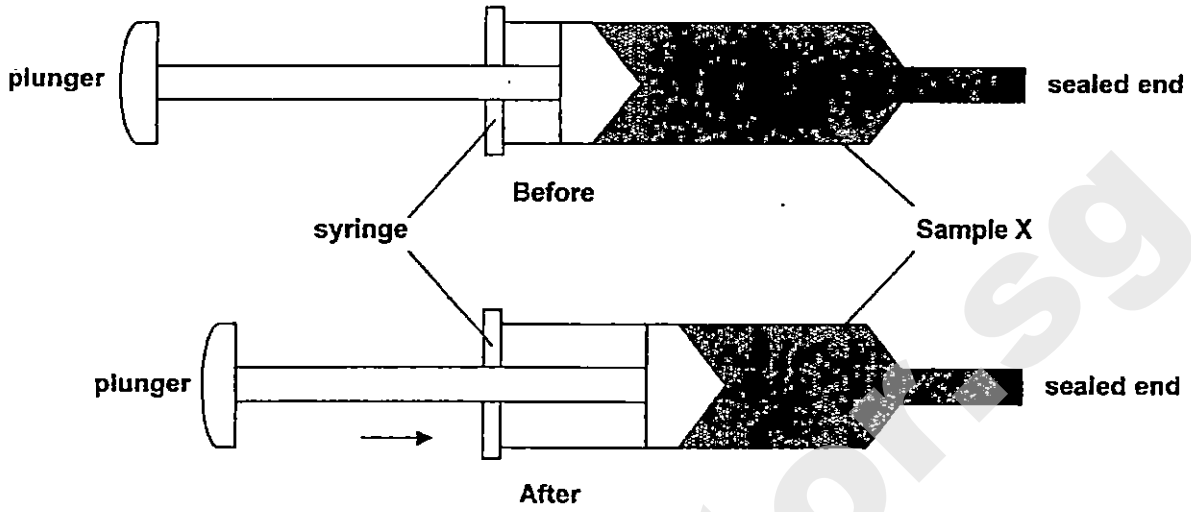
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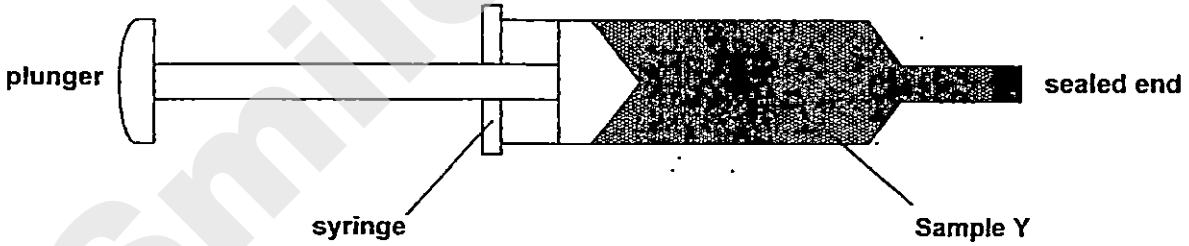
SCORE / 3

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27 Eddy carried out his first experiment as shown in the diagram below. He sealed the nozzle of the syringe and pushed the plunger inwards.



(a) What happened to the mass of Sample X in the syringe after the plunger is pushed in? Explain your answer. [1]



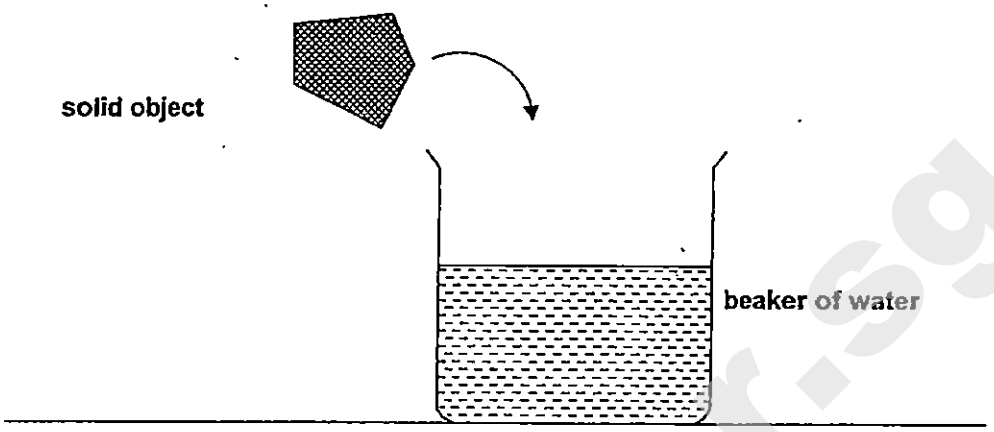
(b) Eddy replaced the Sample X in the syringe with Sample Y. He tried pushing the plunger but he was not able to do so. State a difference in the property between Sample X and Sample Y. [1]

(Go on to the next page)

SCORE / 2

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27(c) Eddy then carried out his next experiment. He dropped a solid object into a beaker of water as shown in the diagram below. The solid object sinks in the water.



Which of the following statements correctly describe what will happen after the solid object is dropped into the container of water? Tick (✓) the correct answers in the boxes. [1]

The water level will rise	
The volume of water will increase	
The mass of the solid object will not change	
There will be a change in the mass of the water	

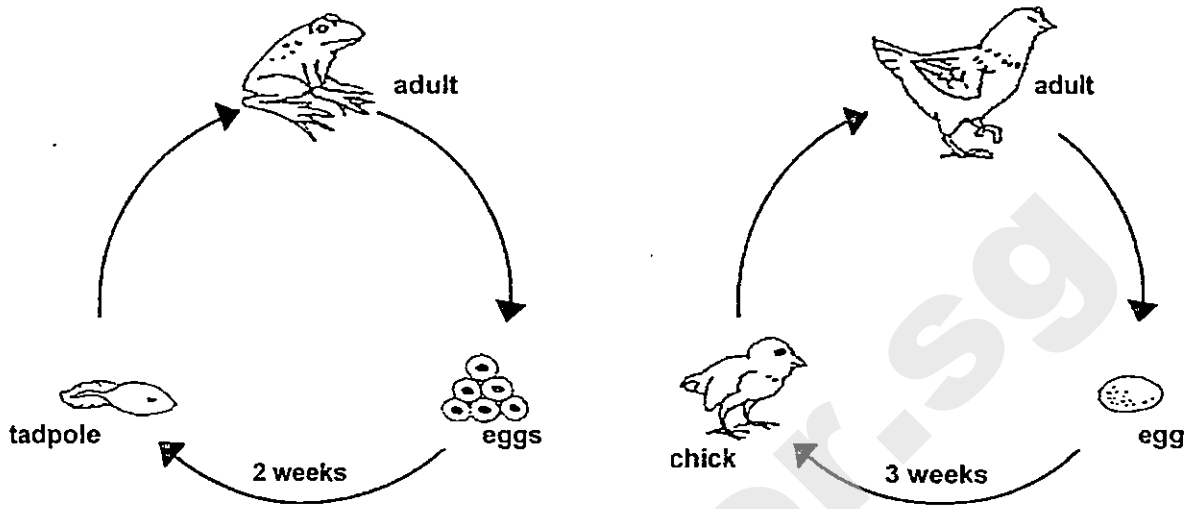
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SCORE	/ 1

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28 Compare the two life cycles below.



Life cycle of a frog

Life cycle of a chicken

(a) Based on the life cycles above, state 2 differences between them. [2]

(i) _____

_____

(ii) _____

_____

(b) Explain why it is necessary for living things to reproduce. [1]

_____

_____

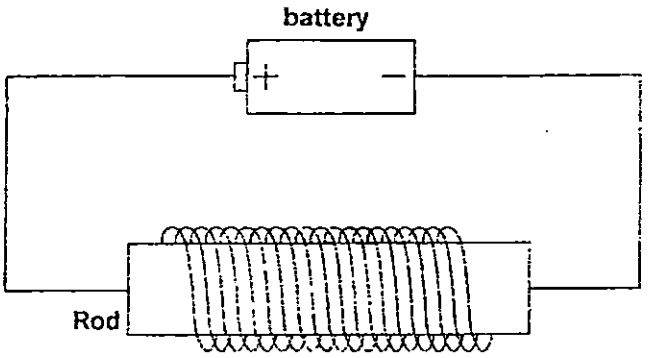
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SCORE	
	3

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29 Luke carried out an experiment to find out which material is suitable to make an electromagnet using the set-up shown below.



He made an electromagnet using Rod A and then recorded the number of paper clips it attracted. After that, he repeated this procedure with Rods B and C.

The result of his experiment is recorded in the table as shown below.

Rod	Number of paper clips attracted
A	0
B	17
C	0

(a) Name two variables which have to be kept constant to ensure that it is a fair test. [1]

_____

_____

(b) What can Luke conclude based on the results? [1]

_____

_____

(c) Rod A and Rod C are made of different materials. Name the materials that Rod A and C can be made of. [1]

Rod A : _____

Rod C : _____

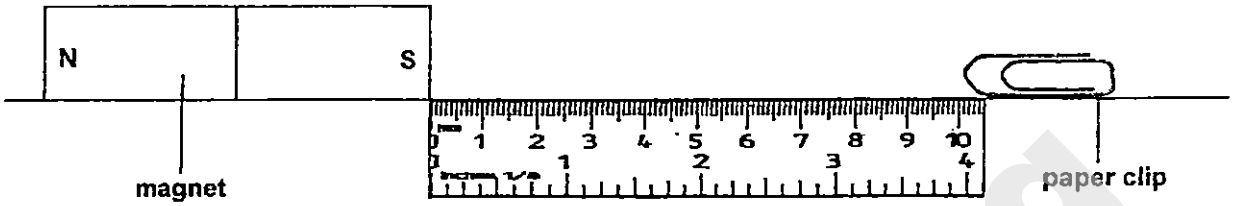
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SCORE	
	3

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30 Ryan set up an experiment as shown below. He pushed the paper clip slowly along the ruler towards Magnet W. He recorded the distance at the point where the paper clip was attracted to the magnet. He repeated these steps using Magnets X, Y and Z.



Magnet	Distance from which the magnet attracted the paper clip
W	3 cm
X	6 cm
Y	8 cm
Z	5 cm

(a) What was Ryan trying to find out? [1]

_____

_____

(b) Based on the information in the table, arrange the magnets according to their strength from the strongest to the weakest. [1]

Magnet ____ , Magnet ____ , Magnet ____ , Magnet ____

strongest ⟶ **weakest**

(c) What must Ryan do to ensure that the experiment is a fair test? [1]

_____

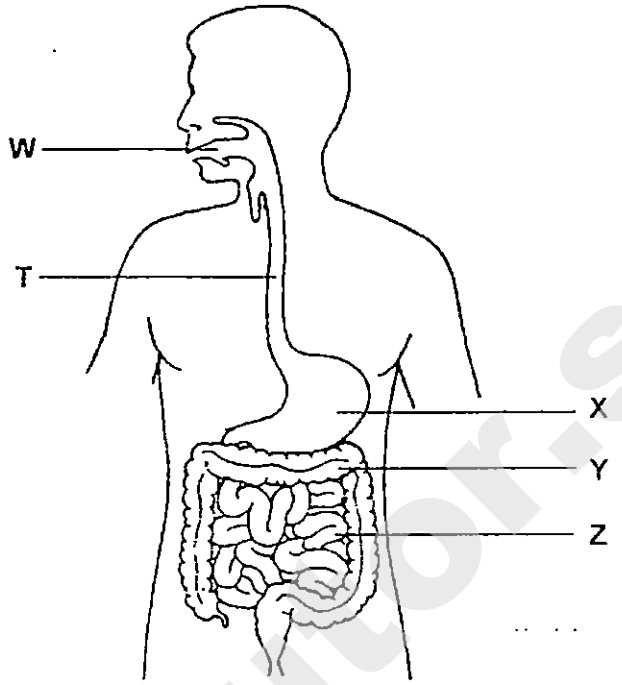
_____

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SCORE / 3

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31 The diagram below shows the human digestive system.



(a) At which part(s) T, W, X, Y or Z is digestive juice produced? [1]

(b) At which part is digested food absorbed into the bloodstream? Explain clearly why it is important for digested food to be absorbed into the blood stream. [1]

(c) What is the function of part Y? [1]

(Go on to the next page)

SCORE	
	3

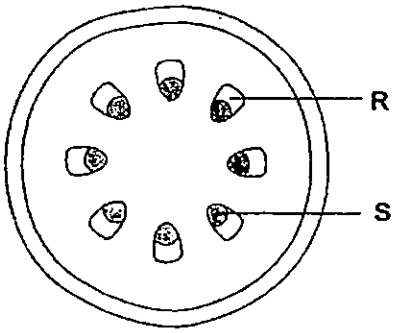
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32 Tom added a few drops of red food colouring into a beaker of water. He then put a plant into the beaker of red-coloured water.

The next day, Tom cut a cross-section of the stem as shown in the diagram below.

(a) Shade the parts of the cross-section that would have turned red. [1]

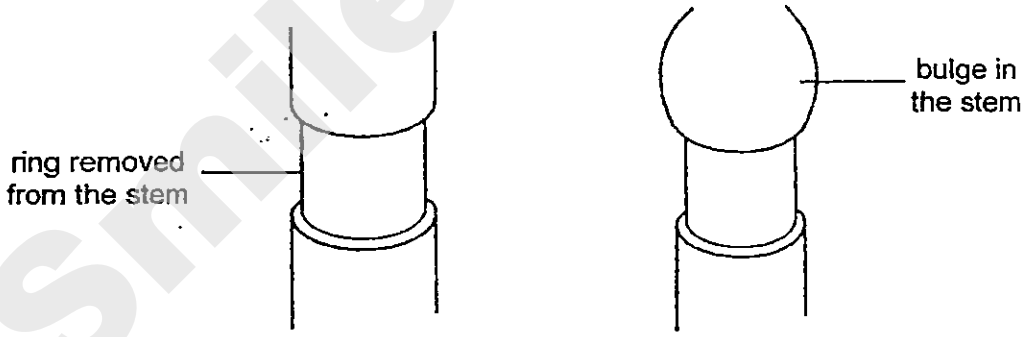


(b) Identify the structures R and S. [1]

R : _____

S : _____

Tom removed a ring from the stem of another plant in the garden. He watered the plant every day and it remained healthy. After a week, Tom noticed there was a bulge on the stem above the region where he had removed the ring.



(c) What could be the likely reason for the bulge? [1]

_____

_____

_____

(Go on to the next page)

SCORE	
	3

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33 The table below shows the comparison of characteristics of inhaled air and exhaled air in the respiratory system of a human being.

(a) Fill in the words "More" or "Less" or "Same" in the blank spaces to complete the table. [1]

S/N	Characteristic	Inhaled Air	Exhaled Air
1	Amount of Oxygen		
2	Amount of Carbon Dioxide		
3	Amount of Water Vapour		
4	Amount of Dust		

(b) What does the human body use the oxygen for? Explain clearly. [1]

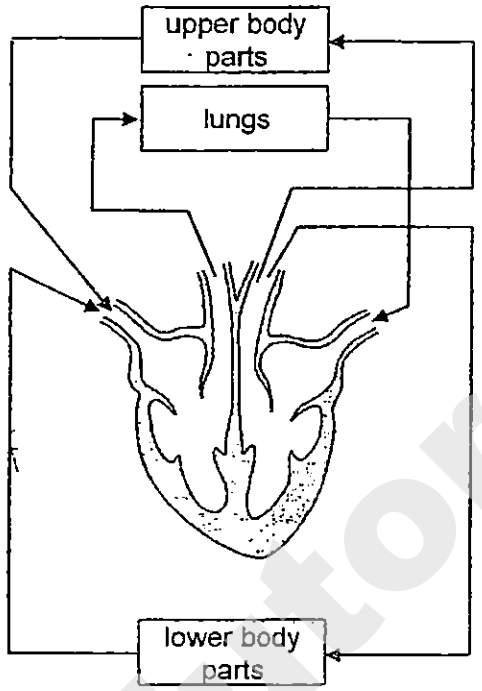
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SCORE / 2

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34 The diagram below shows a cross-section of the human heart and the movement of blood in the human circulatory system.



In the table below, state two differences between the blood flowing in the right side of the heart and the left side of the heart. [2]

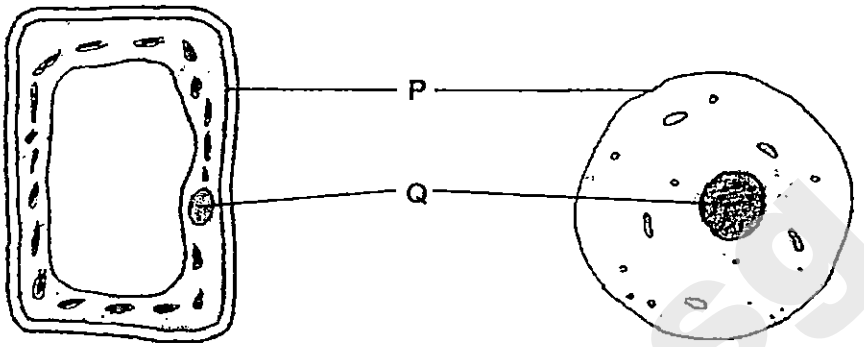
Difference	Right Side Of The Heart	Left Side Of The Heart
(i)		
(ii)		

(Go on to the next page)

SCORE 2

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35 The diagrams below show two cells of two different organisms.



Cell X Cell Y

(a) Based on what you can observe in the above diagrams, which cell is a plant cell? Give a reason to explain your choice. [1]

_____

_____

(b) Complete the table below by filling in the missing information. [2]

Label	Name of Cell Part	Function
P		
Q		

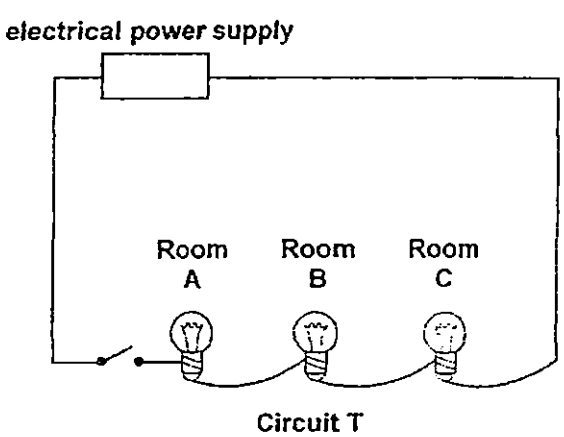
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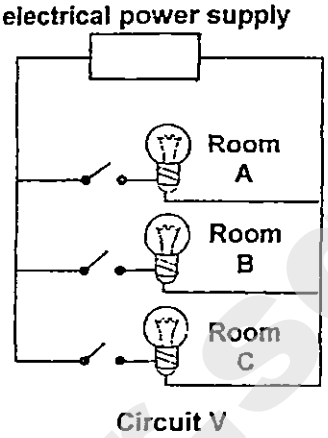
SCORE	2 / 3

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36 The diagrams below show two possible ways in which electric bulbs in three different rooms can be connected to the electrical power supply.



Circuit T



Circuit V

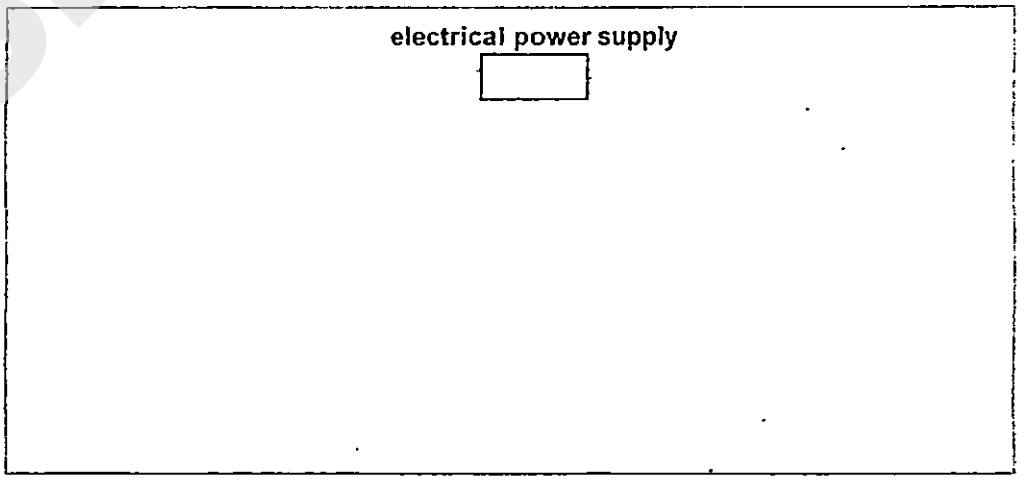
(a) Which circuit is a better choice? Give two reasons to explain your choice. [2]

Circuit ____ is a better choice because :

Reason 1 :

Reason 2 :

(b) Draw an electrical circuit diagram of Circuit V above. Add a fourth switch to the circuit so that this switch can control the bulbs in all the rooms, A, B and C, if they all were switched on at first. [1]

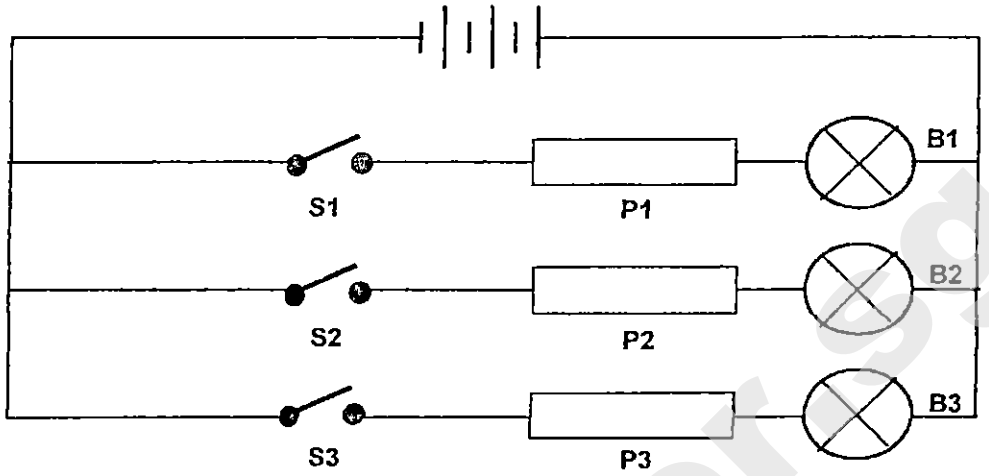


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SCORE 3

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37 The diagram below shows a circuit where identical bars of 3 different unknown materials, X, Y and Z, are connected to 3 batteries and 3 identical light bulbs, B1, B2 and B3.



When switches S1, S2 and S3 are closed, the following results are obtained :

Position	Material	Light bulb that lighted up
P1	X	B1
P2	Y	None
P3	Z	None

When the position of materials X, Y and Z were changed and the switches S1, S2 and S3 were closed, the following results were obtained :

Position	Material	Light bulb that lighted up
P1	Y	None
P2	Z	B2
P3	X	None

(a) Based on the above experimental results, which material(s) is/are electrical conductor(s)? [1]

_____

(b) Give an example of Material Y. [1]

_____

(c) Based on the above experimental results, what can you infer about bulb B3? [1]

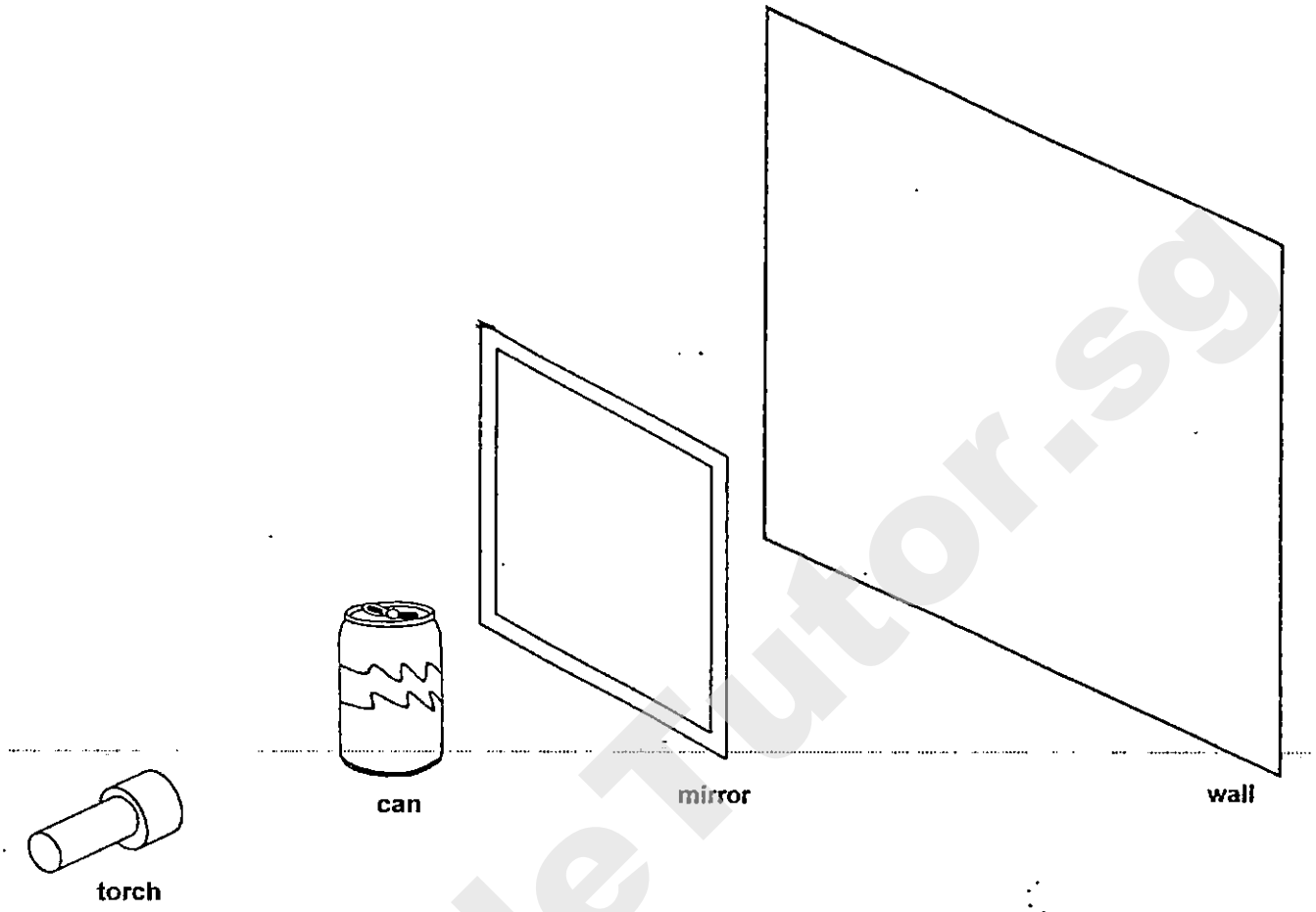
_____

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SCORE	
	3

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38(a) Tristan placed a mirror between a can and a wall. He shone a torch on the can and a shadow is formed on a smooth wall.



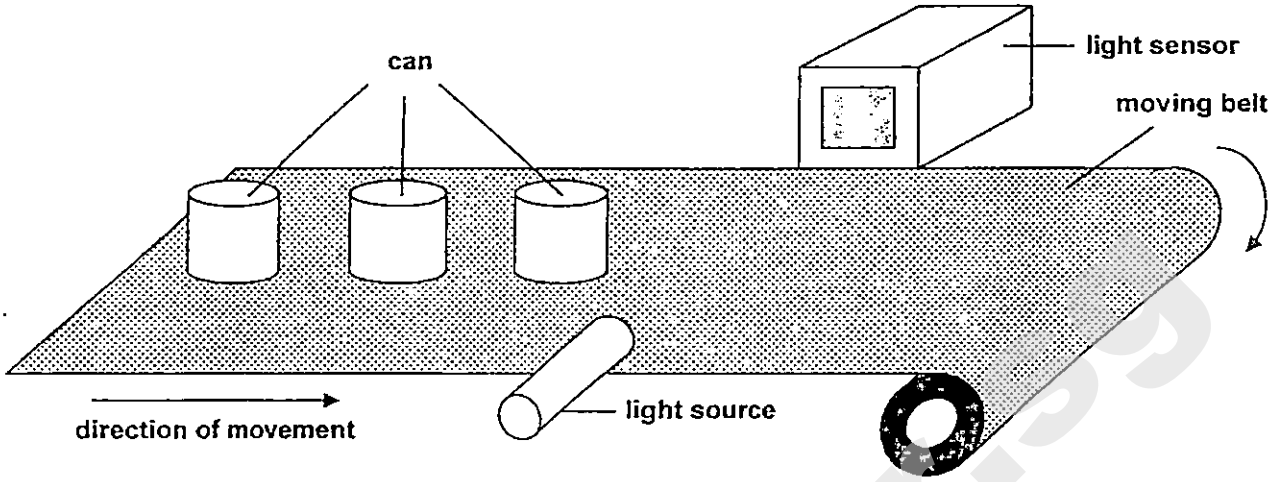
Draw the shadow that is formed on the wall. [1]

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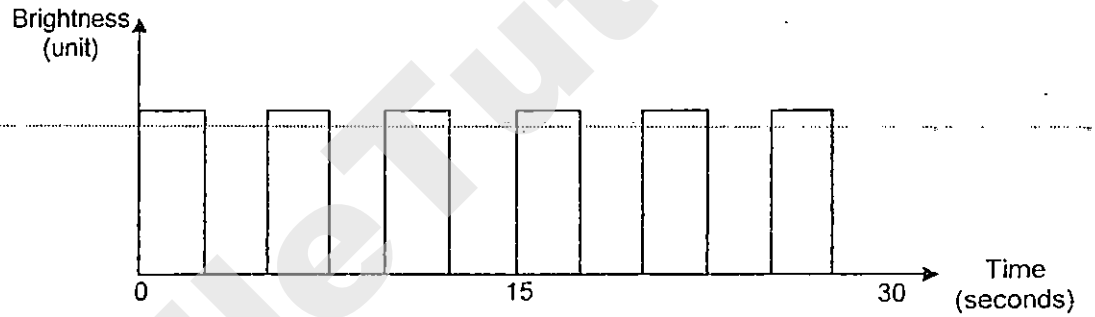
SCORE 1

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38(b) Tristan then set up a light sensor to count the number of identical cans on a moving belt.



The belt moves at a constant speed. As the cans pass between the light source and the sensor, they block light from reaching the sensor. The sensor will count when there is no light. The data recorded is shown in the graph below.



(i) How many cans could be counted in 30 seconds? [1]

_____

(ii) Based on Tristan's experiment, state two properties of light. [1]

Property 1:

_____

_____

Property 2:

_____

_____

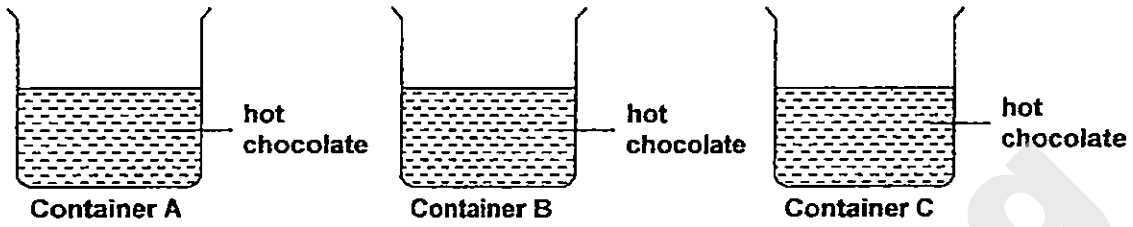
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SCORE	/ 2

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39 Oliver wants to conduct an experiment to find out which container can best keep hot chocolate warm. He sets up the experiment as shown below.



(a) Complete the table by ticking (✓) the variables that are to be kept the same. [1]

Variables	Keep the same
Size of container	
Volume of hot chocolate	
Material of container	
Temperature of hot chocolate at beginning	
Size of opening of container	

(b) What should he measure after 10 minutes to reach a conclusion? [1]

_____

_____

(c) How can he tell which container is most suitable for keeping the hot chocolate warm? [1]

_____

_____

End of Paper.

SCORE ___/3

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : ANGLO CHINESE SCHOOL (JUNIOR)
SUBJECT : SCIENCE
TERM : SA1

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
2	1	1	2	1	3	3	2	3	4
Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20
3	4	4	2	4	4	3	4	4	3
Q 21	Q 22	Q 23	Q 24	Q 25	Q 26	Q 27	Q 28		
2	3	3	3	2					

Q26a. Plastic and glass
Q26b.
Property 1 : Hard and transparent.
Property 2 : Light and transparent.

Q27a. The mass of sample X remains the same. It is because sample X was compressed so only the volume changed.
Q27b. Sample X can be compressed but Sample Y cannot be compressed.
Q27c.

The water level will rise	✔
The volume of water will increase	✔
The mass of the solid object will not change	✔
There will be a change in the mass of the water	

Q28a. (i) The life cycle of a frog takes 2 weeks to become a tadpole but the life cycle of a chicken takes 3 weeks to become a chick.
Q28a (ii) The frog lays many eggs at a time but the chicken lays only one egg at a time.
Q28b So that they will ensure that their species will continue to survive.

Q29a. The number of batteries and the length of the rods.
Q29b. Rod B is made of a magnetic material but A and C are not.
Q29c. Rod A : Copper
Rod C : Silver

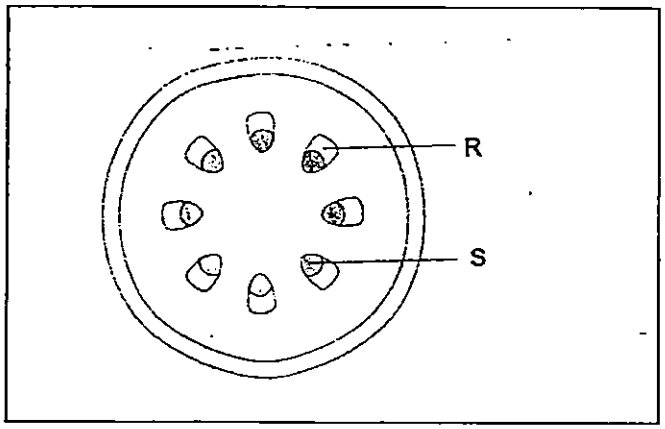
Q30a. He was trying to find out the magnetic strength of the magnets.
Q30b. **Magnet Y , Magnet X , Magnet Z , Magnet W**
Q30c. Ryan must use the same types of paper clips.

Q31a. X , W, and Z
Q31b. Z, so that the digested food will be transported to other parts of the body to produce energy.
Q31c. Y absorbs water from the undigested food.

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Q32a. SEE PICTURE



Q32b. R: **Phloem** S: **Xylem**

Q32c. It is because food made by the leaves will not be able to transport to the bottom part of the plant as the phloem had been removed so all the food was stored at that area and then it became swollen.

Q33a.

S/N	Characteristic	Inhaled Air	Exhaled Air
1	Amount of oxygen	More	Less
2	Amount of carbon dioxide	Less	More
3	Amount of water vapour	Less	More
4	Amount of Dust	More	Less

Q33b. The human body uses oxygen to produce energy by carrying it to other parts of the body with digested food.

Q34.

Difference	Right side of the Heart	Left side of the Heart
(i)	The blood is richer in carbon dioxide.	The blood is poorer in carbon dioxide.
(ii)	The blood is poorer in oxygen .	The blood is richer in oxygen .

Q35a. Cell X. It is because Cell X has a cell wall but animal cells do not have a cell wall.

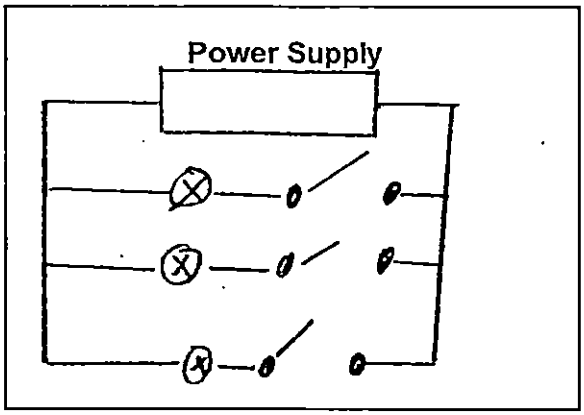
Q35b.

Label	Name of Cell part	Function
P	Cell membrane	Controls materials to enter and exit the cell.
Q	Nucleus	Controls all activities occurring inside the cell.

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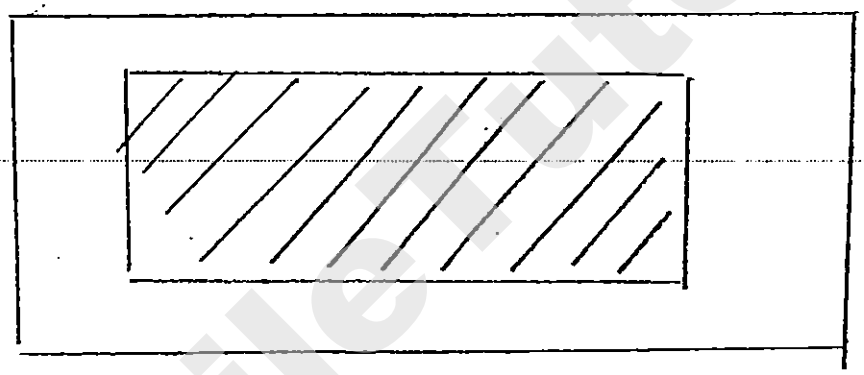
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Q36a. Circuit **V** .
Reason 1 : It's bulb will glow brighter than Circuit T.
Reason 2 : It is because the bulbs could be switched off separately.
Q36b. SEE PICTURE



Q37a. X and Z
Q37b. Wood
Q37c. Bulb 3 has fused.

Q38a. SEE PICTURE



Q38b. i) 6 cans
Q38b ii) Property 1 : Light travels in straight lines.
Property 2 : Opaque objects block light..

Q39a.

Variables	Keep the same
Size of container	✔
Volume of hot chocolate	✔
Material of container	
Temperature of hot chocolate at beginning	✔
Size of opening of container	✔

Q39b. He should measure the hot chocolate's temperature.
Q39c. By checking which container's chocolate is the hottest.

THE END

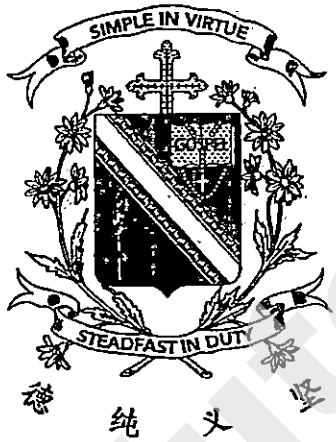
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Name: _____ ( )

Class: Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5
Semestral Assessment 1 – 2015
SCIENCE

BOOKLET A

14 May 2015

Total Time for Booklets A and B: 1 hour 45 minutes

30 questions
60 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

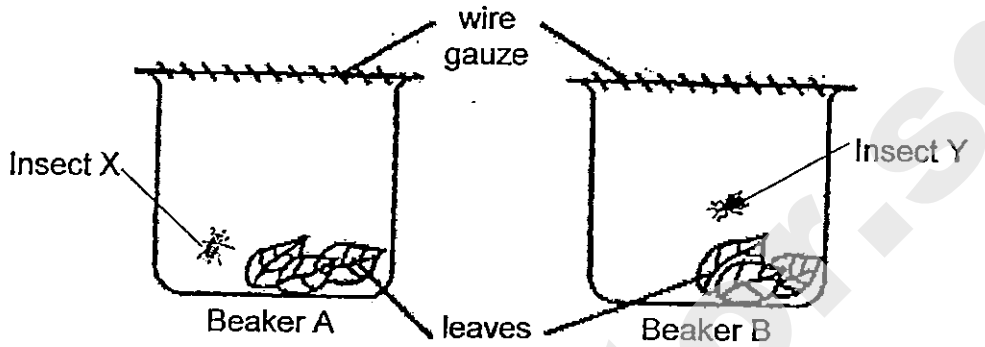
This booklet consists of 22 printed pages.

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Section A (30 x 2 marks = 60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. Two different insects, X and Y, were put into two separate beakers at the same location with the same number of leaves plucked from the same plant.



After one week, Insect X was dead but Insect Y was still alive.
Based on the above observation, which one of the following explanations is most likely correct?

(1) Insect Y requires more food than insect X.
(2) There is less oxygen in beaker A than in beaker B.
(3) Insect X feeds on animals while insect Y feeds on plants.
(4) The leaves in beaker A dry up faster than the leaves in beaker B.

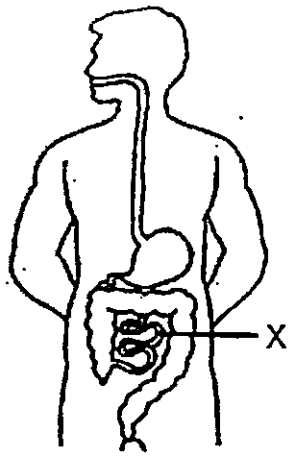
2. Which of the following statements are true about most mammals?

A They feed their young with milk.
B They give birth to their young alive.
C They have hair as their outer coverings.

(1) A and B only
(2) B and C only
(3) A and C only
(4) A, B and C

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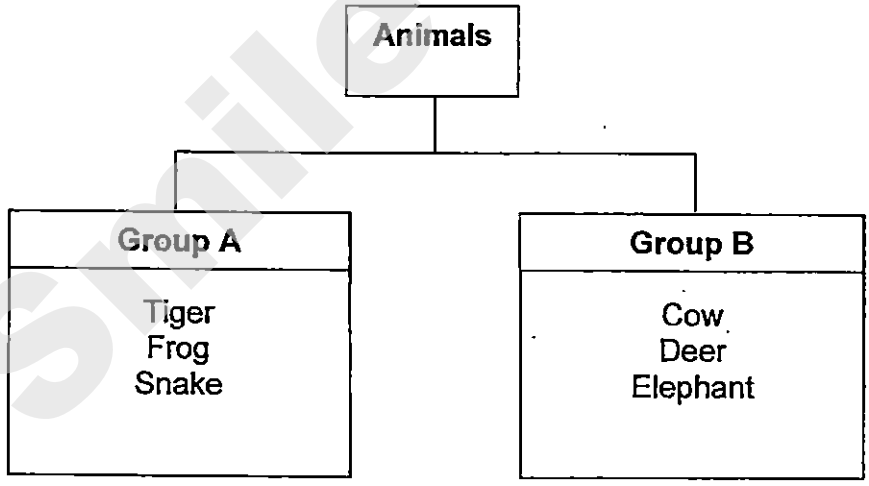
3. The diagram below shows some organs in the human body



Which of the following statements about organ X is **true**?

(1) No digestion is happening here
(2) All the water in the digested food is absorbed here.
(3) Digested food is absorbed into the bloodstream here.
(4) Solid wastes are stored here before passing out of the body.

4. Study the classification chart below carefully.

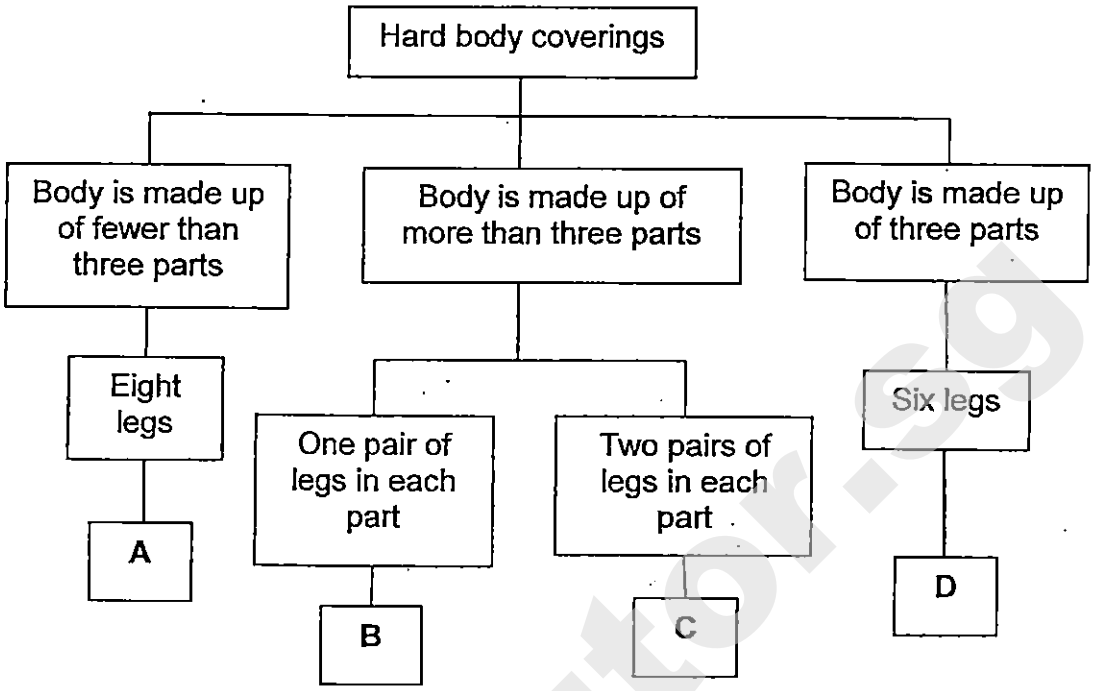


The animals in Groups A and B are classified according to _____.

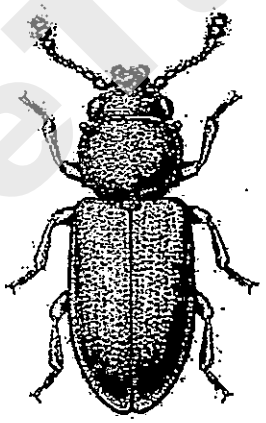
(1) The way they move
(2) the food they eat
(3) their outer coverings
(4) the way they reproduce

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5. Study the classification table below.



Daniel found an animal and noticed that it had a hard body covering.



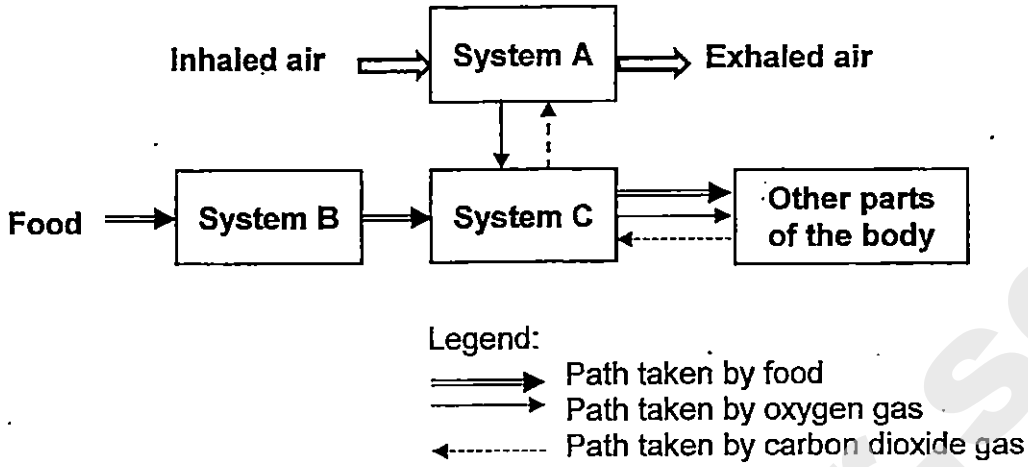
Which group, A, B, C or D, does this animal belong to?

(1) A
(2) B
(3) C
(4) D

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6. The diagram below shows how the three systems in a human body work together to keep the body functioning.



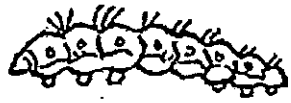
What do the systems A, B and C represent?

	System A	System B	System C
(1)	Respiratory	Circulatory	Digestive
(2)	Circulatory	Digestive	Respiratory
(3)	Respiratory	Digestive	Circulatory
(4)	Digestive	Respiratory	Circulatory

7. The pictures show a stage in the life cycle of a mosquito and a butterfly respectively.



wriggler



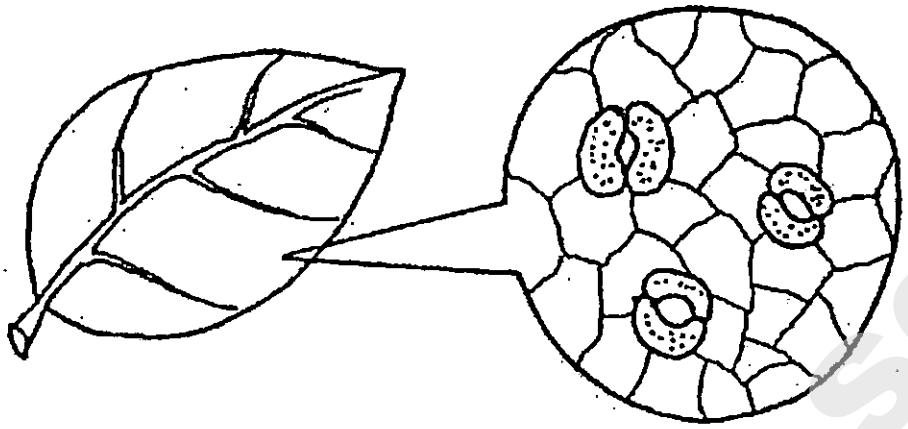
caterpillar

In what ways are the animals in the stage shown above similar?

(1) They feed on the same type of food.
(2) They live in water throughout this stage of their life cycle.
(3) They both do not feed a lot at this stage of their life cycle.
(4) They do not look like their parent at this stage of their life cycle.

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8. The diagram below shows the stomata found on the underside of a leaf.



Which one of the following parts in the human body performs a function similar to that performed by the stomata?

(1) Heart

(2) Lungs

(3) Stomach

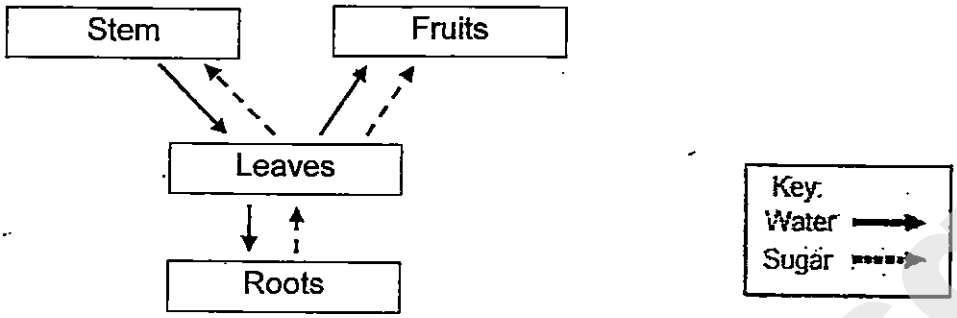
(4) Small Intestine

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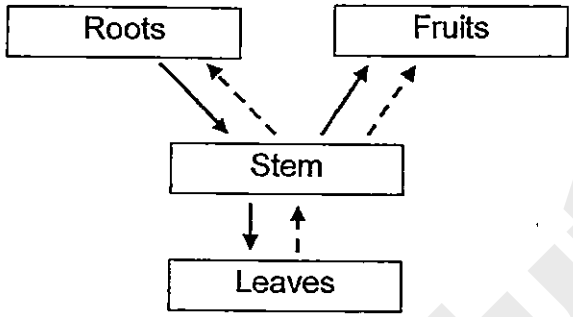
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9. Which one of the diagrams below correctly shows the transport of water and sugar in a plant?

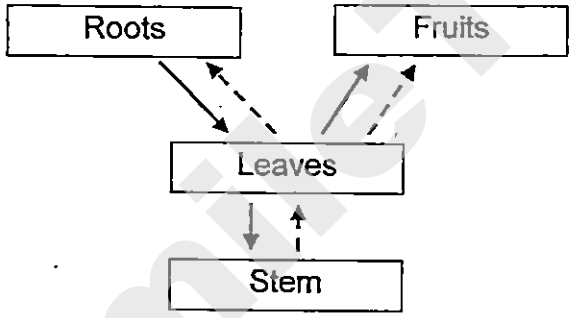
(1)



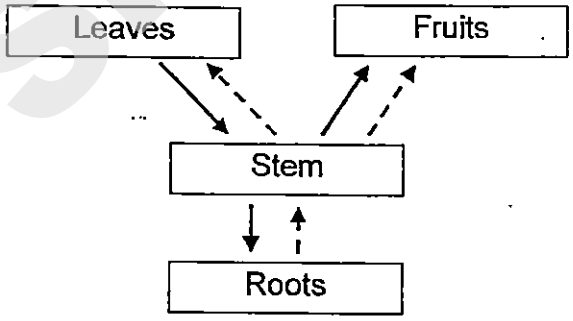
(2)



(3)



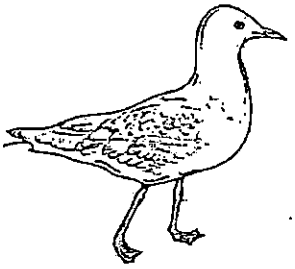
(4)



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10. Study the two animals below carefully.



Seagull



Penguin

In what way(s) is/are the two animals similar?

A They both have a beak.

B Their female lays eggs.

C They have wings and are able to fly.

D They have feathers as their outer coverings.

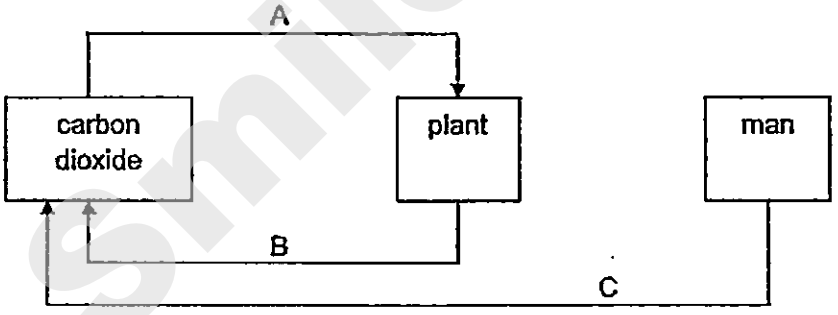
(1) A only

(2) A and C only

(3) B and C only

(4) A, B and D only

11. The diagram below shows three processes, A, B and C, taking place in living things. The arrows show the flow of carbon dioxide during the processes.

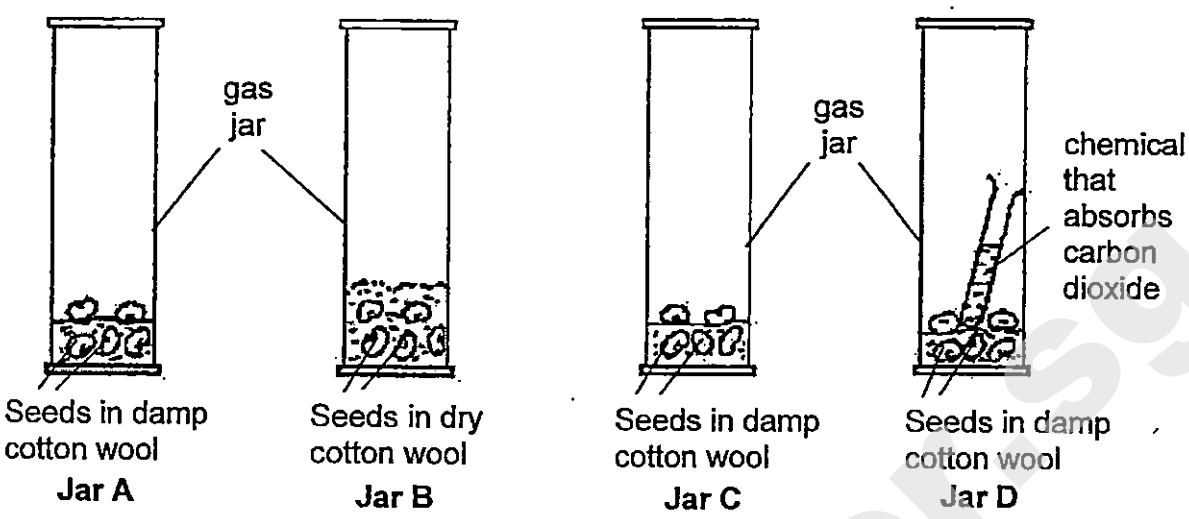


What processes do A, B and C represent?

	Process A	Process B	Process C
(1)	Photosynthesis	Respiration	Respiration
(2)	Respiration	Photosynthesis	Photosynthesis
(3)	Photosynthesis	Respiration	Photosynthesis
(4)	Respiration	Photosynthesis	Respiration

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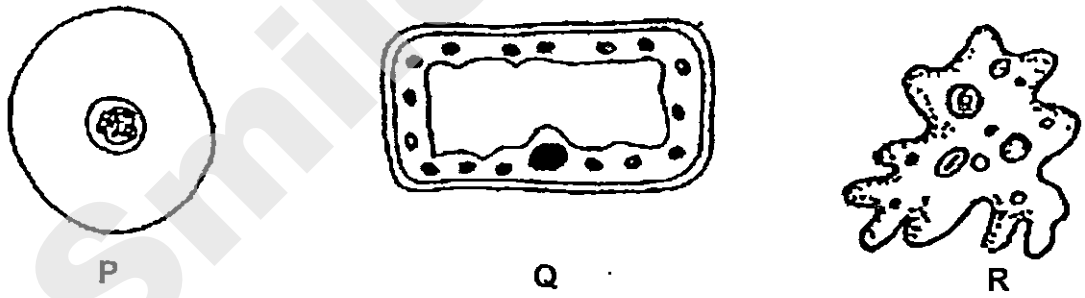
12. Each of the following jars contains five seeds. Jars B, C and D are placed near the window while Jar A is placed in the refrigerator.



In which jar(s) will the seeds be able to germinate?

(1) Jar B only
(2) Jars A and C only
(3) Jars C and D only
(4) Jars A, C and D only

13. The diagrams below show 3 different cells, **P**, **Q** and **R**, each carrying out life processes

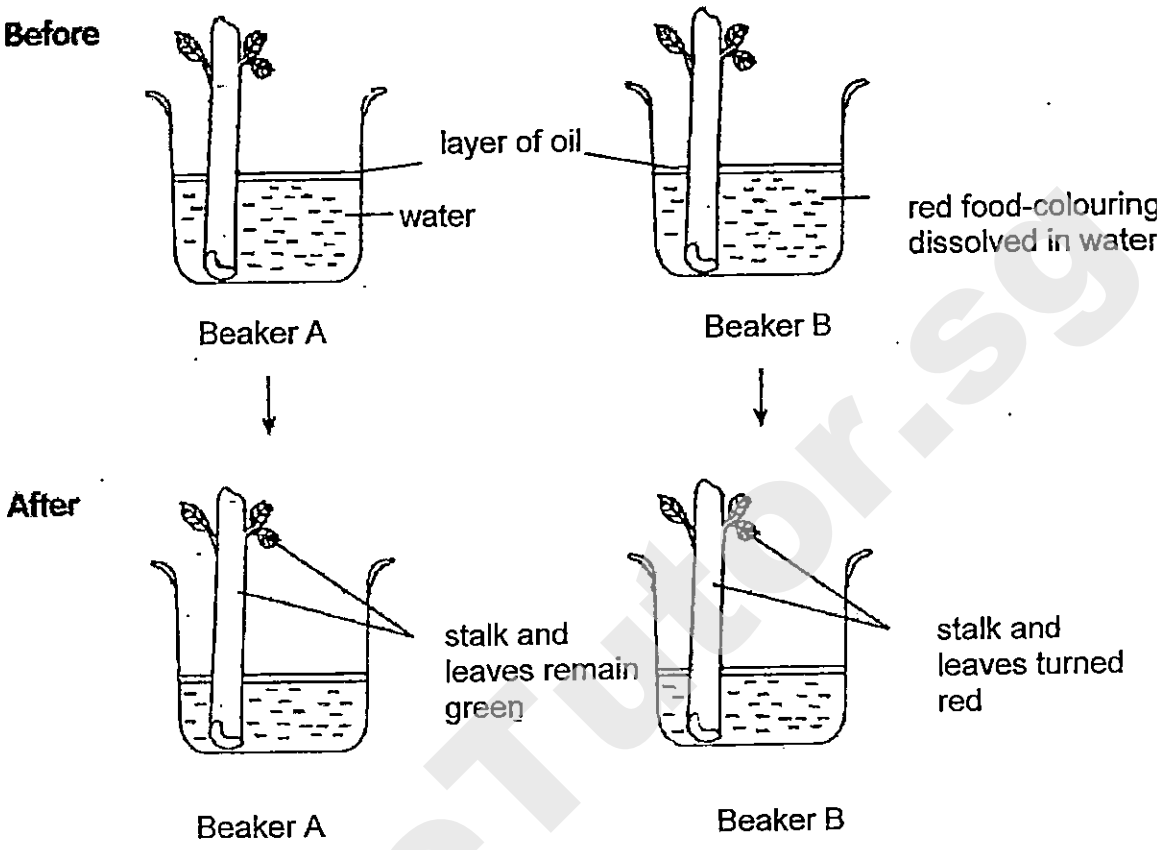


Which one of the following matches the type of cells to the process(es) that is / are carried out?

	Photosynthesis	Respiration
(1)	Q only	P and Q only
(2)	Q only	P, Q and R only
(3)	P and R only	P and Q only
(4)	Q and R only	P, Q and R only

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14. Melanie set up the experiment as shown below.

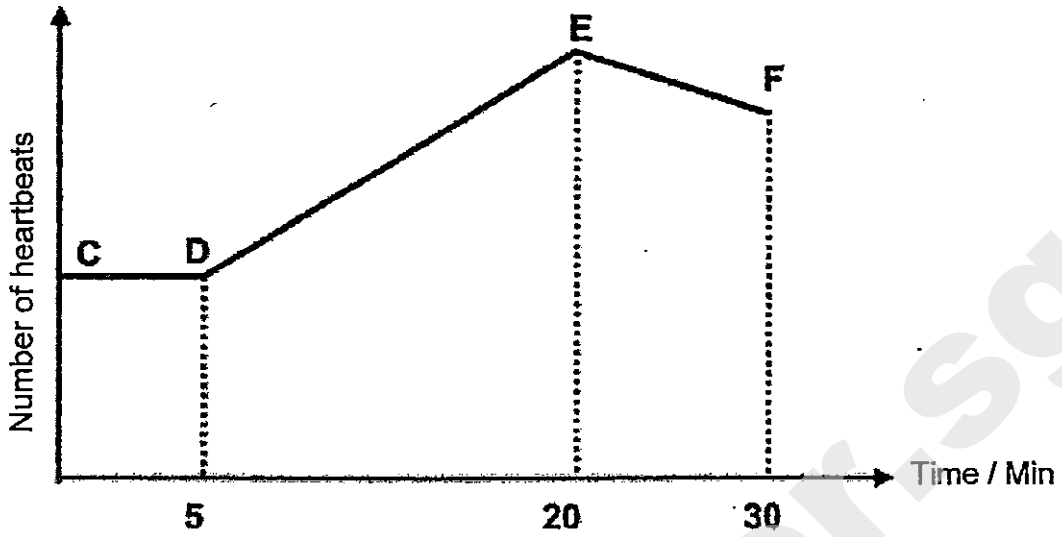


Which one of the following represents the correct observation and conclusion made by Melanie about the experiment?

	Observation	Conclusion
(1)	No change in the water level in both beakers after experiment	Without roots, the celery stalks cannot take in water.
(2)	Only water level in Beaker A dropped.	Celery stalks only transport water that is not coloured
(3)	Water level in both beakers dropped.	Celery leaves absorb water and dissolved substances.
(4)	Only celery stalks and leaves in Beaker B were coloured red.	Tubes in celery stalks transport water and dissolved substances.

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15. Riley jogged for 30 minutes. The graph below shows his heartbeats over the duration.



Which of the following statements correctly describe what was happening during the period indicated by the line DE on the graph?

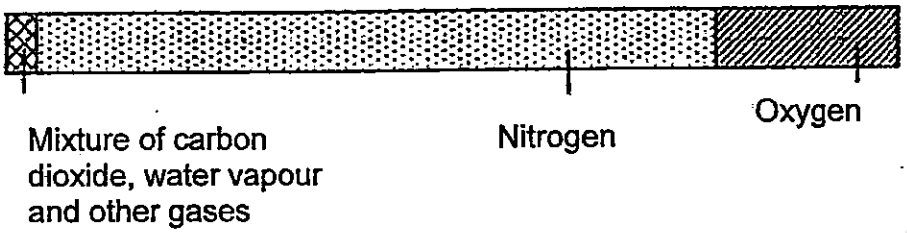
A Riley's breathing rate is increasing.
B Riley's body is using more energy.
C Riley's body is producing less carbon dioxide.
D Riley's heart is pumping blood at a faster rate.

(1) A and B only.
(2) B and C only.
(3) A, B and D only.
(4) A, C and D only.

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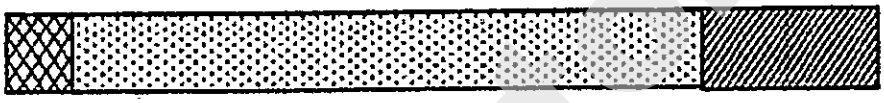
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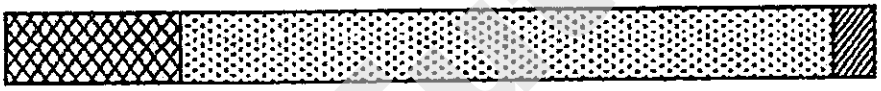
16. The normal proportion of gases present in the atmosphere is as shown below.



Some people were trapped in the lift. After about an hour, the people complained that they were feeling faint and breathless. Which one of the following best shows the composition of air in the lift?

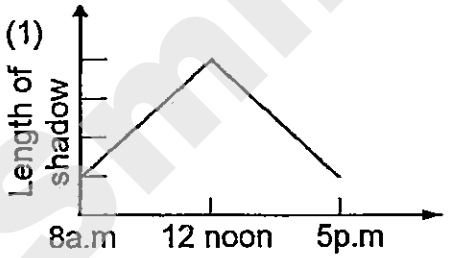
(1)

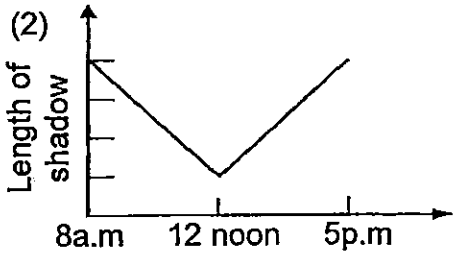

(2)


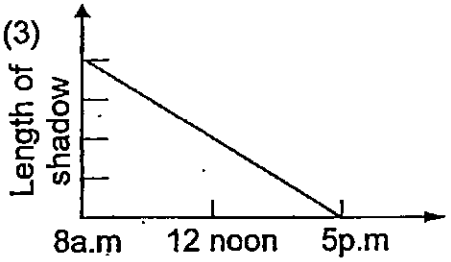
(3)


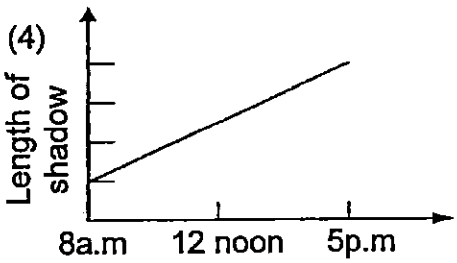
(4)


17. Which one of the following graphs correctly shows the changes in the length of a shadow cast by a tree during the day?

(1)


(2)


(3)


(4)


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18. Study the diagram below carefully.

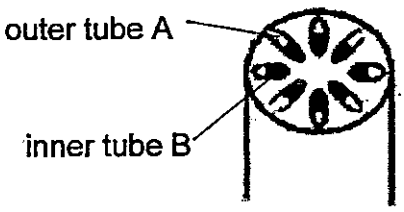


Diagram A

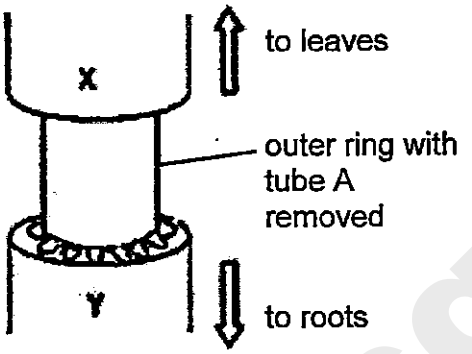
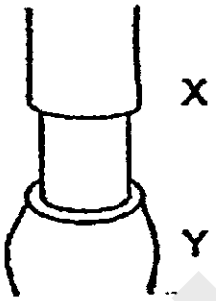


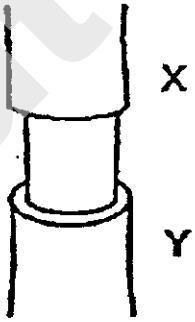
Diagram B

Diagram A shows the cross section of the stem with two different sets of tubes, A and B. If the outer ring of the stem is cut in such a way that only the outer tube A are removed as shown in Diagram B above. Which one of the following diagrams would show the appearance of the section after some time?

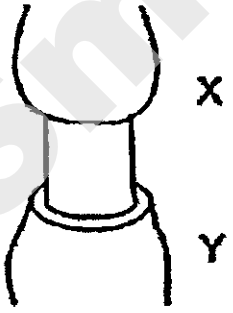
(1)



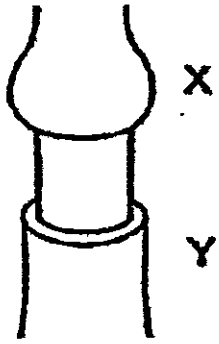
(2)



(3)



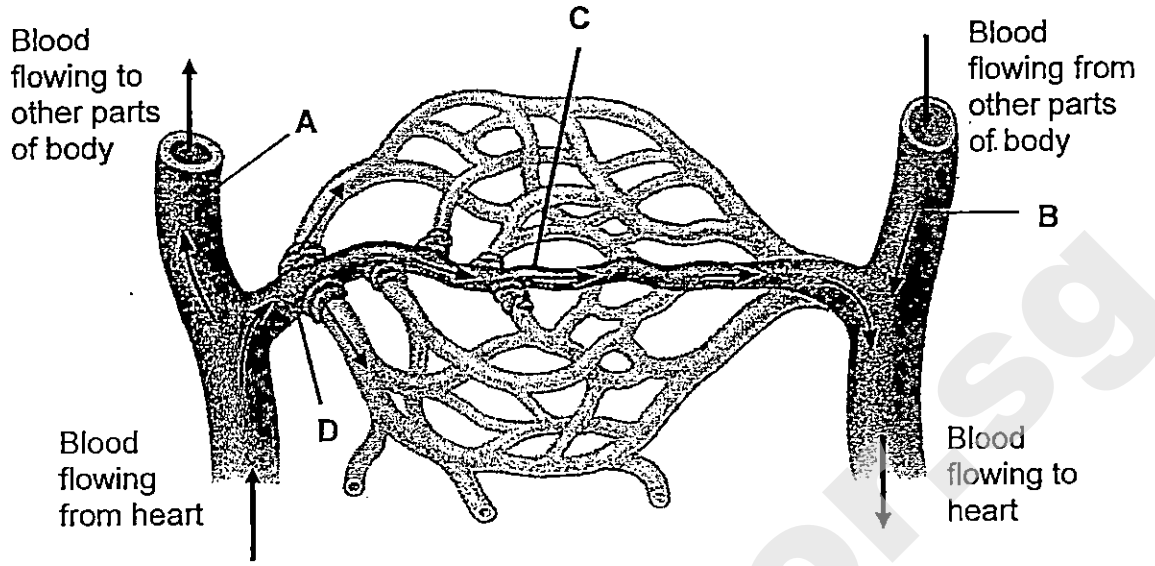
(4)



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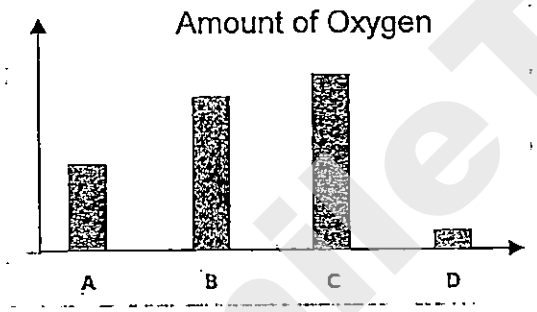
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19. The diagram below shows the blood vessels in a human circulatory system.

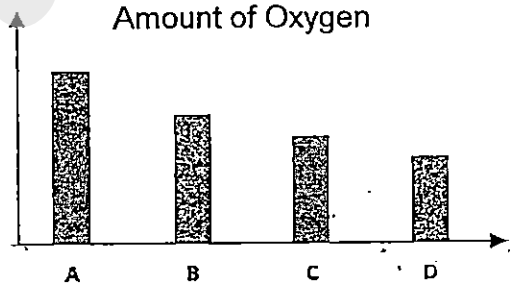


Blood samples, A, B, C and D, were taken from four parts of the blood vessels as shown in the diagram. Which one of the following bar graphs shows the amount of oxygen in the blood samples?

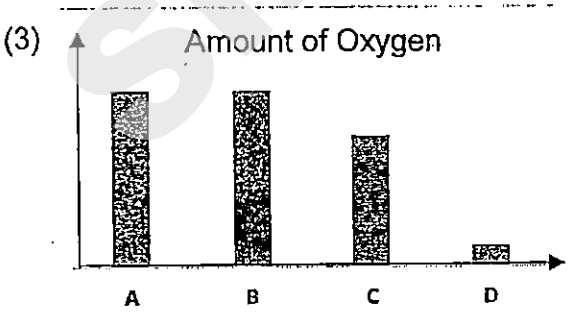
(1)



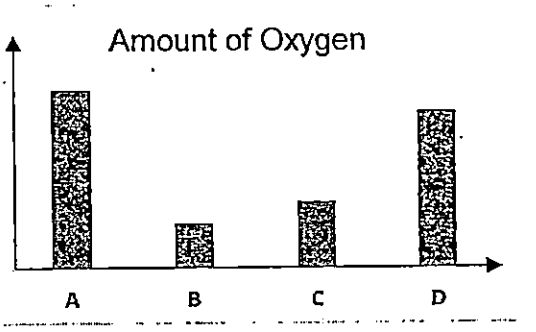
(2)



(3)



(4)



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20. The table below shows the boiling points and melting points of substances P, Q, R and S.

	Melting point(°C)	Boiling point (°C)
P	35	97
Q	4	36
R	56	190
S	10	65

Which of the above substances will be at liquid state at 33 °C?

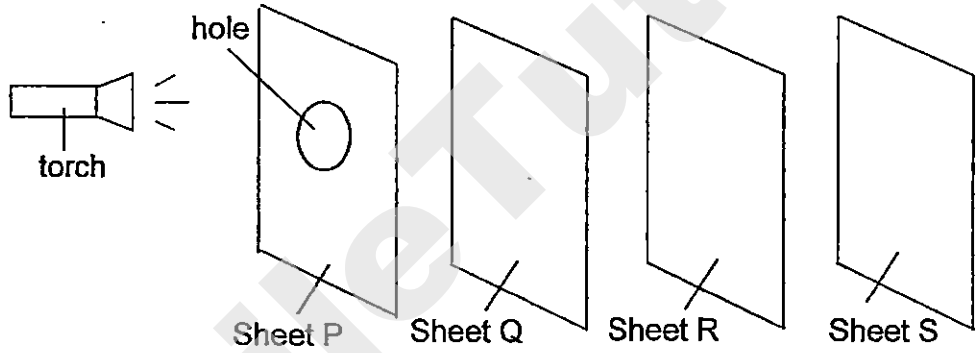
(1) P only

(2) P and R only

(3) Q and S only

(4) Q, R and S only

21. The experiment shown below was carried out in a dark room.



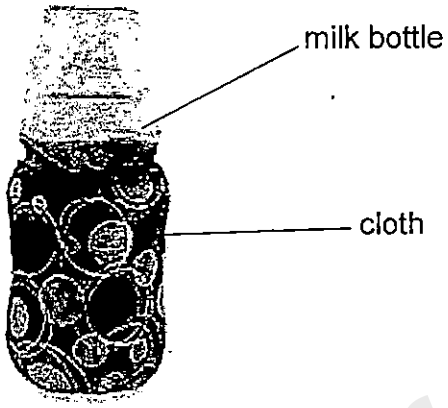
Sheets P, Q, R, and S, were placed in a straight line. When the torch was switched on, a bright circular patch of light was observed on **Sheet R** only.

Which one of the following correctly describes the properties of the materials that sheets, P, Q, R and S, are made of?

	Allows light to pass through	**Does not allow light to pass through**	**Not possible to tell**
(1)	P and Q	R and S	none
(2)	Q	R	P and Q
(3)	P	Q	R and S
(4)	Q	P and R	S

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22. Jane poured some warm milk in a baby milk bottle. She then wrapped the bottle with a layer of cloth as shown below. Half an hour later, the cloth was removed and the milk was still warm.



Which of the following are possible reasons why the milk was still warm after half an hour?

A The cloth is a poor conductor of heat.

B The milk gained heat slowly from the surrounding.

C Heat from the milk cannot pass through the plastic milk bottle.

D The cloth trapped a layer of air which reduced the heat loss from the milk to the surrounding.

(1) A and D only

(2) A and B only

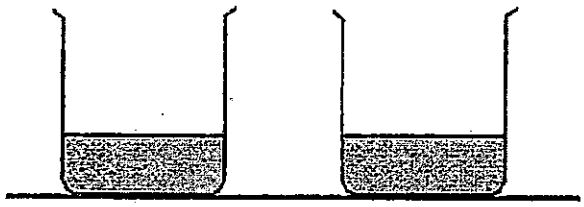
(3) B, C, and D only

(4) A, B, C and D

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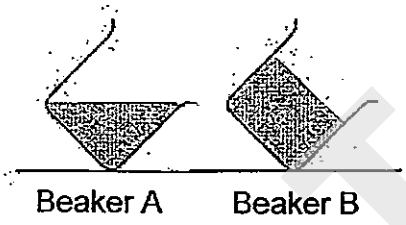
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23. Ron filled two beakers, A and B, with 250cm^3 of water each. He left Beaker A at room temperature and placed Beaker B in a freezer. After 6 hours, both beakers were tilted sideways.

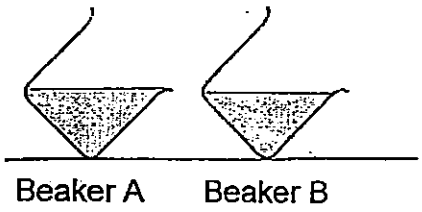


Which one of the following shows what Ron would observe when the beakers were tilted?

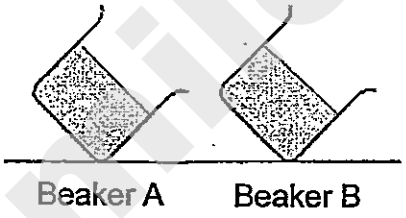
(1)



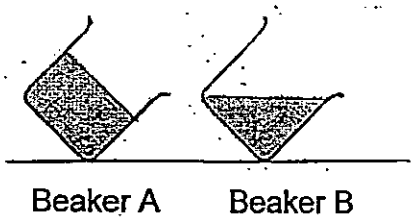
(2)



(3)



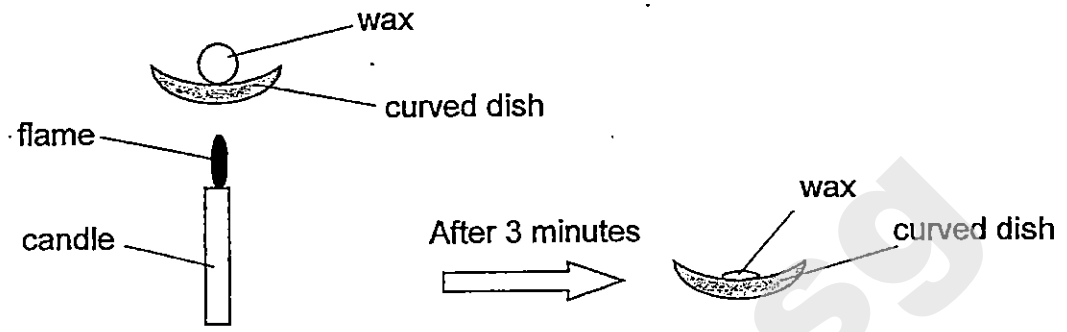
(4)



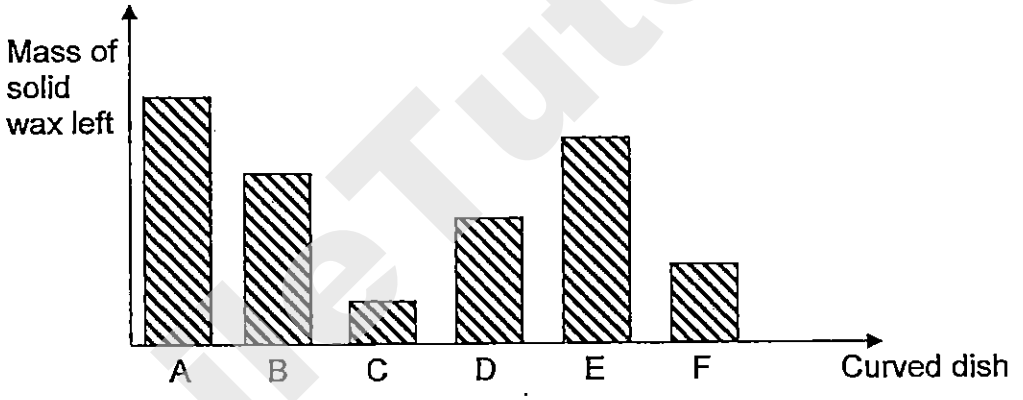
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24. Banu took six pieces of wax of the same mass and heated each of them in curved dishes, A, B, C, D, E and F. These six dishes are made of different materials.



Banu heated each piece of wax for 3 minutes. Then she quickly separated the solid wax from the liquid wax and measured the mass of solid wax left. The results were plotted in a graph as shown below.

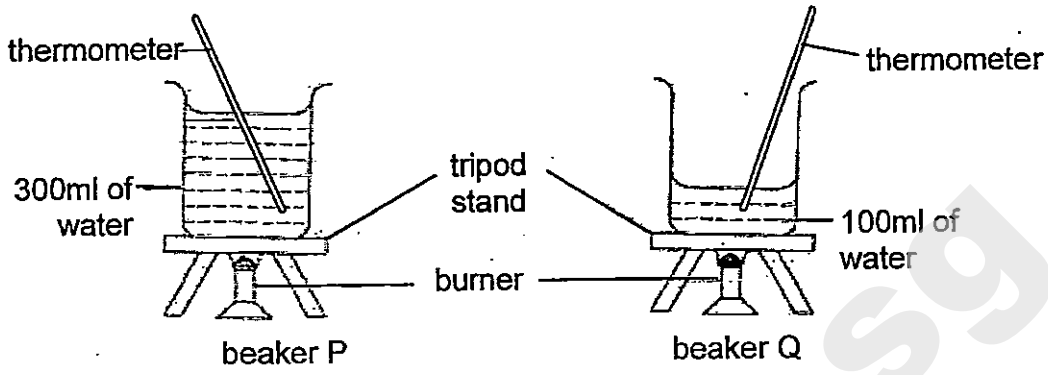


Based on the graph above, which one of the following statements is true?

(1) Materials C and F are most likely metals.
(2) Material D is a better conductor of heat than material E.
(3) Material F is a poorer conductor of heat than material B.
(4) Material C is the poorest conductor of heat among all the materials.

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25. Jane filled 2 beakers, P and Q, with 300 ml and 100 ml of water respectively. She recorded the time taken for the water in the beakers to boil and continued heating the water even after they had boiled.



Which of the following statement(s) best describe(s) what she would observe?

A The water in beaker Q took a shorter time to boil.

B The temperature of the water kept on rising throughout the experiment.

C The water in beaker Q is hotter than the water in beaker P at the end of the experiment.

(1) A only

(2) B and C only

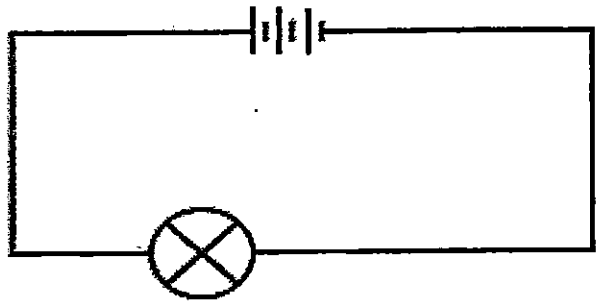
(3) A and B only

(4) A, B and C

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26. Phyllis set up an electric circuit shown below. The bulb remained unlit.



Phyllis's friends tried to explain why the bulb remain unlit.

Alief : Bulb is fused.
Brian : Batteries are flat.
Colette : Wire is made of copper.
Deanne : Batteries are connected wrongly.

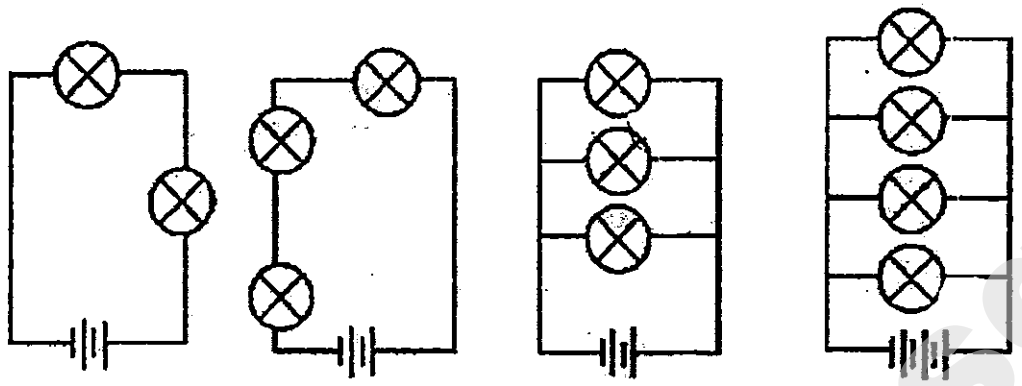
Which of Phyllis's friends gave the possible explanations?

(1) Alief and Brian only
(2) Alief and Deanne only
(3) Brian, Colette and Deanne only
(4) Alief, Brian and Colette only

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27. Study the circuits below. The circuits have similar bulbs, wires and batteries.



Circuit A **Circuit B** **Circuit C** **Circuit D**

Arrange the circuits from the one with the brightest bulbs to the least brightest bulbs.

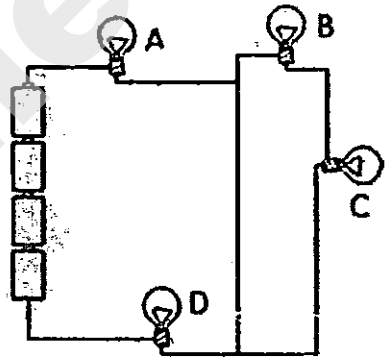
(1) C, A, B, D

(2) A, C, D, B

(3) D, C, A, B

(4) B, C, A, D

28. The electric circuit below is set up using similar bulbs, wires and batteries.



If Bulb B fuses,which bulbs will remain lit?

(1) A and C only

(2) A and D only

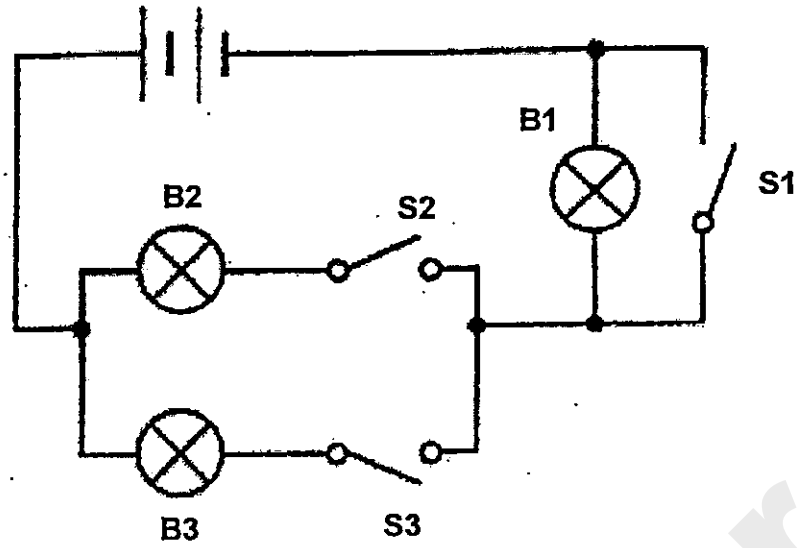
(3) A, C and D only

(4) None of the bulbs

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29. Study the circuit diagram shown below carefully.



Which one of the following statements about the circuit is correct?

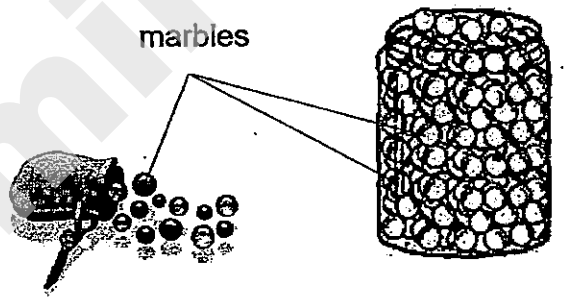
(1) B2 and B3 will light up when only S2 is closed.

(2) Only 1 bulb will light up if any 1 switch is closed.

(3) B1, B2 and B3 will light up when only S1 is closed.

(4) Only 2 bulbs will light up when either S2 or S3 is closed.

30. Susan tried to put more marbles into a jar filled with marbles. No matter how hard she shook the jar, she simply could not fit in any more marbles into the jar.



Which of the properties of matter below explain why she was not able to add more marbles into the jar?

(1) The marbles have mass.

(2) The jar cannot be compressed.

(3) The marbles are of different size.

(4) The marbles take up space and cannot be compressed.

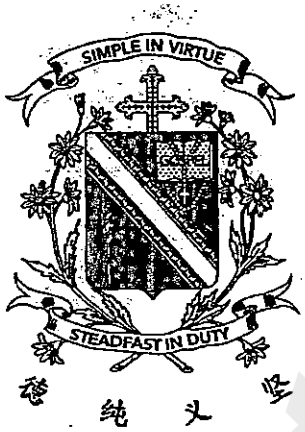
END OF BOOKLET A

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Name : _____ _____ ( )

Class : Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5
Semestral Assessment 1 – 2015
SCIENCE
BOOKLET B

14 May 2015

Booklet A	60
Booklet B	40
Total	100

Total Time for Booklets A and B: 1 hour 45 minutes

14 questions
40 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This paper consists of 16 printed pages.

_____

Parent's Signature/Date

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Section B (40 marks)
For questions 31 to 44, write your answers in this booklet.

The number of marks available is shown in the brackets at the end of each question or part question.

31. Study the characteristics of four things, P, Q, R and S, shown below.

Thing	Responds to changes	Moves from place to place on its own	Able to reproduce	Makes its own food
P	√			
Q	√	√	√	
R	√	√		
S	√		√	√

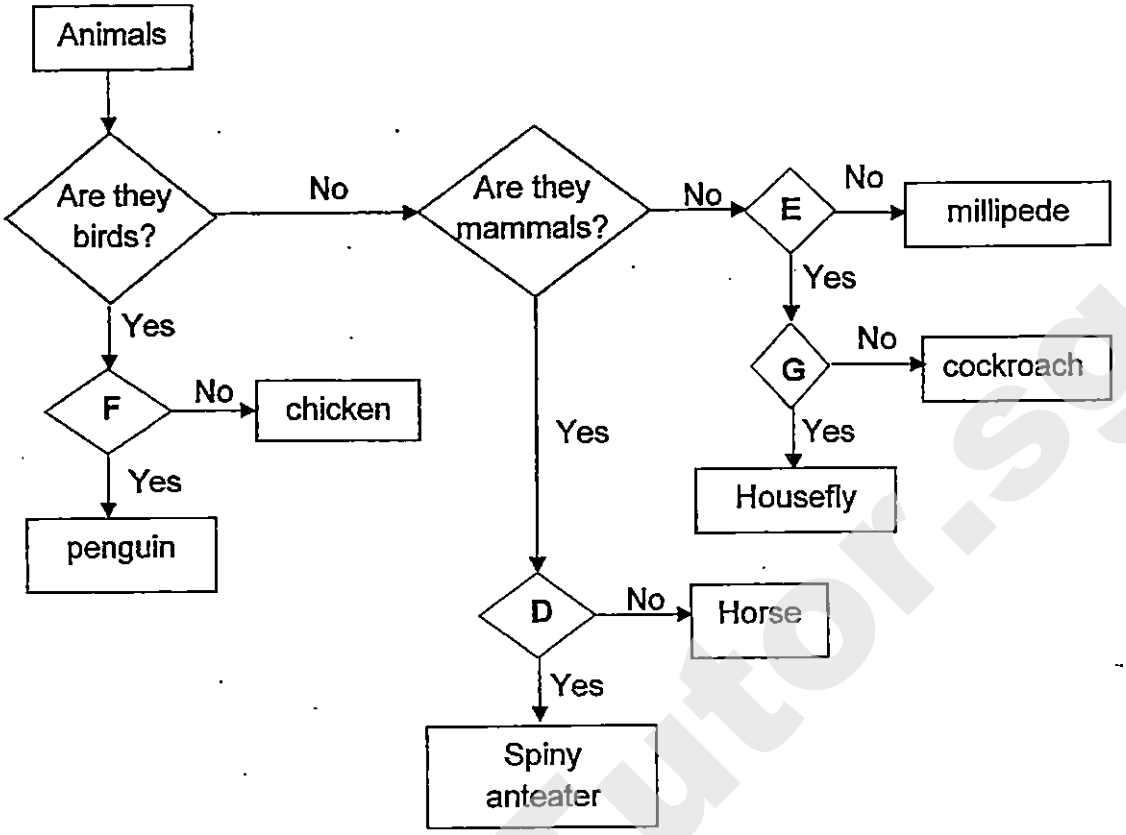
Based on the information given in the table above, indicate whether each of the following statements is True (T), False (F) or Not Possible to Tell (NP) in the space provided. [2]

	Statement	T / F / NP
(a)	S is most likely a plant.	
(b)	Q and S reproduce by laying eggs.	
(c)	P and R do not need food to survive.	
(d)	P, Q, R and S are all alive since they respond to changes.	

2

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32. Study the flow chart on animals below.



Each of the letters, D, E, F and G, in the flow chart represents a question.

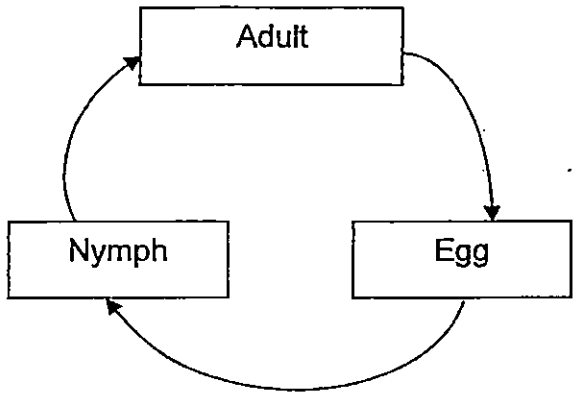
Write the letter, **D, E, F or G**, in the correct boxes below to indicate the question they represent. Each letter can only be used **once**. [4]

Questions	Letter
Can they swim?	
Are they insects?	
Are they reptiles?	
Do they lay eggs?	
Do they have many legs?	
Do they have a larval stage in their life cycle?	

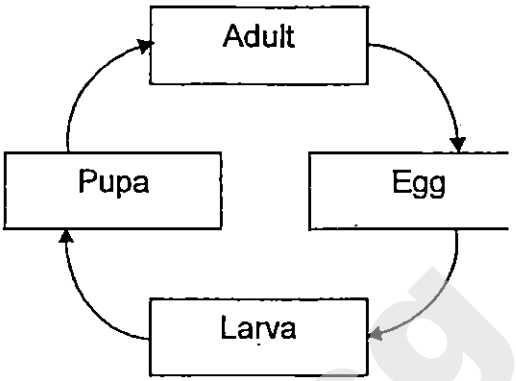
4

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33. The diagrams below show the life cycles of two animals.



Life cycle of Animal A



Life cycle of Animal B

Based on the diagrams above, list one similarity and one difference between the life cycles of Animal A and Animal B. [2]

Similarity:

Differences:

2

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34. Kartika observed some cells from plants and animals under the microscope. She recorded her observations in the table below.

	Cell A	Cell B	Cell C
Nucleus	Yes	Yes	Yes
Cell Wall	Yes	No	No
Chloroplast	No	No	No
Cell Membrane	Yes	No	Yes

(a) Her teacher said she made an error in one of her observations. For which cell, A, B or C, was the wrong observation made? Explain why. [1]

_____

_____

_____

(b) Which cell is most likely taken from the bulb of an onion? Explain why. [2]

_____

_____

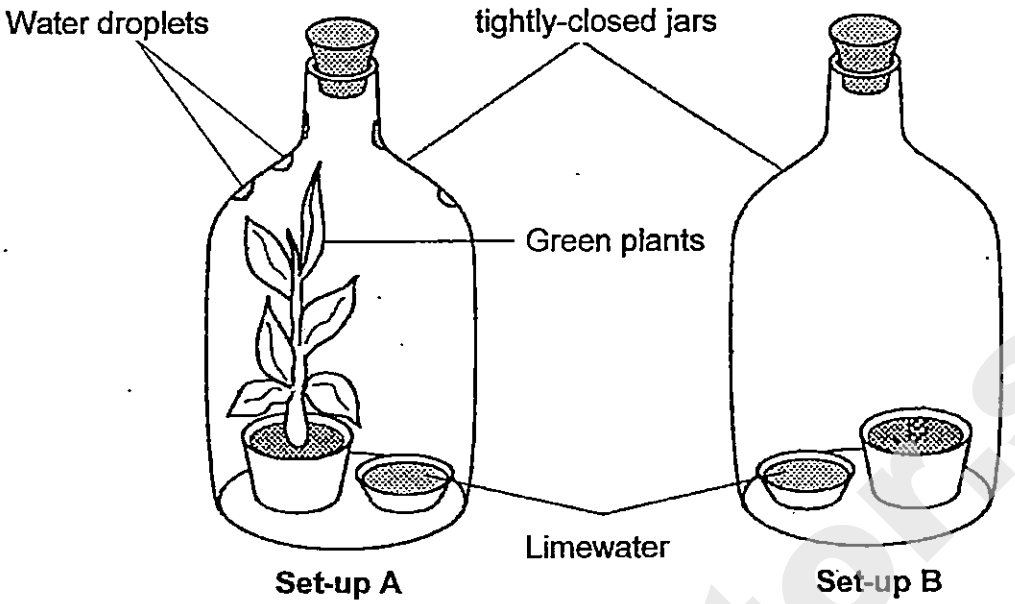
_____

3

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35. Qiaoyi set up an experiment as shown below.



The two set-ups, A and B, are placed in a locked cupboard for two days. After two days, she observed that the limewater in beaker A has turned very chalky while the limewater in beaker B has turned slightly chalky.

(a) Name the process that happened which caused the limewater in dish A to turn chalky. [1]

(b) Explain why the lime-water in set-up B has turned only slightly chalky as compared to the lime-water in set-up A. [2]

_____

_____

_____

_____

3

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36. The plant and human transport system transport materials around the body.

(a) List two differences between the plant and human circulatory system. [2]

Difference:

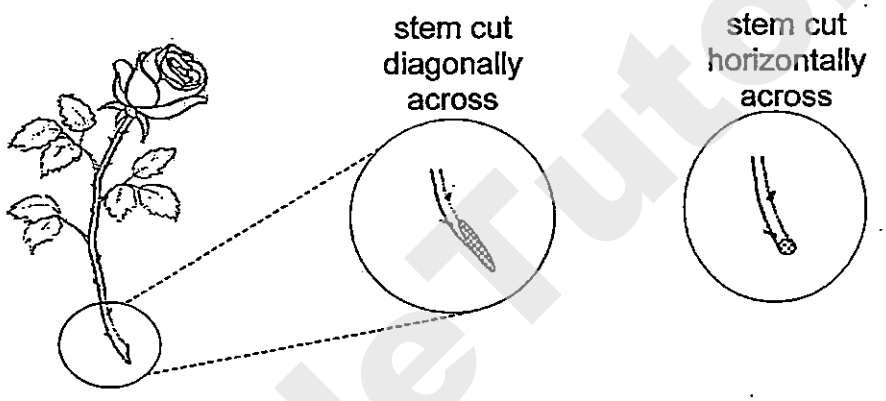
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Difference:

_____

_____



If you look closely at the stems of flowers immersed in vases of water in a flower shop, you would notice that the ends are cut diagonally rather than horizontally across.

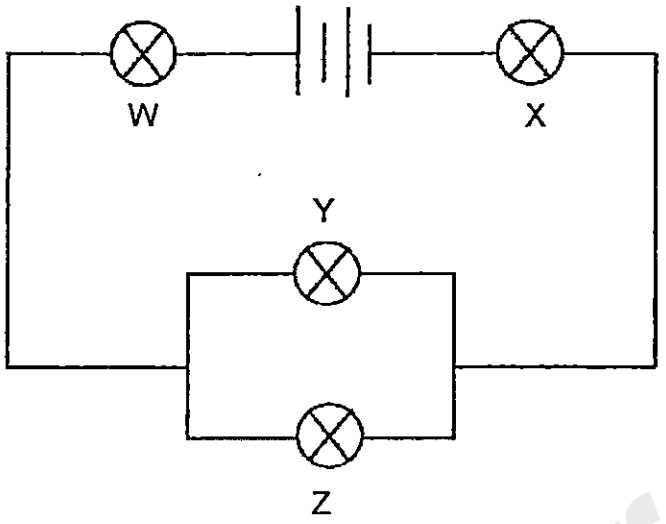
(b) Suggest a reason why the ends of the flower stems were cut diagonally. [1]

_____

_____

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37. Helen set up a circuit as shown below.



(a) Fill in the table below with a √ to show the type of arrangement of the bulbs in the circuit. [1]

Bulbs	Parallel	Series	Not possible to tell
Y and Z			
W and X			

(b) If one of the bulbs fuses, what is the maximum number of bulbs that will remain lit? Give a reason for your answer. [1]

_____

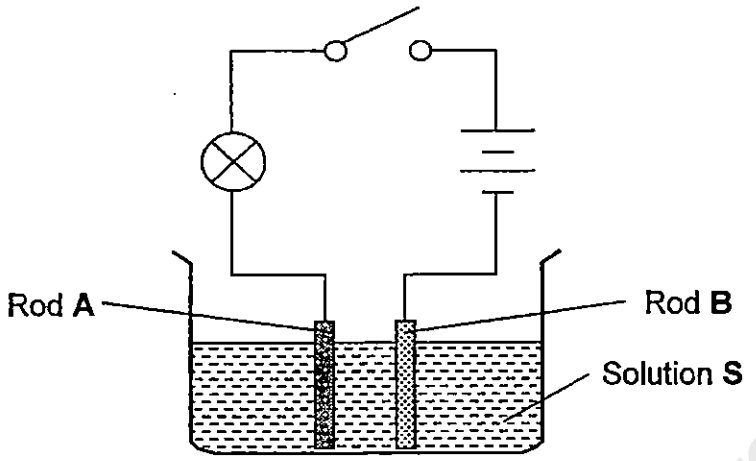
_____

2

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38. Harry set up an electrical circuit as shown below. He then dipped Rod A and Rod B into a beaker containing Solution S. The bulb lit up when the circuit was closed.



(a) Based on the result of the experiment above, state a common property of of Rod B and Solution S. [1]

_____

Harry then replaced Rod **A** and **B** with Rod **X** and **Y** respectively and conducted the experiment again. The results are shown in the table below.

Rod	Rod	Did the bulb light up?
X	B	No
A	Y	Yes

(b) Name a suitable material that Rod X and Rod Y could be made of. [2]

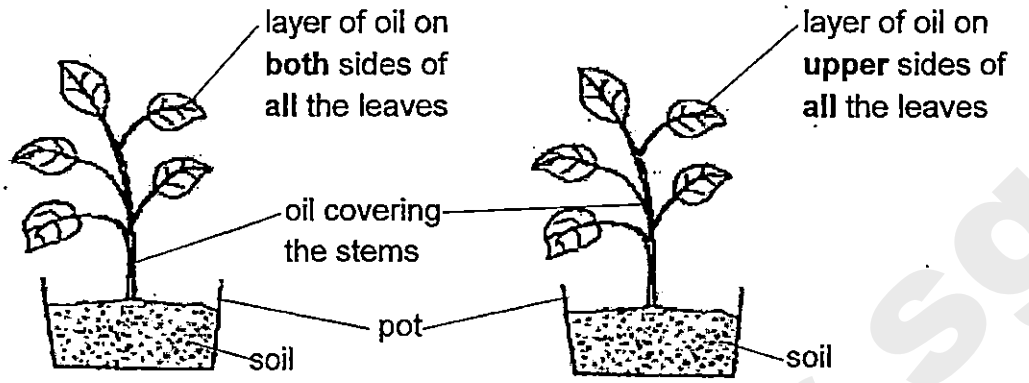
Rod X: _____

Rod Y: _____

3

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39. Dillon wanted to find out the effect of a layer of oil on the surfaces of a plant. He placed 2 similar plants, A and B, each in identical pots with an equal amount of soil. He then covered the leaves and stems of plants, A and B, with oil as shown below and placed them beside an open window.



(a) After a few weeks, Dillon made some observations of plants, A and B. Write down his observations in the table below and explain why.

Plant A:
Observation: [1]

_____

_____

Explanation: [1]

_____

_____

(b) **Plant B:**
Observation: [1]

_____

_____

Explanation: [1]

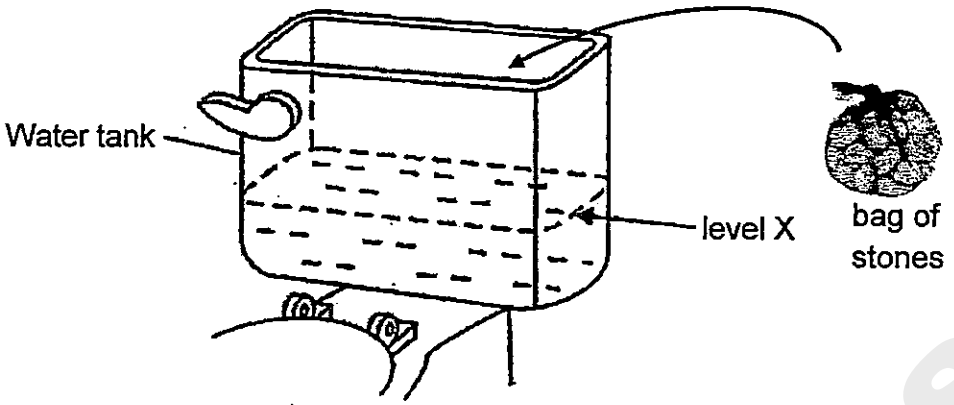
_____

_____

4

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40. A water tank used for flushing a toilet bowl is shown below. The flushing and re-filling system is **not shown** in the diagram.



Each time after flushing, water enters and re-fills the tank. The water will stop filling the tank when the water reaches level X.

Wen Xin put a plastic bag filled with stones into the water tank after the water was filled to level X.

(a) What will Wen Xin observe about the water level as she places the bag of stones into the tank? [1]

_____

_____

(b) Wen Xin suggests that putting the bag of stones into the tank will allow her to use lesser water to flush the toilet bowl. Explain how this helps to reduce the amount of water used.

[2]

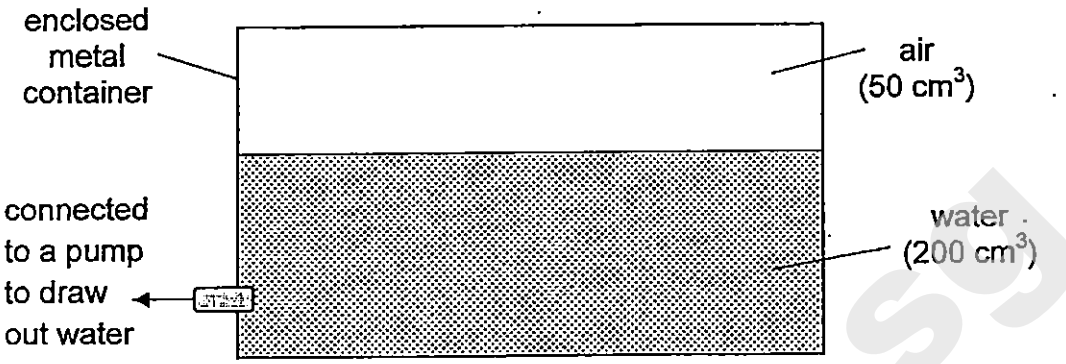
_____

_____

3

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41. The diagram below shows an enclosed metal container with 200 cm^3 of water and 50 cm^3 of air.



Elinor used a pump to remove 30 cm^3 of water from the container.

(a) What will be the volume of air in the container after the water was removed? [1]

_____

(b) Explain your answer in (a). [1]

_____

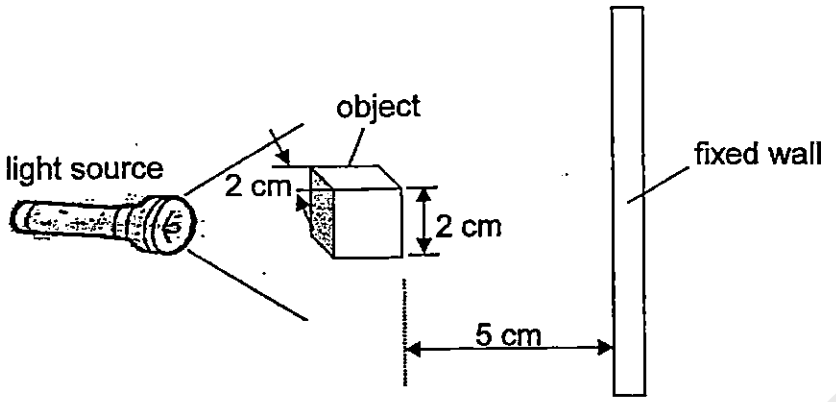
_____

2

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42. Minghua placed an opaque object 5 cm away from the wall as shown below.



He measured the height of the shadow cast on the wall. He repeated the experiment by decreasing the distance between the object and the fixed wall.

Distance between the object and the fixed wall (cm)	Height of shadow (cm)
5	6
4	5
3	4
2	3

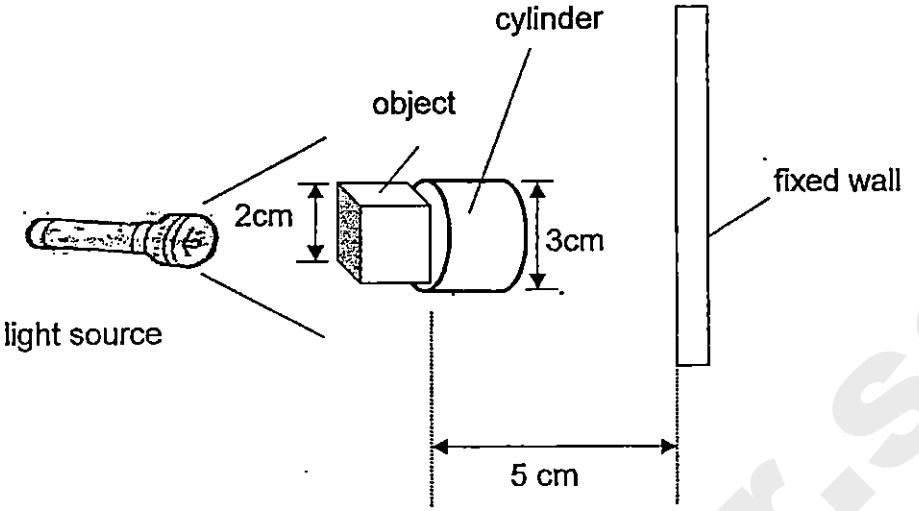
(a) What is the aim of Minghua's experiment? [1]

(b) Based on the results given in the table above, how would the distance between the object and the fixed wall affect the height of shadow? [1]

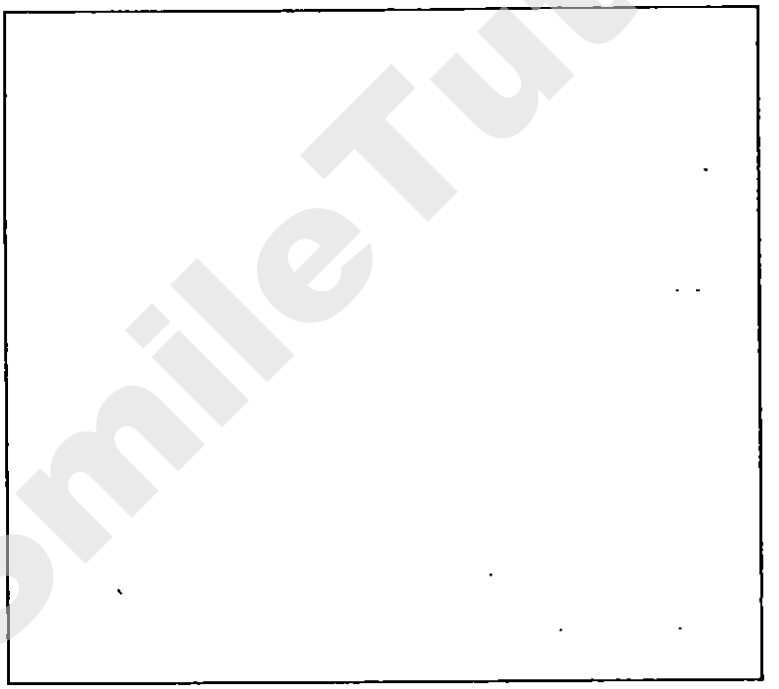
2

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(c) Minghua then placed a wooden cylinder directly behind the object as shown below.



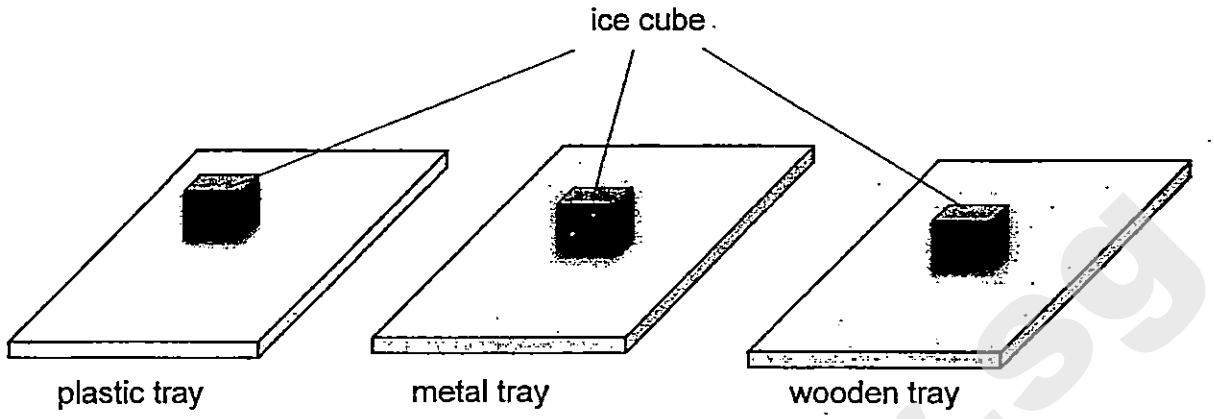
Draw the shadow cast on the screen in the space below. [1]



1

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43. Ken placed a piece of ice cube on each of the three similar sized trays in a room as shown below.



(a) Based on the diagram above, write down the item that gain heat or lose heat when the ice cubes are on the trays. [2]

Item	Gain or lose heat
Ice cube	
Plastic tray	
Metal tray	
Wooden tray	

(b) Ken needs to thaw his frozen chicken quickly. Which tray should Ken choose? Explain your answer. [1]

_____

_____

3

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44. Ahmad conducted an experiment by heating three rods, A, B and C, made of different materials for 30 minutes. The rods were of the same size. He recorded the lengths of each rod before and after the heating in the table below.

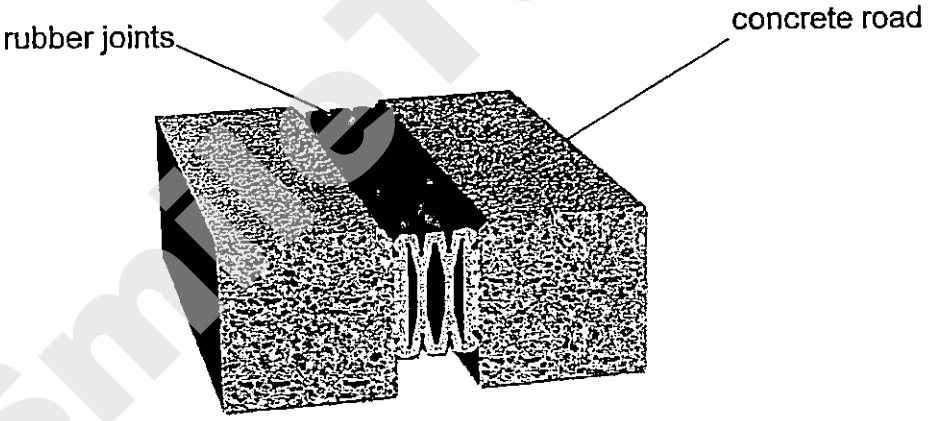
Material	Length before heating (mm)	Length after 30 minutes of heating (mm)
A	200	204
B	200	210
C	200	222

(a) Based on the results of his experiment, what could Ahmad conclude about the effect of heating on different materials? [1]

_____

_____

The concrete roads on Singapore have rubber joints in-between them.



(b) Why are the rubbers joints in-between the concrete road necessary in our country? [2]

_____

_____

_____

END OF PAPER

3

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LEVEL : PRIMARY 5
SCHOOL : CHIJ ST NICHOLAS GIRLS SCHOOL
SUBJECT : SCIENCE
TERM : SA1

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
3	**4**	**3**	**2**	**4**	**3**	**4**	**2**	**2**	**4**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
1	**3**	**2**	**4**	**3**	**3**	**2**	**4**	**4**	**3**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	**1**	1	**2**	**1**	**1**	**3**	**2**	**4**	**4**

Q31a. T.
Q31b. NP
Q31c. T
Q31d. F

Q32. Can they swim - F –
Q32. Are they insects – E
Q32. Do they lay eggs – D
Q32. Do they have a larval stage in their life cycle – G

Q33. Similarity : They hatch from fertilized eggs.

Q33. Difference : - The life cycle of Animal A has only three stages while the life cycle of Animal B has four stages.

Q34a. Cell B. All cells have cell membrane but B did not have.

Q34b. Cell A. Cell A is the only plant cell and an onion bulb cell is a plant cell. Cell A also has a nucleus, cell wall and a cell membrane but does not have a chloroplast because the bulb of an onion does not need to make food.

Q35a. Respiration

Q35b. For set-up A, the plant in set – up A respired, taking in more oxygen and giving out more carbon dioxide than set up B ,causing the lime – water in set-up A to absorb more carbon dioxide and become more chalky. However, for set up B, there is no plant to give out carbon dioxide but there is s till air in the set up B and the air has carbon dioxide for the lime water to absorb. Thus, the lime water in set-up B turned less chalky than that in set up A.

Q36a. Difference : Plant transport system does not transport oxygen, carbon dioxide and waste materials but a human transport system does.

Q36a. Difference : Materials in plant transport system move in two directions but in human system, it moves in a circular direction

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Q36b. The surface area of the stem in contact with the water in the vase when cut diagonally across is greater than the surface area of the stem in contact with the water in the vase when cut horizontally so the stem when cut diagonally across can absorb more water at a faster rate.

Q37a. Bulb Y and Z – Parallel Q37a. W and X : Series

Q37b. 3. If bulb Y fuses, there is still a closed circuit so the electric current can still flow through bulbs W, X and Z. Thus, the maximum number of bulbs that will remain lit when on bulb fuses is 3 bulbs.

Q38a. Both are electrical conductors.

Q38b.Rod X : Plastic Rod Y : Metal

Q39a. Plant A, observation : Plant A will die
Q39a. Observation : The oil on both leaves prevented air from entering the stomata so Plant A will die.

Q39b. Plant B, observation : Plant B will still survive.
Q39b. Explanation : Since the oil is on the upper sides of the leaves, the stomata which is on the underside of the leaves can still perform the gaseous exchange so plant B will still survive after the experiment.

Q40a. The water level will rise.

Q40b. The plastic bag with stones will take up some space in the tank, causing lesser water to fill up to level.

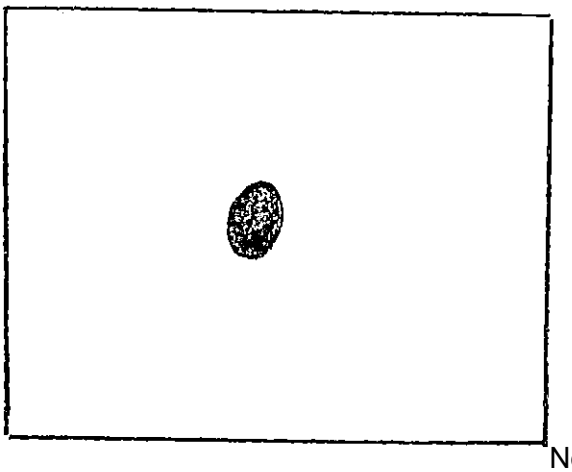
Q41a. 80cm^3

Q41b. Air has no definite volume. When 30cm^3 of water is removed, the air in the container will take up the space left by the water.

Q42a. To find out is the distance between the object and the fixed wall will affect the height of shadow cast on the fixed wall.

Q42b. The greater the distance between the object and the fixed wall, the taller the shadow.

Q42c. **SEE PICTURE**



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Q43a. Ice cube – gain heat
Q43a. Plastic tray – lose heat
Q43a. Metal tray – lose heat
Q43a. Wooden tray – lose heat

Q43b. The metal tray will conduct heat to the frozen chicken faster.

Q44a. Different materials expand differently when heated.

Q44b. Singapore weather is very hot. On hot days, when the concrete road expands, the rubber joints will allow space for the expansion so the road will not be buckled easily.

THE END

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CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 1
2015
PRIMARY FIVE

SCIENCE

BOOKLET A

Name: _____ ( )

Class: Primary 5 - _____

Date: 15 May 2015

30 questions

60 marks

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

This booklet consists of 18 printed pages, excluding the cover page.

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Booklet A (30 × 2 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet. (60 marks)

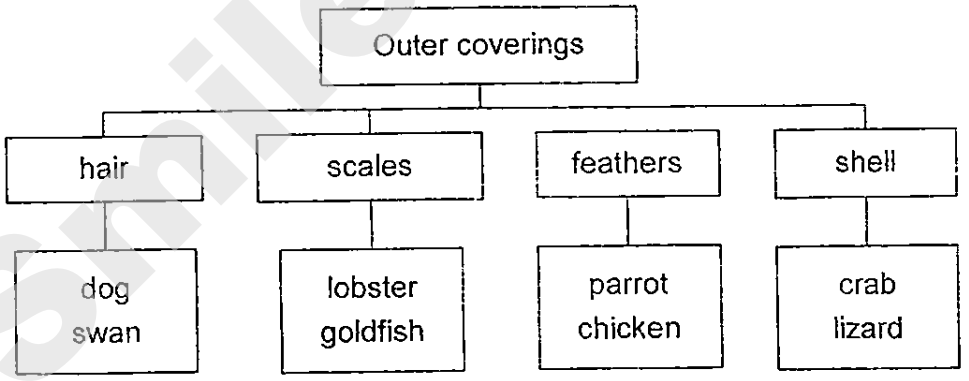
1 Nina wants to find out if an animal needs water to survive. A tick (✓) in the table below indicates that the condition is present in the set-up.

Conditions	Set-up			
	A	B	C	D
Air	✓	✓		✓
Water	✓		✓	
Food	✓		✓	✓

Which two set-ups should she use?

1) A and B only
2) A and D only
3) B and C only
4) B and D only

2 The classification chart below shows the outer coverings of some animals.



How many animals have been classified wrongly?

1) 1
2) 2
3) 3
4) 4

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3 The diagram below shows a boy jogging.



Which of the boy's body systems is/are at work when he is jogging?

A Skeletal system

B Muscular system

C Circulatory system

D Respiratory system

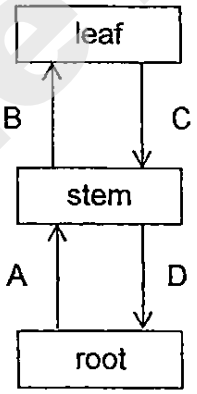
(1) A only

(2) B and C only

(3) B, C and D only

(4) A, B, C and D

4 The diagram below shows the different parts of a plant. The arrows A, B, C and D represent the water-carrying and food-carrying tubes.



Which one of the following best represents the substances that pass through tubes A, B, C and D?

	A	B	C	D
(1)	water	food	water	food
(2)	food	food	water	water
(3)	water	water	food	food
(4)	food	water	water	food

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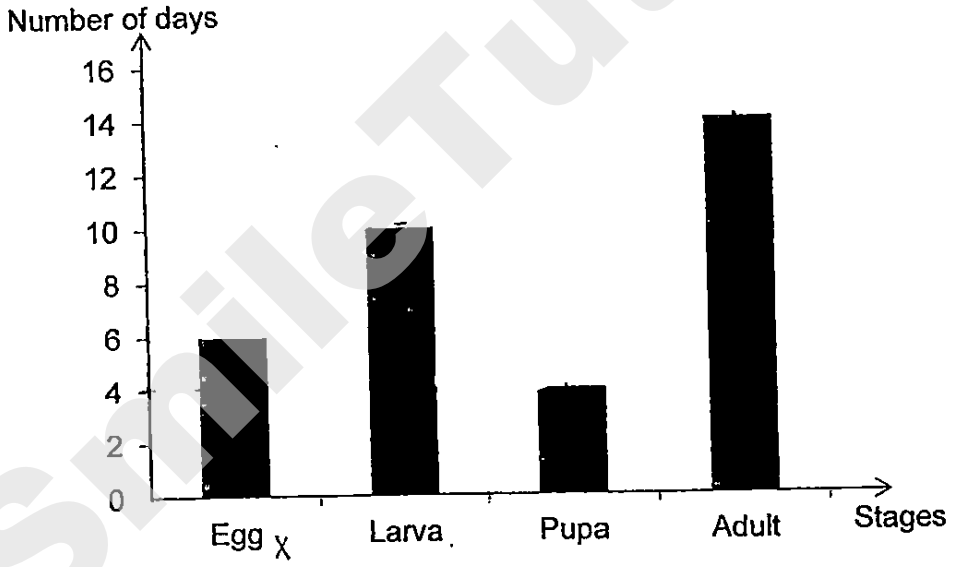
5 The following statements describe the stages of growth of a seedling.

A Green leaves appear.
B The seed coat breaks.
C The shoot grows upwards.
D The root grows downwards.
E The seed leaves start to shrivel

Which of the following shows the correct sequence for the growth of a seedling?

1) B → C → E → D → A
2) B → D → E → C → A
3) B → D → C → E → A
4) B → C → D → A → E

6 The graph below shows the number of days for each stage of the life cycle of organism Y.

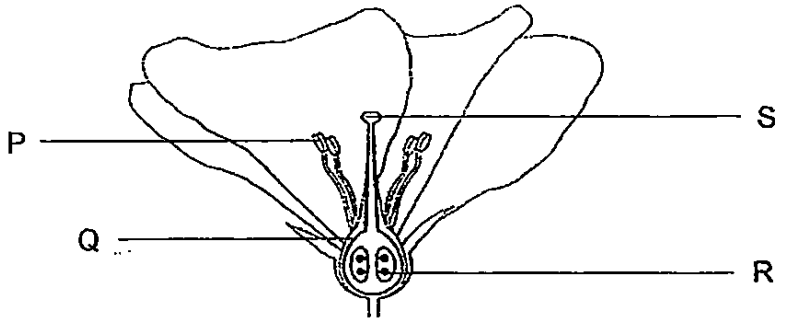


At which stage of the life cycle is organism Y on the 18th day after the egg is laid?

1) egg
2) larva
3) pupa
4) adult

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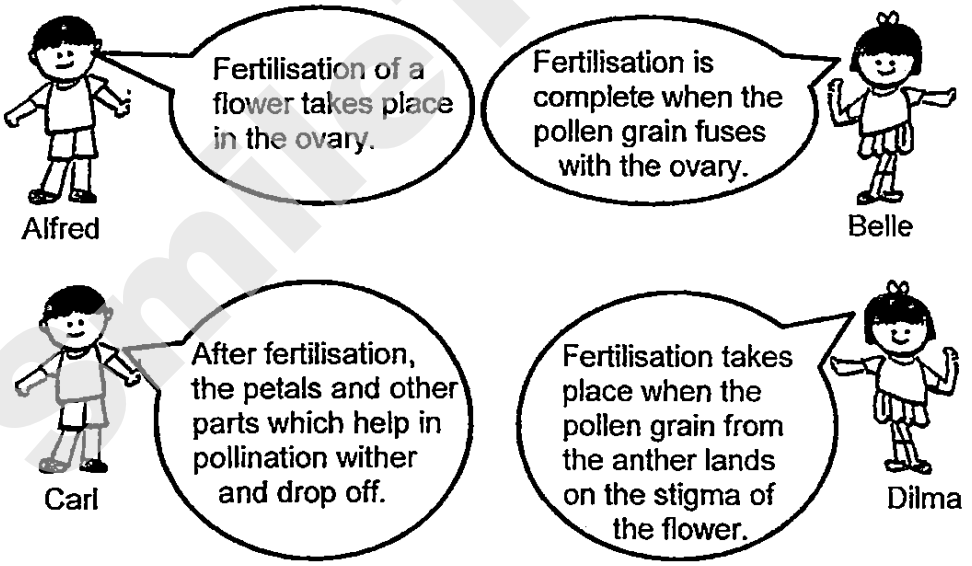
7 The diagram below shows the cross-section of a flower with the parts labelled P, Q, R and S.



Based on the diagram above, which part of the flower does not match its functions?

	Part	Function
(1)	P	Attracts pollinators
(2)	Q	Develops into a fruit
(3)	R	Develops into a seed
(4)	S	Receives pollen grains

8 Four pupils made some statements about fertilisation.



Which of the pupils made a correct statement about fertilisation?

1) Belle and Dilma only
2) Alfred and Carl only
3) Belle, Carl and Dilma only
4) Alfred, Carl and Dilma only

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9 Amin wanted to carry out an experiment to find out if the number of wing structure of a fruit affects how a plant could disperse its seeds further. He used four similar fruits of the same mass as shown below. Each of the four fruits was released from the same height.



5 wings 4 wings 3 wings 2 wings

Which of the following should Amin measure and compare in the experiment?

1) Size of each fruit

2) Mass of each fruit

3) Height from which each fruit was released

4) Time taken for each fruit to reach the ground

10 Mrs Lim filled four similar pots A, B, C and D with equal amounts of garden soil. She then placed some seedlings of the same height into each pot. The four pots were placed near the window where they could receive sunlight and air. The same amount of water was given to the four pots of seedlings daily. The table below shows the number of seedlings in each pot at the start of the experiment.

Pot	Number of seedlings
A	18
B	8
C	5
D	2

From the table above, which pot, A, B, C or D, would most likely produce the tallest adult plants after a week?

(1) Pot A

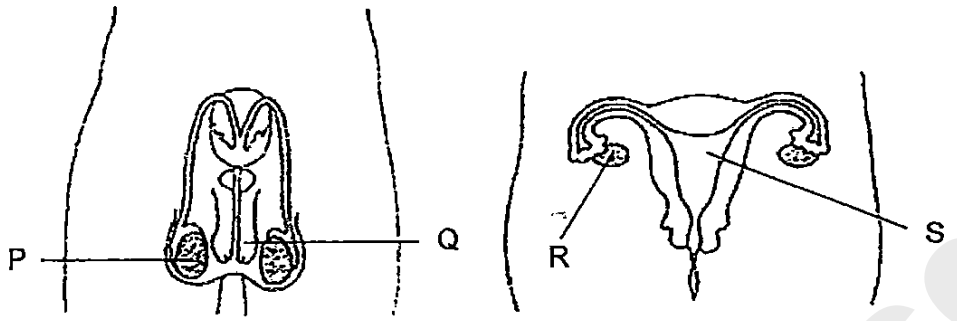
(2) Pot B

(3) Pot C

(4) Pot D

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11 The diagrams below show the male and female human reproductive systems.



Which parts of the male and female reproductive systems shown above produce the sperms and eggs respectively?

(1) P and R only
(2) P and S only
(3) Q and R only
(4) Q and S only

12 The table below shows the characteristics of Leo and his parents, Mr and Mrs Wang.

	Characteristics			
	Earlobe	Thumb	Hair Length	Widow's Peak
Mr Wang	attached	hitchhiker's	short	Yes
Mrs Wang	detached	straight	long	No
Leo	detached	hitchhiker's	short	Yes

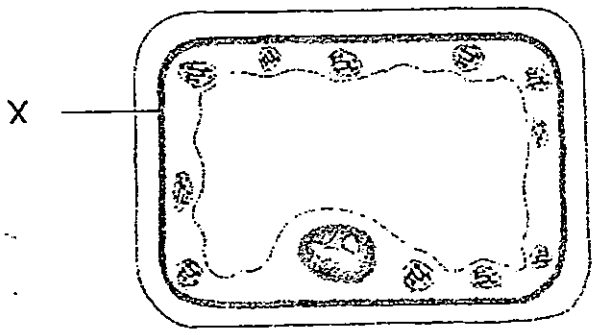
How many characteristics did Leo inherit from each of his parents?

He inherited _____.

(1) one from his father and one from his mother
(2) two from his father and one from his mother
(3) one from his father and two from his mother
(4) three from his father and one from his mother

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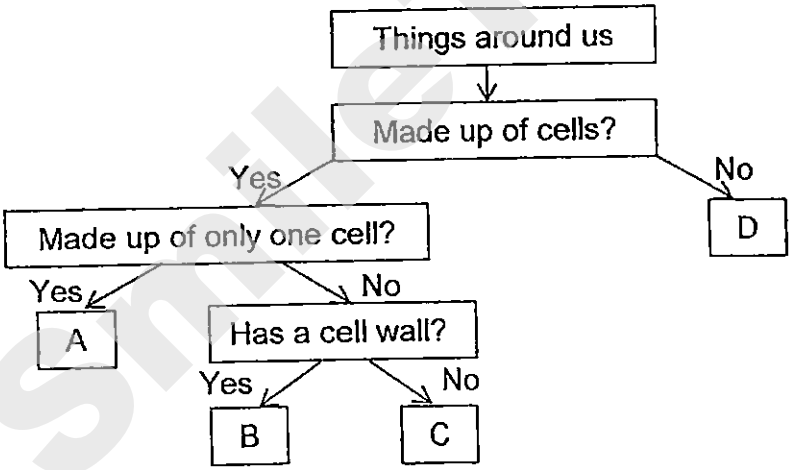
13 Which of the following functions is/are true of the part labelled X?



A Gives the cell a regular shape.
B Controls all the activities of the cell.
C Controls the movement of substances in and out of the cell.

1) A only
2) C only
3) A and C only
4) A, B and C

14 Study the chart below.



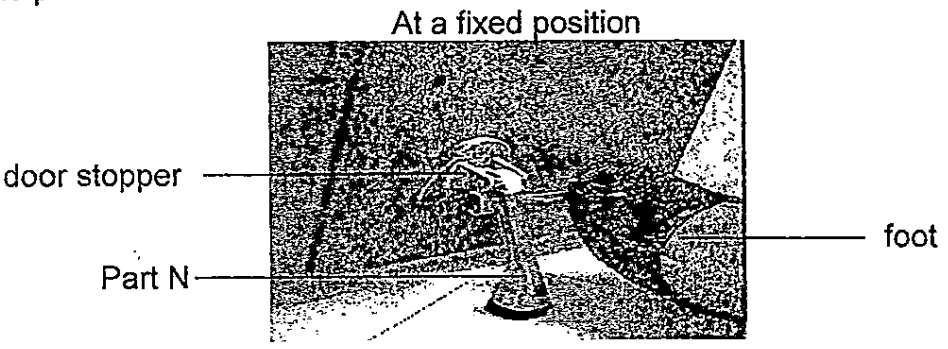
From the chart above, which of the following could be A, B, C and D?

	A	B	C	D
1)	bacteria	leaf cell	cheek cell	water
2)	steam	leaf cell	cheek cell	yeast
3)	bacteria	cheek cell	leaf cell	steam
4)	yeast	cheek cell	leaf cell	water

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15 The diagram below shows a door stopper. A door stopper is an object which is used to keep a door in a fixed position. One needs to step on it to push it down.



What are the properties of the material used to make part N?

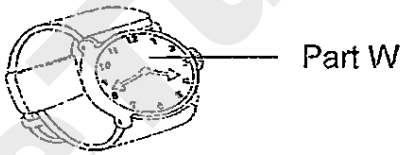
(1) hard and strong

(2) flexible and strong

(3) hard and waterproof

(4) flexible and waterproof

16 The diagram below shows a watch. The surface of the watch is labelled as part W.



Thiru conducted several tests on the four materials, P, Q, R and S, before he decided whether it is a suitable material to make part W. The results of his tests are shown in the table below.

Material	Properties		
	Can be bent easily	Can be scratched easily	Allows light to pass through
P	Yes	No	Yes
Q	Yes	Yes	Yes
R	No	Yes	No
S	No	No	Yes

Which material P, Q, R or S is most suitable for making the surface of the watch?

(1) P

(2) Q

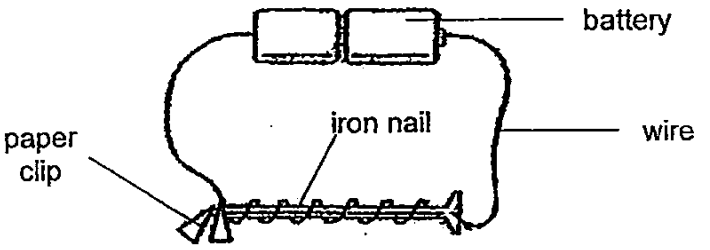
(3) R

(4) S

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17 The diagram below shows an electromagnet.



What could be done to the electromagnet in order for it to attract more paper clips?

A Add one more battery to the set-up.

B Remove one battery from the set-up.

C Replace the iron nail with a copper rod.

D Increase the number of turns of wire around the iron nail by ten turns.

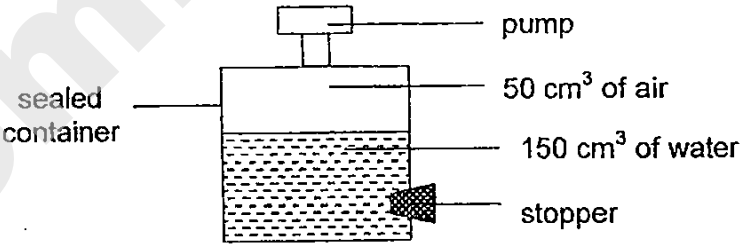
(1) A only

(2) A and D only

(3) B and C only

(4) B, C and D only

18 Mazlan conducts an experiment using the set-up as shown below.



20 cm^3 of water was removed when the stopper was released. He then used the pump to add 15 cm^3 of air into the sealed container.

What was the final volume of air in the sealed container?

(1) 65 cm^3

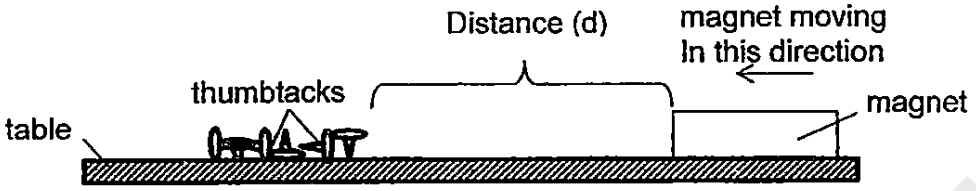
(2) 70 cm^3

(3) 130 cm^3

(4) 145 cm^3

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19 Josiah wanted to find out the strength of three magnets A, B and C which were of the same size. He slowly moved magnet A towards some thumbtacks which were placed on a table until the magnet attracted the first thumbtack from a distance (d).



He repeated the procedure one more time and calculated the average distance for magnet A. The experiment was then repeated using magnets B and C. The results are shown in the table below.

	Distance d (cm)		
Magnet	First reading	second reading	Average reading
A	3.4	3.2	3.3
B	1.5	1.7	1.6
C	2.0	2.4	2.2

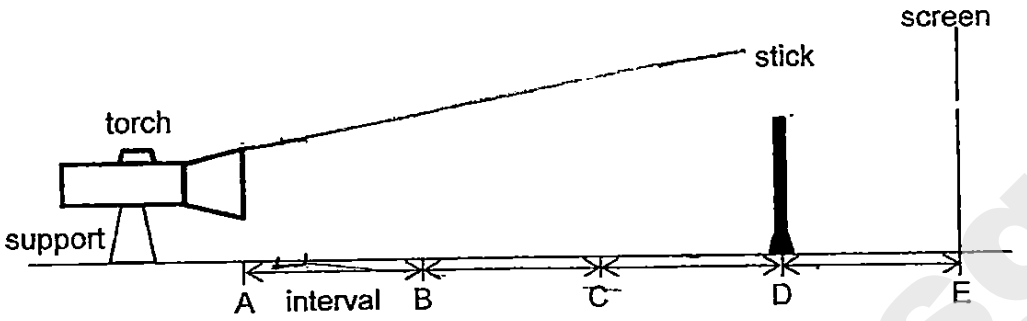
Which of the following shows the strength of magnets A, B and C from the strongest to the weakest?

	strongest	→	weakest
(1)	A	B	C
(2)	A	C	B
(3)	B	C	A
(4)	C	A	B

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20 The diagram below shows a torch placed at position A. A stick was placed at position D and a screen was fixed at position E. The distance of each interval AB, BC, CD and DE was equal.



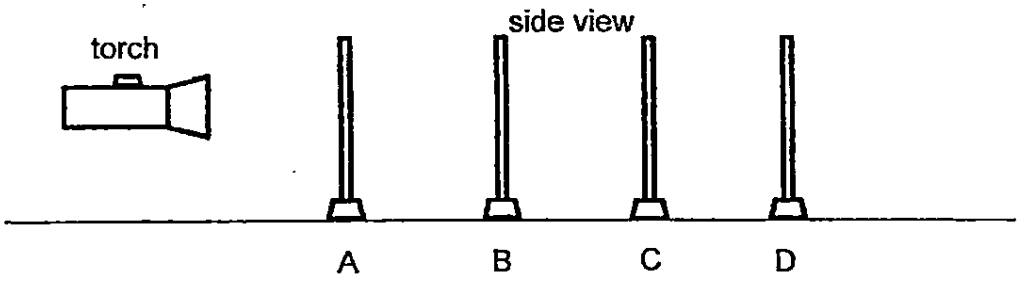
In order to obtain the biggest shadow on the screen, where must the torch and stick be placed?

	Position of torch	Position of stick
(1)	B	C
(2)	A	C
(3)	A	D
(4)	B	D

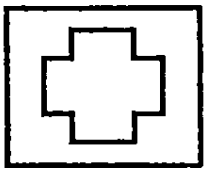
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21 Mindy carried out the experiment as shown below in a dark room. She placed sheets A, B, C and D in a straight line.



A cross was cut out from sheet A as shown in the front view below.



When the torch was switched on, a shape in the form of a cross was seen on sheet C only.

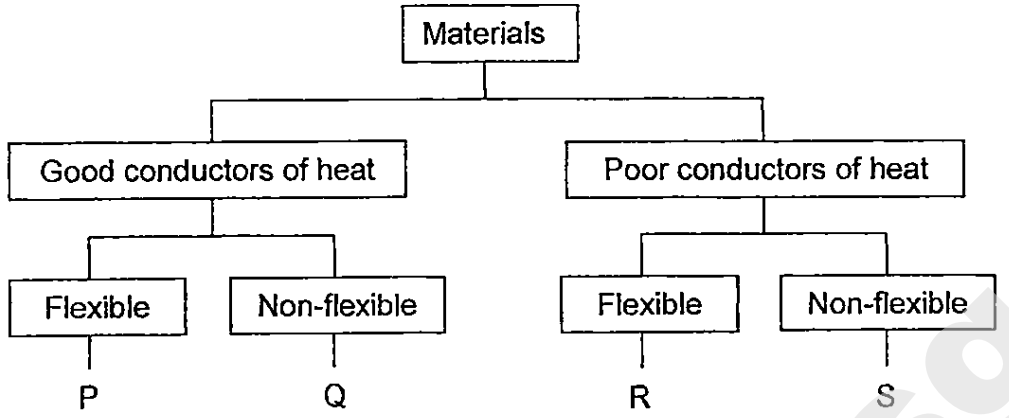
Which of the following correctly shows the ability of each sheet A, B, C and D to allow light to pass through?

	Allows most amount of light to pass through	Does not allow light to pass through	Not possible to tell
1)	A	C	B and D
2)	B	A and C	D
3)	A and B	C	D
4)	B and C	D	A

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22 The classification chart below shows the properties of some materials.



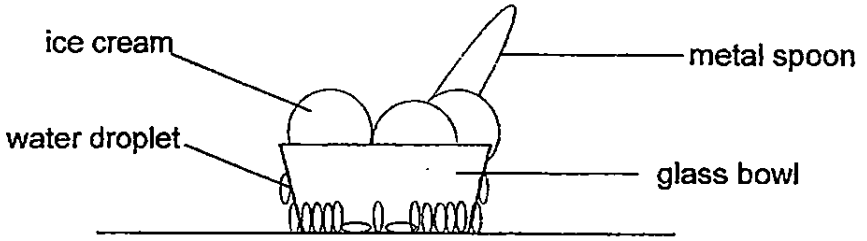
Which one of the following are possible examples of objects, P, Q, R and S?

	P	Q	R	S
1)	steel pipe	silver wire	rubber hose	magnifying glass
2)	steel pipe	silver wire	cotton socks	ceramic cup
3)	aluminium foil	steel pipe	cotton socks	magnifying glass
4)	aluminium foil	rubber hose	ceramic cup	iron nail

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23 Hansel left a glass bowl of ice cream with a metal spoon on the table in the dining room. After three minutes, he observed that there were tiny droplets of water on the outside of the glass bowl and the ice cream had started to melt.

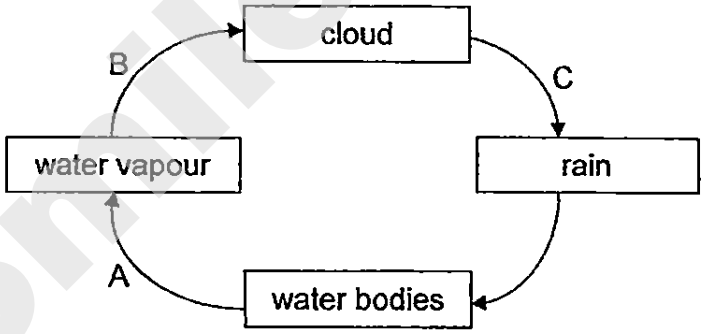


Which of the following statements explain his observations?

A The ice cream gained heat from the surroundings.
B The glass bowl condensed to form tiny water droplets.
C The metal spoon conducted heat from the surroundings to the ice cream.
D The water vapour in the surroundings lost heat to the cooler surface of the glass bowl.

1) A only
2) B and C only
3) B and D only
4) A, C and D only

24 The diagram below represents the water cycle.



Which of the following represents the processes correctly?

	Evaporation occurs at	Condensation occurs at
(1)	A	B
(2)	A	C
(3)	B	C
(4)	C	B

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25 Substance Y is a solid at 40°C and a liquid at 200°C.

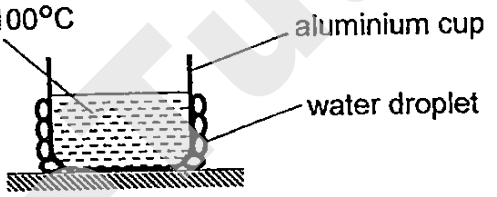
Which one of the following shows the possible melting point and boiling point of Substance Y?

	Melting point of Y (°C)	Boiling point of Y (°C)
(1)	30	100
(2)	30	300
(3)	50	100
(4)	50	300

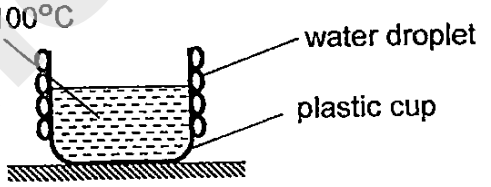
26 Brina set up an experiment to investigate the condensation of water vapour. The same amount of hot water at 100°C or cold water at 5°C was poured into similar cups made of either plastic or aluminium.

Which one of the following shows where water droplets would form after two minutes?

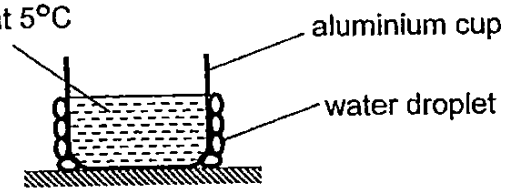
(1)



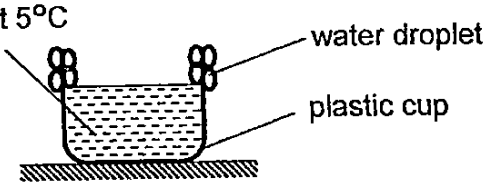
(2)



(3)



(4)



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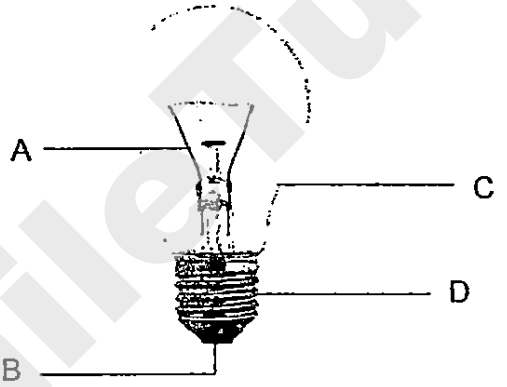
27 Eugene filled two similar beakers P and Q with 100 cm^3 of water. He placed beaker P in the open on a sunny and windy day. Beaker Q was placed in a dark room. Twenty-four hours later, he observed that the water levels in both beakers had decreased. He recorded the volume of water left in the table below.

Beakers	Volume of water at first (cm^3)	Volume of water at the end (cm^3)
P	100	70
Q	100	90

Which one of the following statements is not correct?

1) The rate of evaporation was higher in beaker P than Q.
2) Some of the water in beakers P and Q had evaporated.
3) The wind increased the rate of evaporation in beaker P.
4) Heat helped to increase the rate of evaporation in beaker Q.

28 The diagram below shows a light bulb.



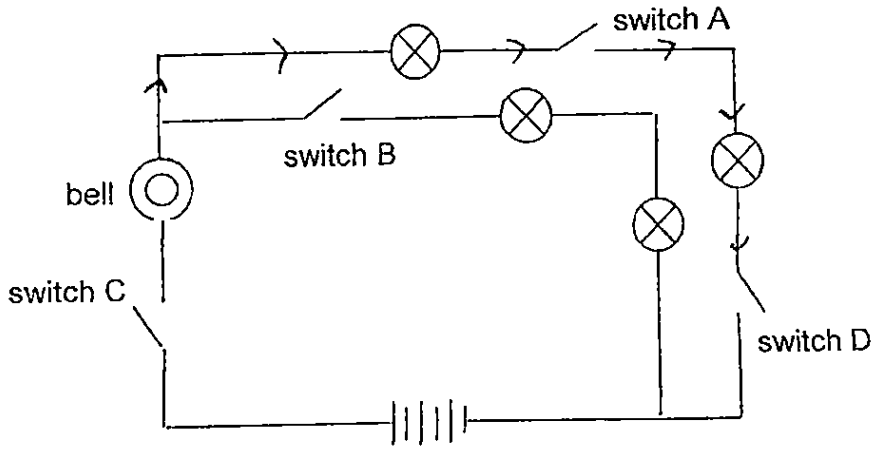
Which parts A, B, C and D of a light bulb are electrical conductors?

(1) A only
(2) B and C only
(3) B and D only
(4) A, B and D only

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29 Study the circuit diagram below.



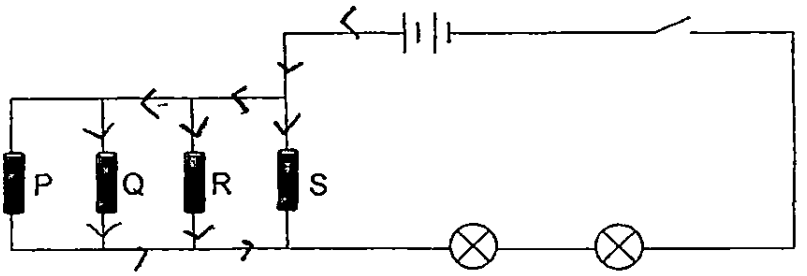
In order to ring the bell and light up any two bulbs, which switches should be closed?

(1) A and C only
(2) B and D only
(3) A, C and D only
(4) A, B, C and D

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30 Jun Long wanted to find out whether four rods P, Q, R and S were electrical conductors or insulators. He used the circuit shown below.



The table below shows whether the bulbs lighted up when the switch was closed and certain rod(s) was/were removed.

Rod(s) removed from circuit	Did the bulbs light up?
P	Yes
Q and R	Yes
R and S	Yes
P, Q and R	No
P, R and S	No

Which one of the following is correct about rods P, Q, R and S?

	P	Q	R	S
1)	electrical insulator	electrical conductor	electrical insulator	electrical conductor
2)	electrical conductor	electrical insulator	electrical insulator	electrical insulator
3)	electrical insulator	electrical conductor	electrical conductor	electrical conductor
4)	electrical conductor	electrical insulator	electrical conductor	electrical insulator

End of Booklet A

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CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 1
2015
PRIMARY FIVE

SCIENCE

BOOKLET B

Name: _____ ( )

Class: Primary 5 - _____

Date: 15 May 2015

Parent's Signature: _____

Booklet A	60
Booklet B	40
Total	100

14 questions

40 marks

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

This booklet consists of 15 printed pages, excluding the cover page.

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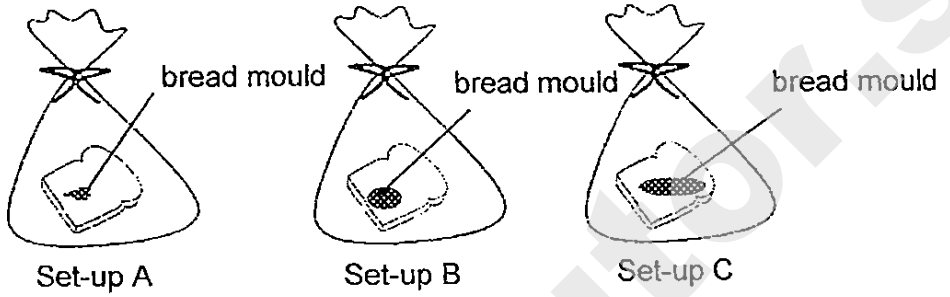
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Booklet B (40 marks)

For questions 31 to 44, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question. (40 marks)

31 Tina wanted to find out if the amount of water affects the rate of reproduction of bread mould. She prepared three similar set-ups A, B and C and sprinkled 5ml, 10ml and 15ml of water on the bread in the set-ups A, B and C respectively.

The diagram below shows the results at the end of seven days.



(a) What was the variable she had changed in the above experiment? [1]

_____

(b) Which set-up had 5ml of water sprinkled on it? Give a reason to support your choice. [1]

_____

_____

(c) Based on the results of the experiment, what can Tina conclude about the relationship between the amount of water and the rate of reproduction of bread mould? [1]

_____

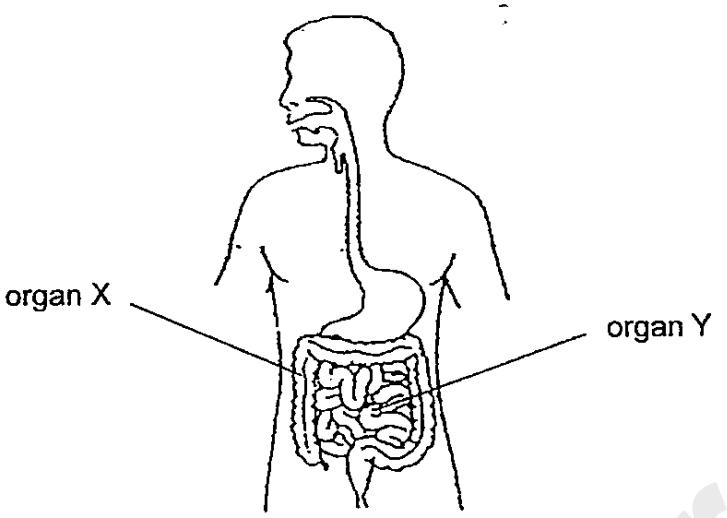
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SCORE	/ 3

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32 The diagram below shows the human digestive system.



(a) Identify organ X and organ Y. [1]

X : _____

Y : _____

(b) State the function of organ Y. [1]

_____

_____

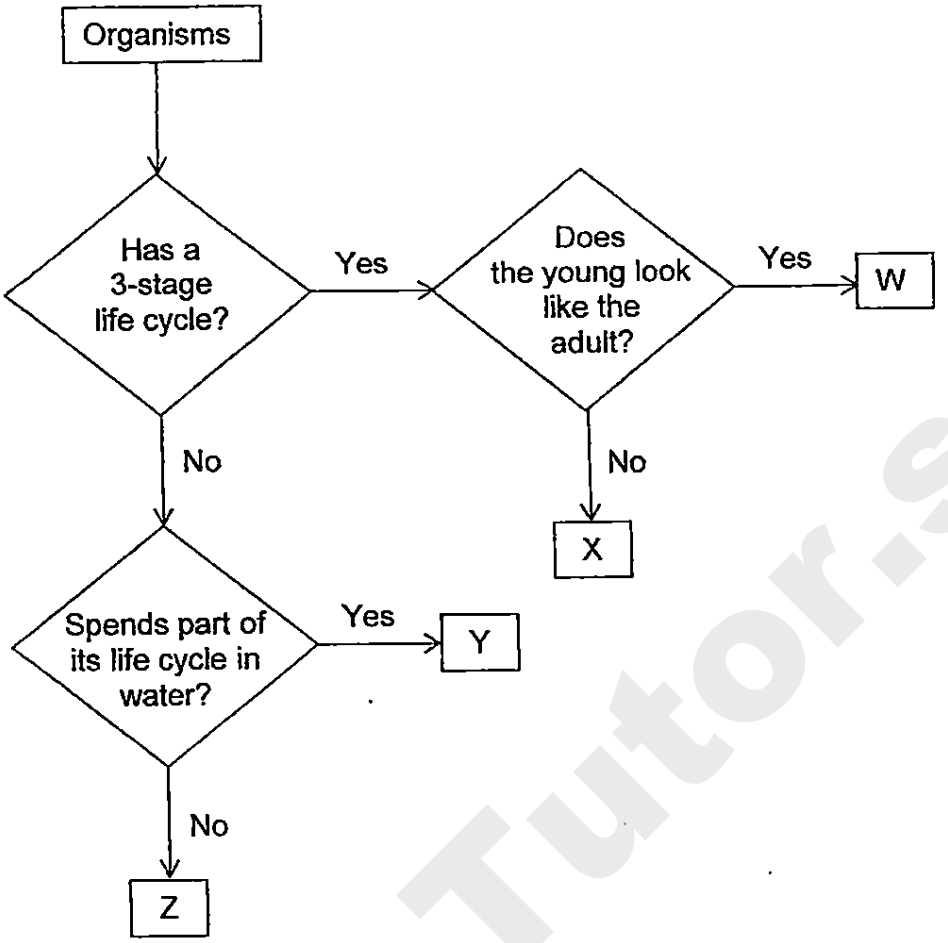
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SCORE	/ 2

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33 Study the flow chart as shown below.



Match the letters W, X, Y and Z to the correct organisms.

Organism	Letter
frog	
butterfly	
mosquito	
cockroach	

[2]

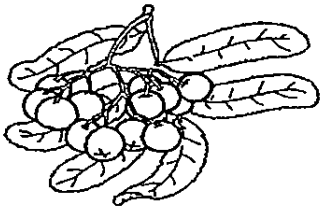
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SCORE	· / 2

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34 The picture below shows a type of fruit which organism X likes to eat. The fruit contains many small seeds.

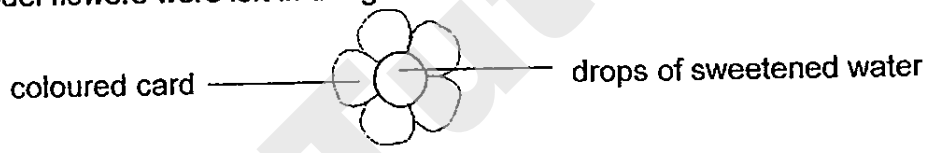


(a) Based on the information above, how does organism X help to disperse the seeds of this type of fruit? [1]

_____

_____

Jimu wanted to find out the colour of flowers which organism Y would prefer. He made model flowers using different-coloured cards. He put 8 drops of the same sweetened water in the centre of each model flower. The model flowers were left in the garden.



He counted the number of organism Y that visited the model flowers over 3 hours. The results were recorded in the table below.

Colour of the model flower	Number of organism Y visiting the model flower		
	7 – 8 am	8 – 9 am	9 – 10 am
red	9	6	2
green	16	12	8
purple	8	6	3

(b) Based on Jimu's results, which colour did organism Y prefer most? [1]

_____

(c) Shanon, Jimu's classmate, wanted to find out the relationship between the size of the model flowers and the number of organism Y visiting the model flowers.

What changes to Jimu's experiment should Shanon make? [1½]

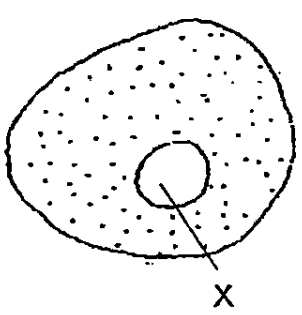
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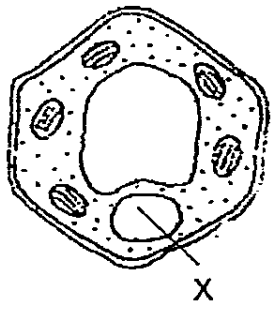
SCORE	/ 3

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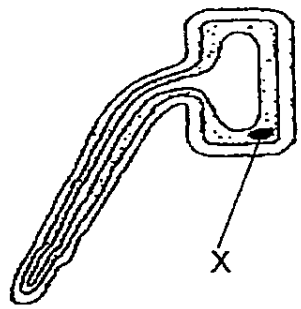
35 The diagram below shows three different types of cells P, Q and S.



Cell P



Cell Q



Cell S

(a) State one function of the part labelled X in the above diagram. [1]

_____

_____

(b) Based on the diagram above, identify the plant cells

_____

(c) State one characteristic that allowed you to conclude your answer in (b). [1]

_____

_____

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SCORE	/ 3

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36 Lynette was given an iron bar, a bar magnet and a bowl of iron filings as shown below. Her teacher asked her to pick up the iron filings from a bowl using the iron bar. She realised the iron bar could not pick up any iron filings.



iron bar



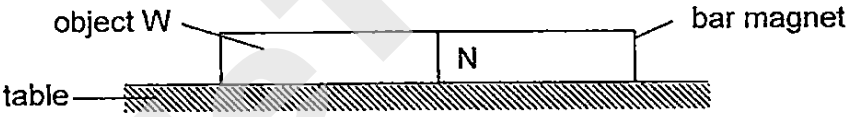
bar magnet



a bowl of iron filings

(a) Explain how she could magnetise the iron bar using the bar magnet so that she could pick up the iron filings from the bowl. [2]

Next, her teacher gave her an object W. She told her to put the bar magnet and object W near to each other. She observed that object W was attracted to the bar magnet as shown in the diagram below.



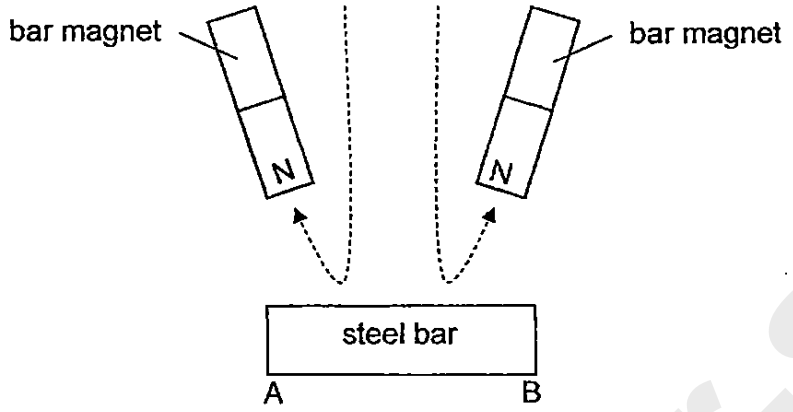
(b) Lynette concluded that object W was a magnet. Do you agree with her? Give a reason for your answer. [1]

(Go on to the next page)

SCORE	3

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Lynette wanted to magnetise a steel bar AB using the north poles of two magnets as shown below.



(c) Give a reason why steel bar AB cannot be magnetised by Lynette's method. [1]

_____

_____

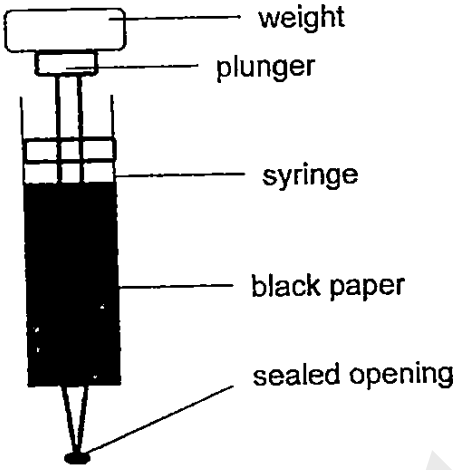
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SCORE	/ 1

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37 Kumah covered a plastic syringe with a black piece of paper and filled it completely with matter Y as shown below. He sealed the opening of the syringe. He then put weights on the plunger of the syringe. For every weight he added, he observed the change in the volume of matter Y in the syringe.



He recorded the results in the table below.

Number of weights added (g)	Volume of matter Y (cm^3)
0	60
1	55
2	48
3	43
4	41
5	41
6	?

(a) Why must Kumar seal the opening of the syringe? [1]

_____

_____

(b) What is the volume of matter Y when Kuman added the 6th weight on the plunger? [1]

_____

(c) Identify one property of matter Y based on the experiment. [1]

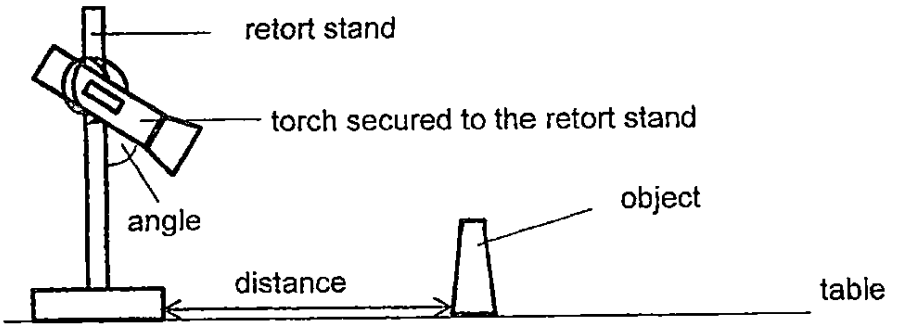
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SCORE	/ 3

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38 An experiment was carried out by Carrie as shown below.



In the experiment above, the angle at which the torch was shining at the object remained constant. Carrie measured the change in the length of the object's shadow on the table when the object was placed at different distances from the retort stand.

The table below shows the results of her experiment.

Distance of object from the retort stand (cm)	Length of shadow on the table (cm)		
	1st reading	2nd reading	Average reading
10	8	7	7.5
20	16	15	15.5
30	24	23	23.5

(a) What was she trying to find out from her experiment?

_____

(b) Based on the above experiment, explain how the shadow was formed on the table. [1]

_____

_____

(c) Why must Carrie ensure that the angle the torch was shining at the object be kept constant? [1]

_____

_____

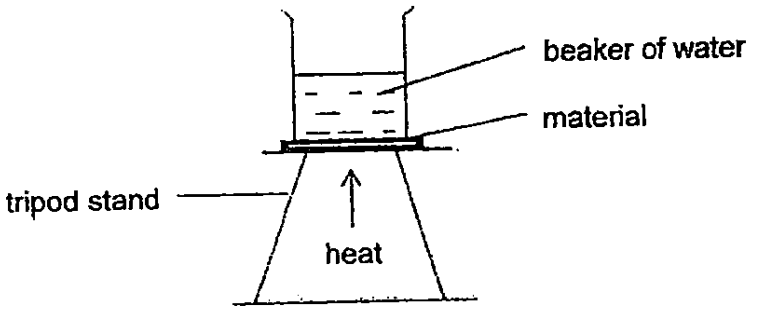
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SCORE	/ 3

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39 Ricky wanted to find out how different materials conduct heat using the set-up as shown below.



He recorded the time taken for the water to boil when materials A, B and C were placed below the beaker of water. The results are shown in the table below.

Material	Volume of water at the start of the experiment (ml)	Time taken for the water to start boiling (min)
A	350	25
B	350	10
C	350	20

(a) From the table above, which material A, B or C should be used if we want to make cooking pots? [1]

_____

(b) Based on the data given give a reason for your answer in (a). [1]

_____

_____

(c) Why are materials that are poor conductors of heat used to make containers to keep food warm or drinks cold? [2]

_____

_____

_____

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SCORE	/ 4

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40 Mrs Wee was in her garden. She hung her wet towels by folding them into halves as shown in diagram 1 below.

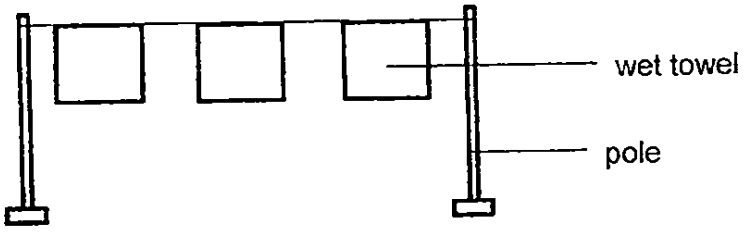


Diagram 1

Her daughter told her that the towels would dry faster if she hung them at full length as shown in diagram 2 below.

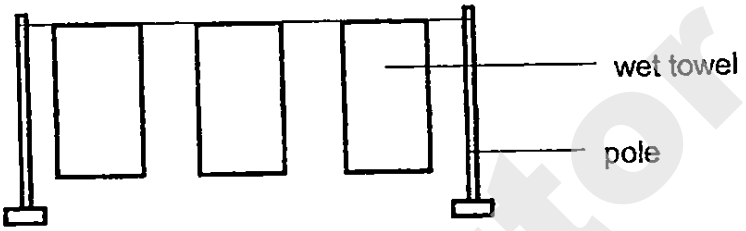


Diagram 2

Do you agree with her daughter? Explain your answer. [2]

_____

_____

_____

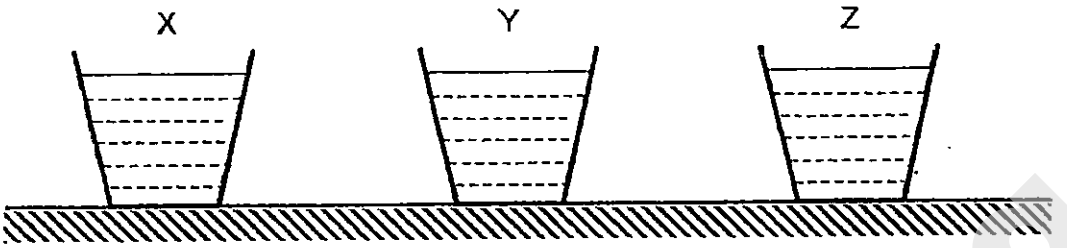
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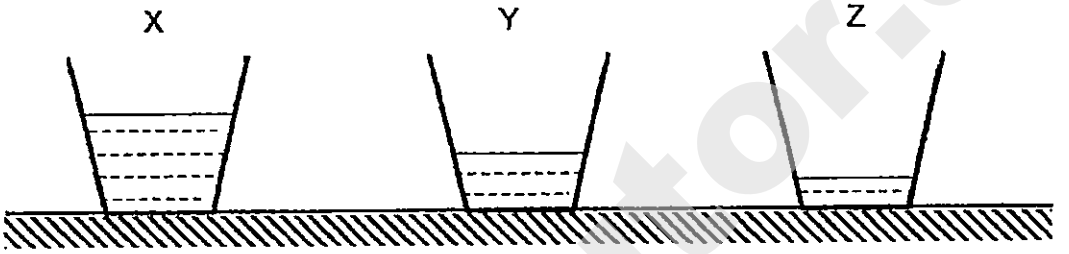
SCORE	/ 2

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41 Caleb conducted an experiment to compare the rates of evaporation of liquids X, Y and Z. She poured 250ml of each liquid into three similar glass containers. He placed the containers in the garden for twenty-four hours as shown in the diagram below.



A day later, he checked on his set-ups. He drew the following observations in his Science Journal.



(a) Based on his observation, what could he infer about the rate of evaporation of the three types of liquid X, Y and Z? [1]

_____

_____

(b) Give a reason how each of the following actions helps to make his experiment a fair test. [2]

(i) using similar glass containers

_____

_____

(ii) placing all three glass containers at the same location

_____

_____

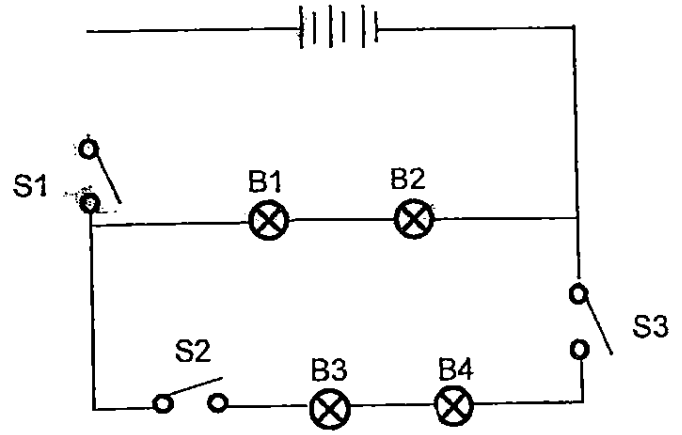
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SCORE	/ 3

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42 The diagram below shows a circuit diagram. The switches in the circuit are labelled as S1, S2 and S3 while the bulbs are labelled as B1, B2, B3 and B4. The same type of bulbs, wires, switches and batteries are used.



(a) When switches S1 and S2 are closed, which bulb(s) will light up? [1]

_____

(b) What is the smallest number of bulbs that will remain lit when switches S2 and S3 are closed? [1]

_____

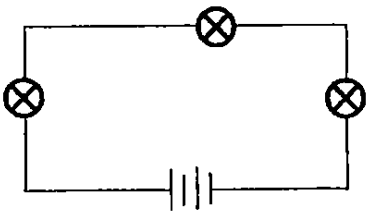
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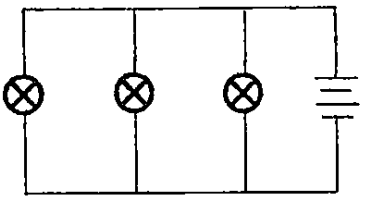
SCORE	/ 2

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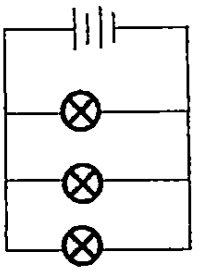
43 Selvi sets up some circuits as shown below using similar types of bulbs, batteries and wires.



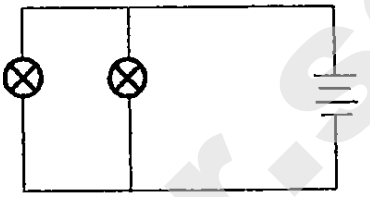
Circuit W



Circuit X



Circuit Y



Circuit Z

(a) Selvi discovers that all the bulbs in circuit W are very dim.

What is another disadvantage of arranging the bulbs in the way shown in circuit W? Explain your answer. [2]

_____

_____

_____

_____

(b) From the diagrams above, which two circuits should she use if she wants to find out if the number of bulbs affects the brightness of the bulbs? [1]

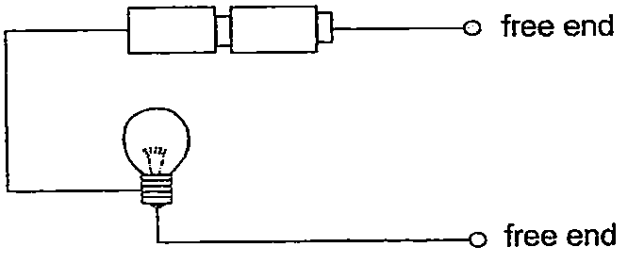
Circuits _____ and _____

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SCORE	/ 3

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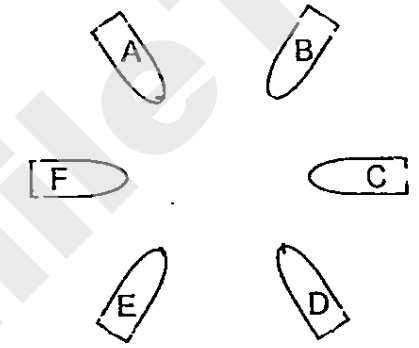
44 The diagram below shows a circuit tester.



The table below shows whether the bulb in a circuit tester lights up or not when the circuit tester is connected to two paper clips of a circuit card each time.

Paper clips connected to circuit tester	Does the bulb light up?
A and B	Yes
A and C	No
B and D	Yes
F and E	Yes
A and E	No
B and F	No

(a) Based on the results obtained in the table above, draw 3 lines to show the correct wire connections on the circuit card shown below. [2]



(b) Name another pair of paper clips (not mentioned in the above table) which would result in the bulb lighting up when connected. [1]

_____

End of Booklet B

SCORE	/ 3

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LEVEL : PRIMARY 5
SCHOOL : CATHOLIC HIGH SCHOOL
SUBJECT : SCIENCE
TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	3	4	3	3	3	1	2	4	1
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1	2	2	1	1	4	2	2	2	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	3	4	1	4	3	4	4	3	4

Q31a. The amount of water sprinkled on the bread.
Q31b. Set up A. The bread in Set up A has the least amount of bread mould growing on it.
Q31c. The higher the amount of water (given per day), the higher the rate of reproduction of bread mould.

Q32a. X : Large intestine Q32b. Y : small intestine
Q32b. To further break down food into simpler substances or to absorb digested food into the bloodstream.

Q33. X ,Z,Y,W

Q34a. Organism X eats the fruit and passes out the seeds of this type of fruit through their droppings.
Q34b. Green
Q34c. Use the same colour of all card but of different sizes.

Q35a. The nucleus contains genetic material that is passed from one generation to another.
Q35b. Cell Q and Cell S.
Q35c. Both Cells Q and S have a regular shape.

Q36a. Stroke the iron bar with one / same pole of the bar magnet repeatedly / several times and must be in the same direction.
Q36b. No. Object W could be a magnetic object thus it was attracted to the bar magnet.
Q36c. She used the same pole of both magnets to stroke steel bar AB. OR A magnet has two unlike poles.

Q37a. It is to ensure that matter Y will not escape through the opening.
Q37b. 41cm^3
Q37c. Matter Y does not have a definite volume.

Q38a. To find out how the distance of the object from the light source affects the length of the shadow cast on the table.
Q38b. The light from the torch was blocked by the object thus causing the shadow to form on the table.
Q38c. To ensure that any change in the length of the shadow cast on the table is only due to the change in the distance of object from retort stand.

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Q39a. Material B.
Q39b. The waiter took the shortest time to start boiling as Material B gains heat the fastest.
Q39c. Materials that are poor conductors of heat lose and gain heat slowly, so if it used to keep food warm, it will lose heat slowly, and if it is to keep drinks cold, it will gain heat slowly.

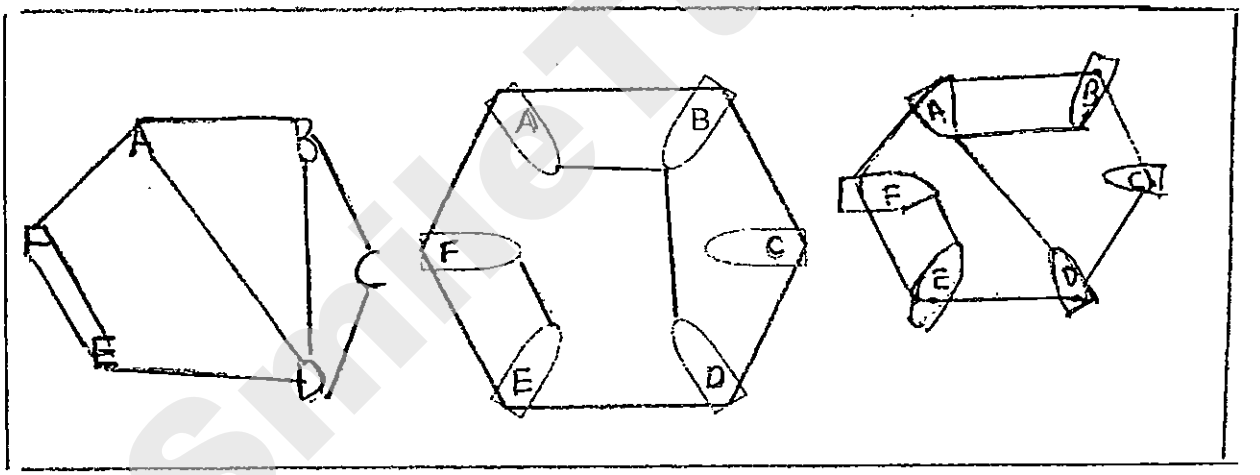
Q40. Yes. The wet towels in diagram 2 have a larger exposed surface area than the wet towels in diagram 1. Hence, the rate of evaporation would be higher. Larger exposed surface area helps the water in the towel to evaporate faster. Thus, the towels in diagram 2 dry faster.

Q41a. Liquid Z has the highest rate of evaporation, followed by Liquid Y then X.
Q41b. i) The exposed surface area of the container would be the same, as exposed surface area is one of the factors of evaporation.
Q41b. ii) The presence of wind would be the same, as the presence of wind is one of the factors of evaporation.

Q42a. B1 and B2
Q42b. Zero

Q43a. If one of the bulbs fuses, it will form an open circuit and electricity would not be able to flow, and all the bulbs will not light up.
Q43b. X and Z

Q44a. SEE PICTURE



Q44b. D and A

THE END

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HENRY PARK PRIMARY SCHOOL
2015 SEMESTRAL EXAMINATION 1
SCIENCE
PRIMARY 5

Duration of Paper: 1 h 45 min

100

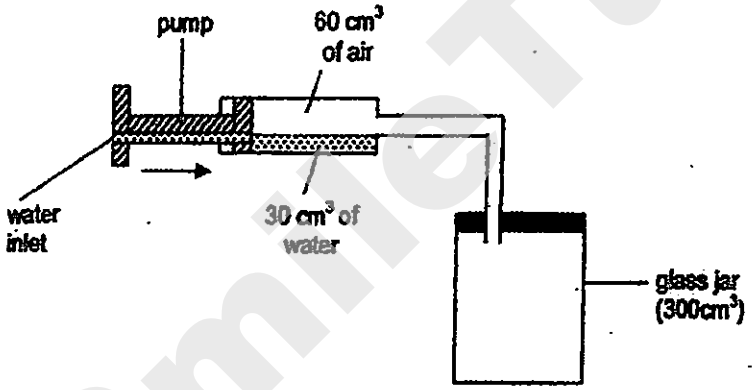
Name:_____( )

Class: Pr 5 _____ Parent's Signature:_____

Booklet A (60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows a pump connected to a glass jar. The capacity of the jar is 300 cm^3.



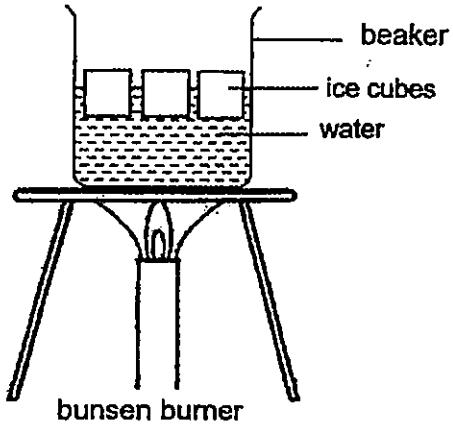
When the pump is pushed completely in, 60 cm^3 of air and 30 cm^3 of water is forced in. What is the volume of air in the glass jar now?

(1) 210 cm^3
(2) 240 cm^3
(3) 270 cm^3
(4) 300 cm^3

( )

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2. A beaker of water was heated over a bunsen burner for 30 minutes. During the period some ice cubes were put into the beaker of water.

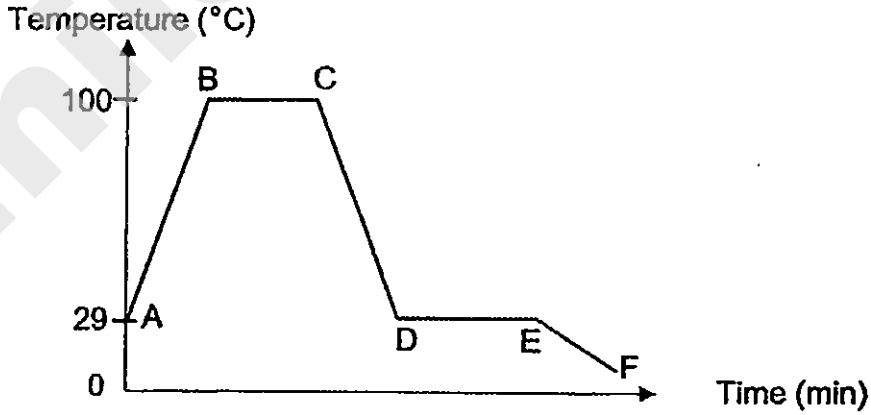


Which of the following changes will most likely take place after the ice cubes were put in?

A: Ice cubes melt.
B: Water evaporates.
C: Temperature of water changes.

(1) A only
(2) B only
(3) A and B only
(4) A, B and C ( )

3. Lynn measured and recorded the changes in the temperature of tap water in a beaker over a period of time and plotted the graph below.



Which one of the following statements is **not** correct?

(1) Water at DE is boiling.
(2) Water is losing heat at CD.
(3) Water at Point A is likely to be at room temperature.
(4) Water at BC and DE has constant temperature. ( )

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4. The table shows the freezing point and boiling point of substance, X, Y and Z.

Substance	Freezing Point (°C)	Boiling Point (°C)
X	10	50
Y	50	145
Z	-10	35

Jim recorded his observation of X, Y and Z at a **certain temperature** in the table below.

	X	Y	Z
Has fixed volume?	yes	yes	no
Has fixed shape?	no	yes	no

What is the most likely temperature for all the 3 substances, X, Y and Z?

(1) 5°C
(2) 45°C
(3) 80°C
(4) 100°C

( )

5. Jill bought a hot bun and put it inside a Ziploc bag and sealed it.
A few minutes later, she noticed some water droplets inside the Ziploc bag.
Which one of the statements best explains her observation correctly?

(1) Steam was seen coming out of the Ziploc bag.
(2) Water vapour evaporated and formed water droplets.
(3) Water droplets condensed to become water vapour.
(4) Water vapour condensed on the inside of the Ziploc bag. ( )

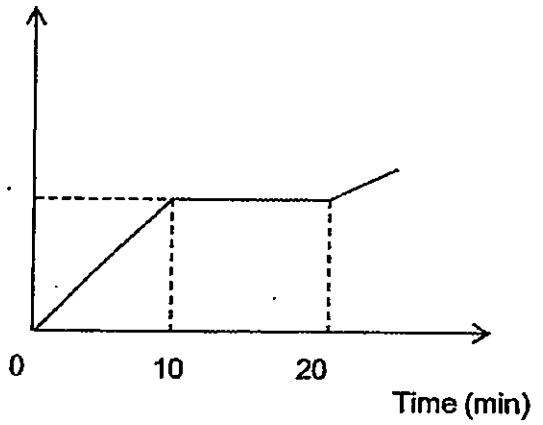
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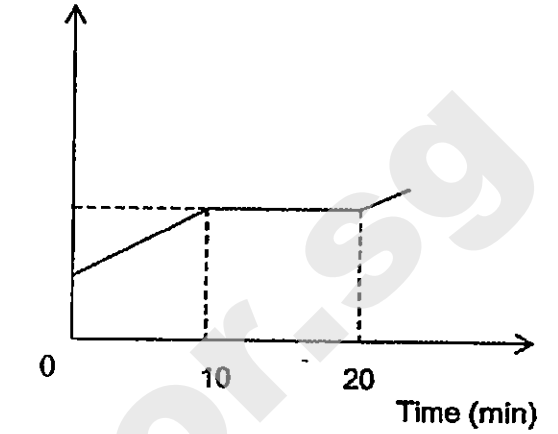
6. Claudia heated a pot of tap water in her kitchen for 10 minutes until it started boiling. She continued boiling it for 10 minutes before adding a packet of instant noodles into the water.

Which of the following graphs shows the changes in the temperature of water correctly?

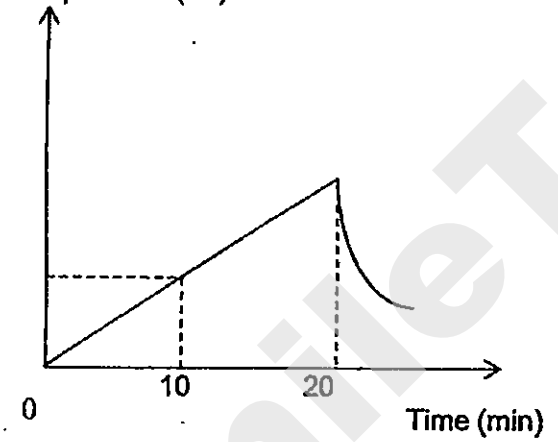
(1)



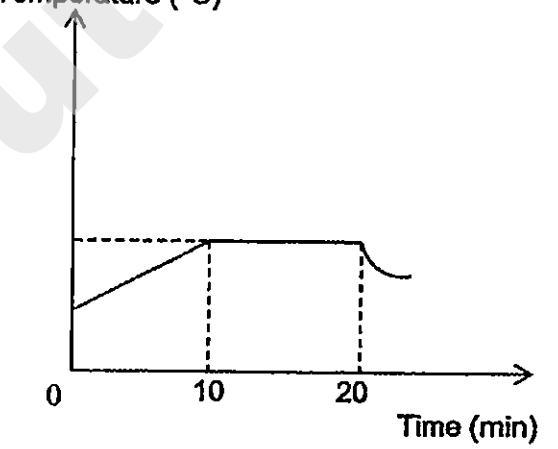
(2)



(3)



(4)

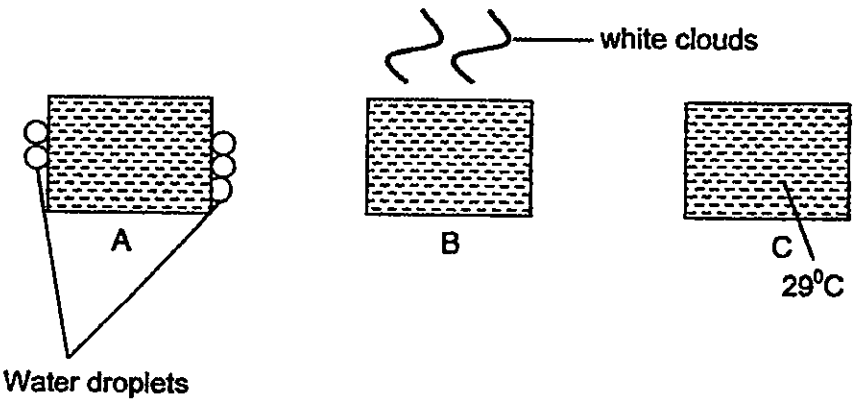


( )

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7. The figure below shows three similar containers, A, B and C, placed on a table with room temperature at 29^0C. Each of the containers contains water at different temperatures.



Water in Container C is about 29^0C.
Which of the following states the correct temperature of water in Containers A and B?

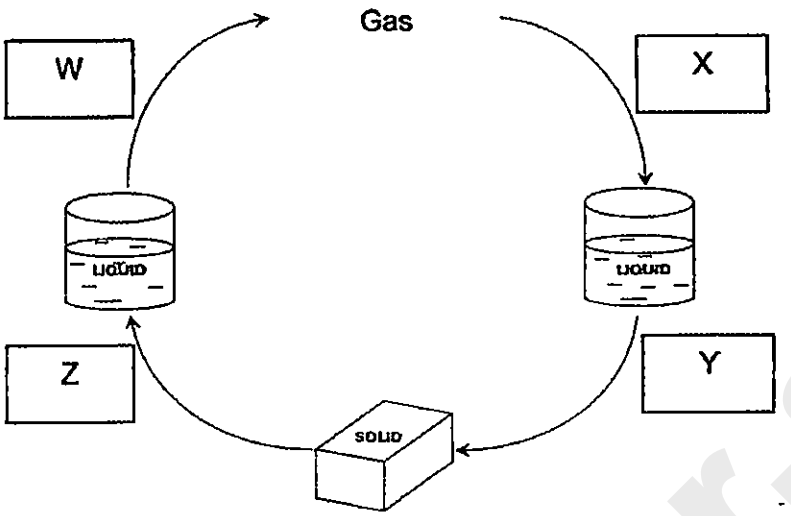
	Container A	Container B
(1)	10^0C	95^0C
(2)	95^0C	10^0C
(3)	15^0C	30^0C
(4)	10^0C	10^0C

( )

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8. The diagram below shows a water cycle. W, X, Y and Z show change in states of water during which heat is gained or lost.



Which one of the following correctly represents W, X, Y and Z?

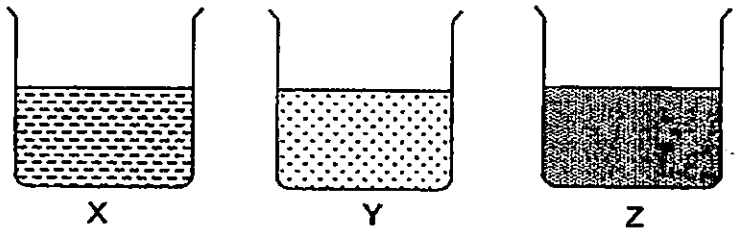
	W	X	Y	Z	
(1)	Heat Loss	Heat Loss	Heat Gain	Heat Gain	
(2)	Heat Gain	Heat Loss	Heat Loss	Heat Gain	
(3)	Heat Gain	Heat Gain	Heat Loss	Heat Loss	
(4)	Heat Loss	Heat Gain	Heat Loss	Heat Gain	( )

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9. Mary performs the following experiment on evaporation.

She fills three beakers with an equal volume of different liquids X, Y and Z as shown below. She places the three beakers in an open field, where it is sunny and windy.



After two hours, she records the volume of liquid remaining in each of the three beakers.

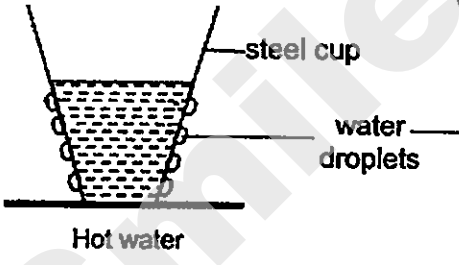
What is the independent variable of this experiment?

(1) Type of liquid
(2) Strength of wind
(3) Exposed surface area of water
(4) Temperature of surrounding air ( )

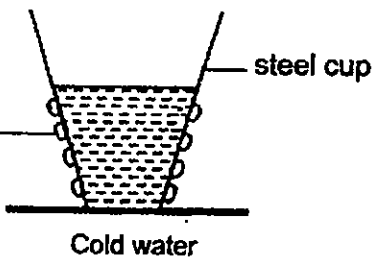
10. An experiment was set up to investigate condensation of water vapour. The same amount of hot water at 90^0C or cold water at 10^0C was poured into four similar steel cups.

Which one of the following correctly shows where water droplets would likely be observed after one minute?

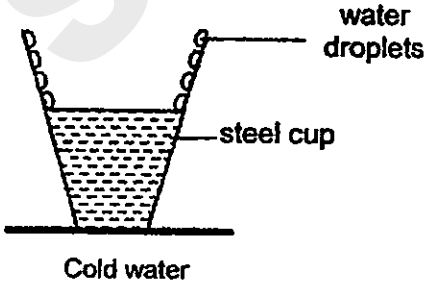
(1)



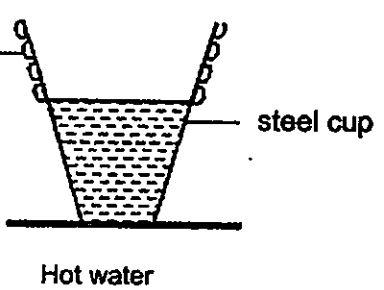
(2)



(3)



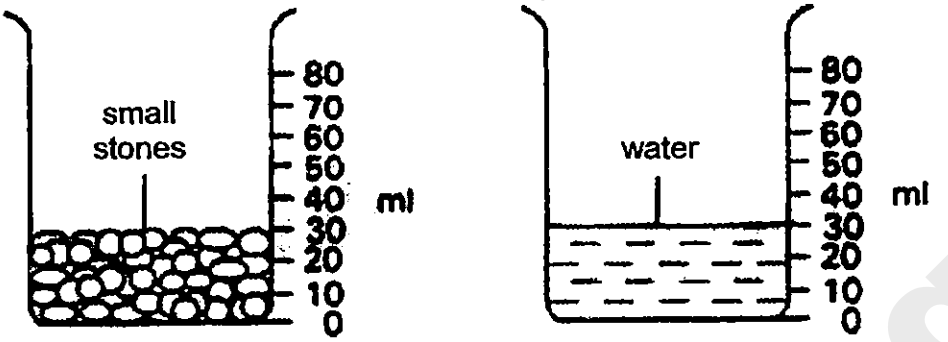
(4)



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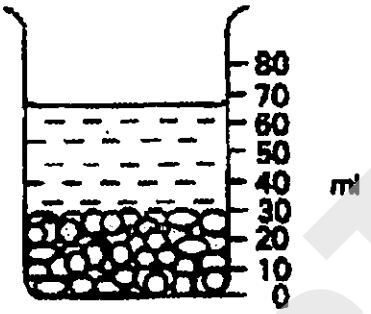
11. Jovan filled beaker A with small stones and beaker B with 30 ml of water.



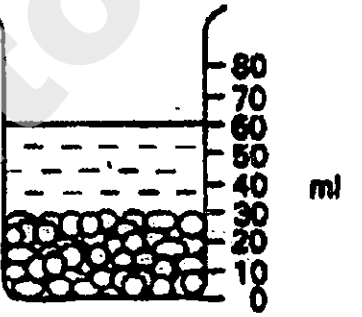
Beaker A Beaker B

Which one of the following diagrams most likely shows the water level in Beaker A after all the water from Beaker B has been poured into it?

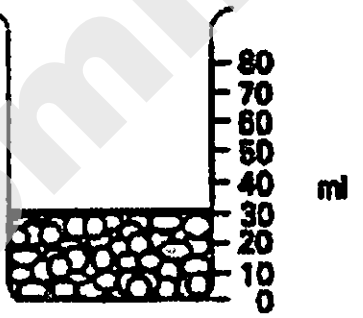
(1)



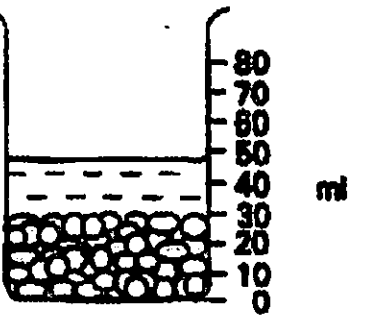
(2)



(3)



(4)

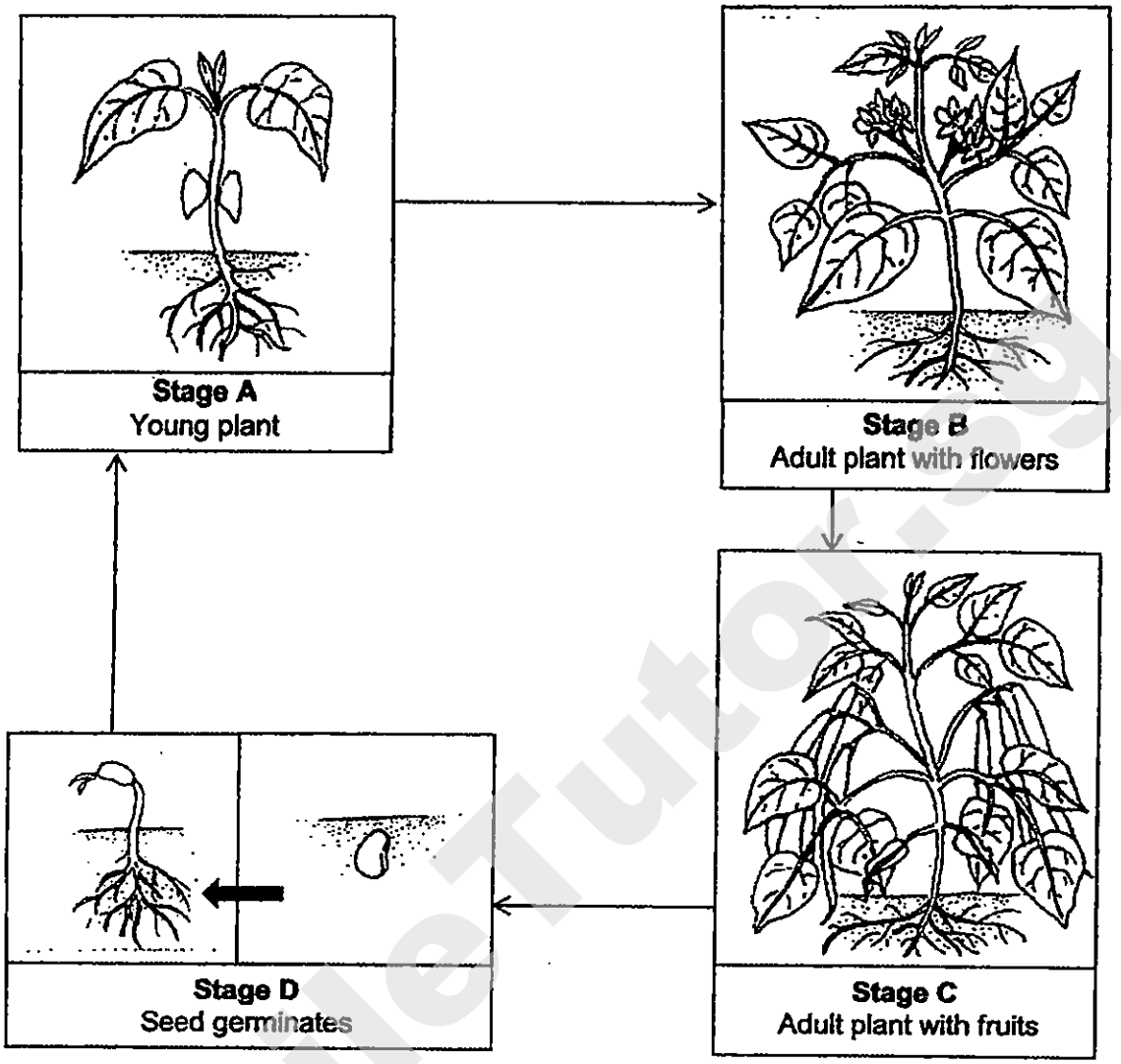


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12. Observe the diagram of the life cycle of a flowering plant below.



At which stage A, B, C or D of its life cycle has fertilisation **definitely** taken place?

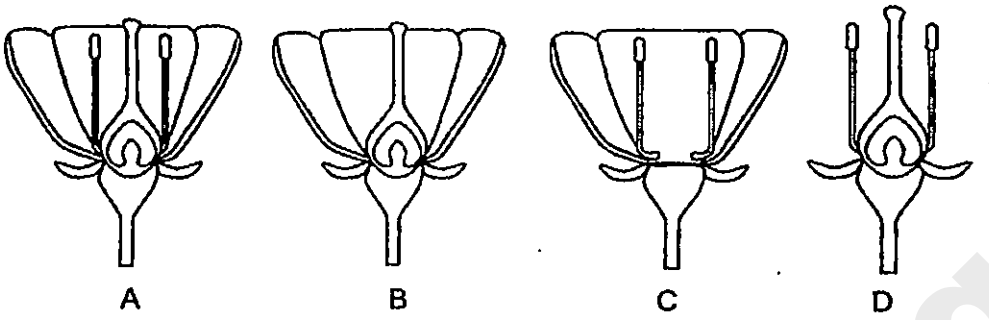
(1) A
(2) B
(3) C
(4) D

( )

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13. The diagram below shows flowers A, B, C and D. Pollen grains from flowers of the same type were dusted over each flower.



Which of the above flower(s) is/are likely to develop into a fruit?

(1) C only
(2) B and C only
(3) A and D only
(4) A, B and D only

( )

14. Jim recorded his observations about some flowers during his learning journey to the Singapore Botanic Gardens in the table below.

Flower	Size of petals	Colour of petals	Sweet scent	Presence of nectar
W	Small	Dull	No	No
X	Large	Bright	Yes	Yes
Y	Small	Bright	Yes	Yes
Z	Large	Dull	Yes	No

Based on his data, the pollen grains from which flower(s) is/are likely to be sticky or spiky?

(1) X only
(2) X and Y only
(3) W and Z only
(4) W, Y and Z only

( )

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15. Tim wanted to conduct an experiment using five seeds of a plant to measure the time taken for each to reach the ground when dropped from a certain height.

Before he started the experiment, he recorded some data about the seeds in the table below.

Seed	Mass of seeds (g)	Number of wing-like parts	Length of wing-like parts (cm)
A	2	1	4
B	4	1	4
C	4	1	3
D	2	2	4
E	2	3	4

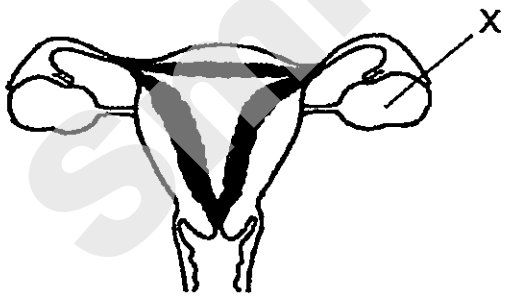
Which seeds can he use to find out how the number of wing-like parts will affect the distance the seeds will be dispersed?

(1) A and B only
(2) C and E only
(3) A, D and E only
(4) B, C and E only

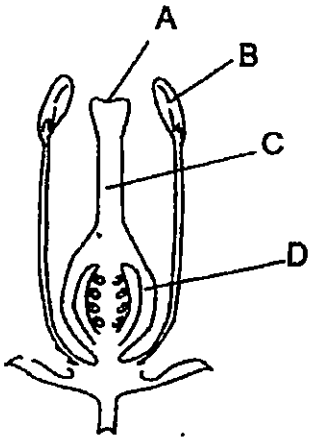
( )

The following diagrams are for questions 16 and 17.

16. Observe the diagrams of the human and plant reproductive systems below.



Human



Which part(s) of the plant reproductive system perform(s) the same function as that of part X?

(1) A only
(2) B only
(3) D only
(4) A, C and D only

( )

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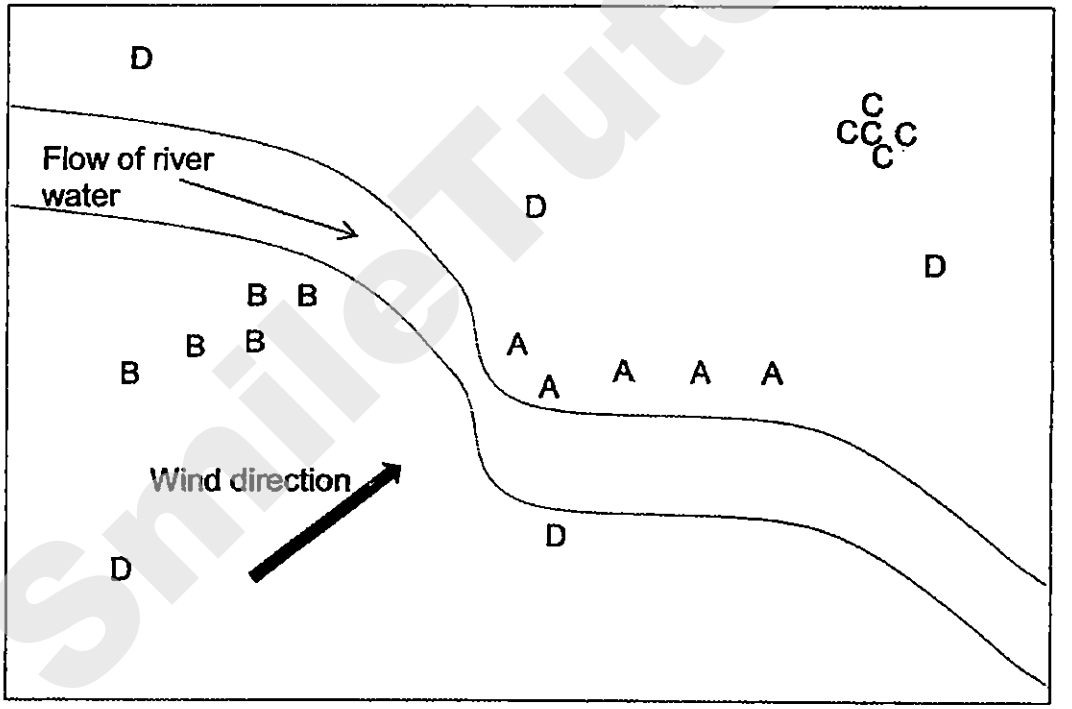
17. After fertilisation, what will happen to the reproductive plant part that you have identified in question 16?

(1) It turns brown.
(2) It will become the fruit.
(3) It dries up and falls off.
(4) It will become the seeds. ( )

18. Jim found the fruits of two plants and recorded his findings in the table.

Plants	Description of fruit
P	Small seeds, fleshy and sweet
Q	Hard, dry pod with small seeds

Study the diagram below that shows the possible patterns of the growth of new plants P and Q on a piece of land.



Which one of the letters, A, B, C or D represents the pattern of the growth of new plants P and Q that Jim is likely to observe after some time?

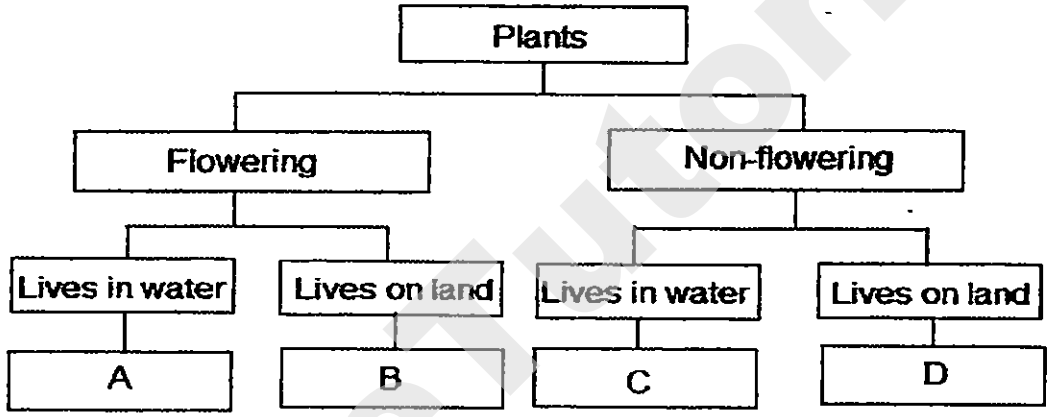
	Plant	
	P	Q
(1)	D	C
(2)	C	D
(3)	B	A
(4)	D	A

( )

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19. Ben observed four different plants and recorded the data in the table below. He *placed a tick (✓) when the characteristic was observed.*

Plant	Characteristics observed		
	Lives on land	Lives in water	Has spores
W	✓		
X		✓	✓
Y		✓	
Z	✓		✓



Based on his data, which one of the following correctly classifies the four plants?

	A	B	C	D
(1)	X	Z	Y	W
(2)	Y	W	X	Z
(3)	Z	Y	W	X
(4)	W	X	Z	Y

( )

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20. Peter wanted to find out if overcrowding affects the germination of seeds.
He conducted the experiment using 4 similar pots, A, B, C and D.

Variables	**A**	**B**	**C**	**D**
Duration of experiment	3 days	5 days	5 days	5 days
Location	In the room	In the room	In the field	In the room
Number of seeds	10	10	30	30
Amount of water given daily (ml)	10	20	10	20
Amount of soil (g)	500	300	500	300

Which two pots should Peter choose to ensure that his experiment is a fair test?

(1) A and B only

(2) A and C only

(3) B and D only

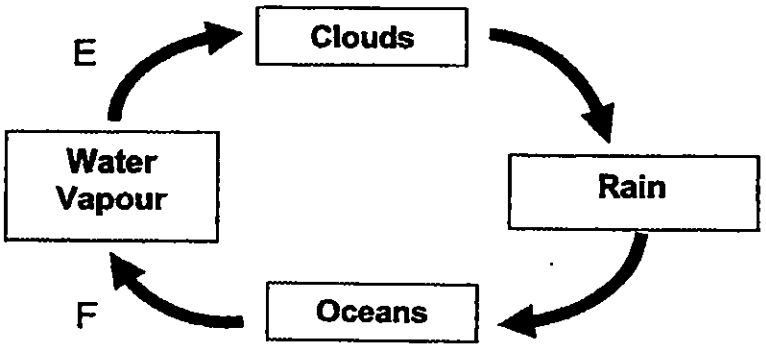
(4) C and D only

( )

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Study the water cycle below and answer questions 21 and 22.



21. Which of the following represents the processes, E and F, respectively?

	E	F
(1)	Evaporation	Melting
(2)	Evaporation	Condensation
(3)	Condensation	Evaporation
(4)	Freezing	Condensation

( )

22. Which of the following are correctly matched to the processes, E and F of the above water cycle?

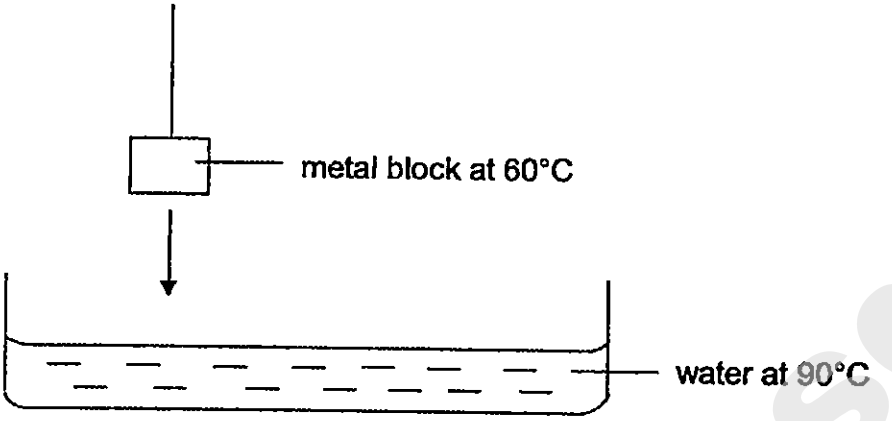
	E	F
(1)	Heat gain	Heat gain
(2)	Heat gain	Heat loss
(3)	Heat loss	Heat gain
(4)	Heat loss	Heat loss

( )

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23. Alex lowered a metal block at 60°C into a container of water at 90°C as shown below.



Which of the following statements shows correctly what Alex would observe after a few minutes?

(1) The temperature of water decreased.
(2) The temperature of water increased.
(3) There was no change in the temperature of water.
(4) The temperature of water increased, then decreased. ( )

24. Which of the following would cause water **pollution**?

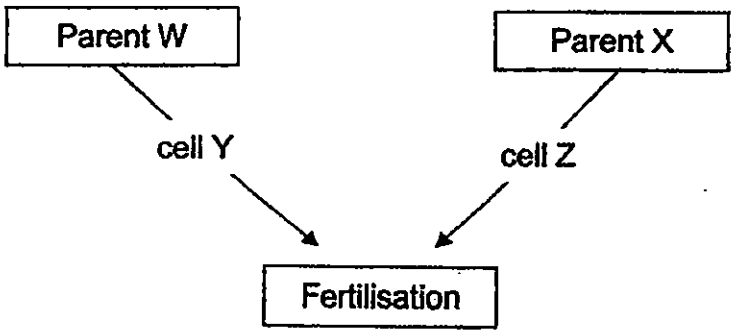
A: Recycling water
B: Dumping waste into the sea
C: Littering into lakes and rivers
D: Treatment of dirty water before releasing it into the sea

(1) A and B only
(2) B and C only
(3) A, B and C only
(4) A, C and D only ( )

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25. The diagram below shows the process of reproduction in humans.



Which one of the following correctly states what W, X, Y and Z are?

	Parent W	Parent X	cell Y	cell Z
(1)	male	female	egg	sperm
(2)	female	male	sperm	sperm
(3)	male	female	sperm	egg
(4)	female	male	egg	egg

( )

26. Which of the following statements are correct?

A: Living things reproduce to ensure the continuity of their own kind.
B: Only animals pass their characteristics to their young.
C: Sexual reproduction process in humans involves two parents.

(1) A and B only
(2) B and C only
(3) A and C only
(4) A, B and C

( )

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27. Mary observed and recorded some physical characteristics of her two dogs and their puppy in the table shown below.

Physical Characteristics	Male Dog	Female Dog	Puppy
Long fur	No	Yes	Yes
Short tail	Yes	No	Yes
Black spots	Yes	No	No
V-shaped ears	No	Yes	Yes

Which of the following statements based on the above table are correct?

The puppy _____.

A: inherited its male parent's long fur.
B: did not inherit its male parent's black spots.
C: did not inherit its female parent's V-shaped ears.
D: inherited at least one characteristic from each of its parent.

(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only ( )

28. Which of the following statements about heat are correct?

A: Heat is matter.

B: Heat is a form of energy.

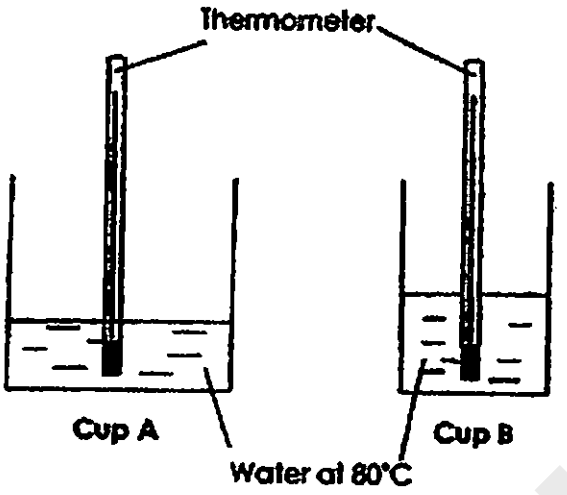
C: Our main source of heat is from the lamps.

D: Heat moves from a hotter place to a cooler place.

(1) A and C only
(2) B and D only
(3) A, B and C only
(4) B, C and D only ( )

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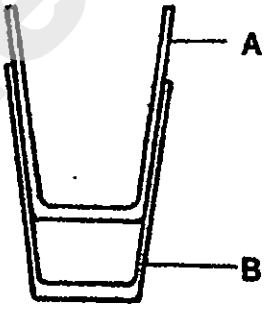
29. Paul wanted to find out which cup, each made of a different material, is a better conductor of heat. He poured the same volume of water into the cups. He measured the temperature of the water in the cups every minute.



Paul's teacher said that his experiment was **not** a fair one. Explain why.

(1) Size of the cups were different.
(2) The volume of water is the same.
(3) The temperature of water is the same.
(4) Cup A and Cup B were made of different materials. ( )

30. Janet wants to separate the two glasses, A and B, which are stuck together as shown below.



What should Janet do to separate the two glasses?

A: Pour hot water in A
B: Pour cold water in A
C: Place B in hot water
D: Place B in cold water

(1) A and C
(2) A and D
(3) B and C
(4) B and D ( )

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HENRY PARK PRIMARY SCHOOL
2015 SEMESTRAL EXAMINATION 1
SCIENCE
PRIMARY 5

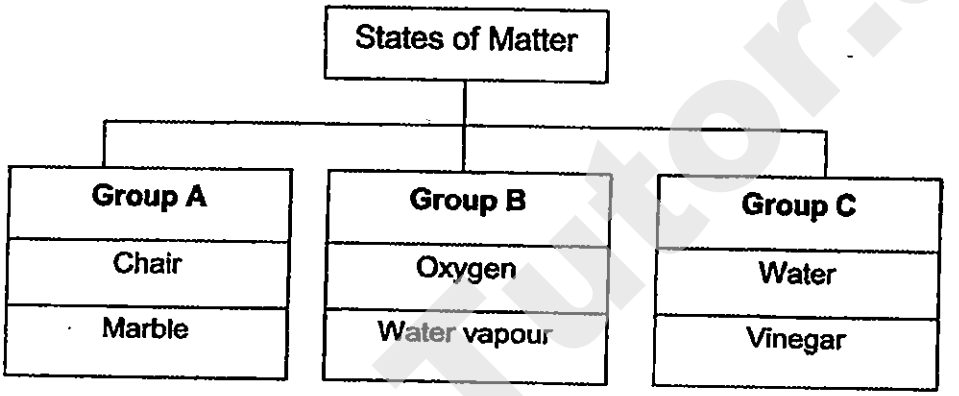
Name: _____ ( )

Class: Pr 5 _____

40

Booklet B (40 marks)
Write your answers to questions 31 to 44 in the spaces given.

31. Study the classification table below.



a) State suitable headings for Groups B and C. *(1m)*

Group B: _____

Group C: _____

b) State one difference in the property of matter in Group A and B: *(1m)*

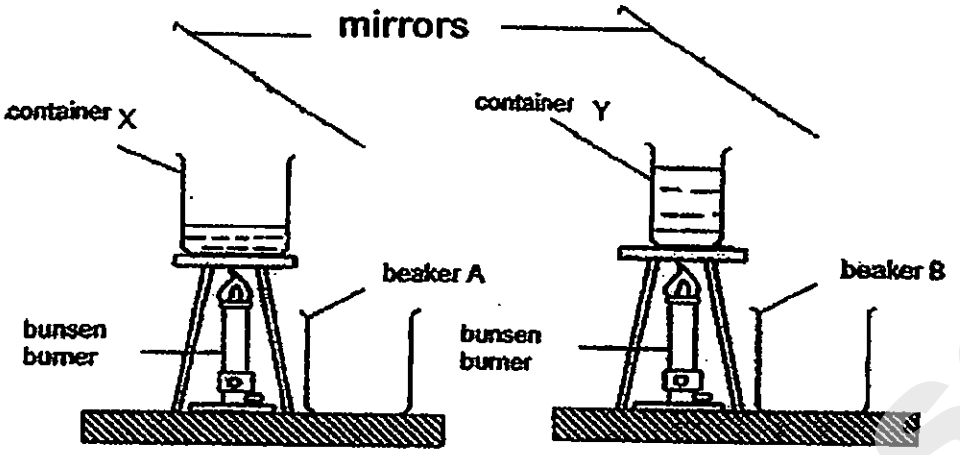
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32. John heated two containers, X and Y, with the same amount of tap water. He also placed 2 identical mirrors at the same angle above each beaker as shown below.



Set-up 1 Set-up 2

After an hour, John found water collected in Beakers A and B.

a) Explain how the water was collected in both beakers. *(2m)*

b) During the experiment more water was collected in Beaker A. Explain why *(2m)*

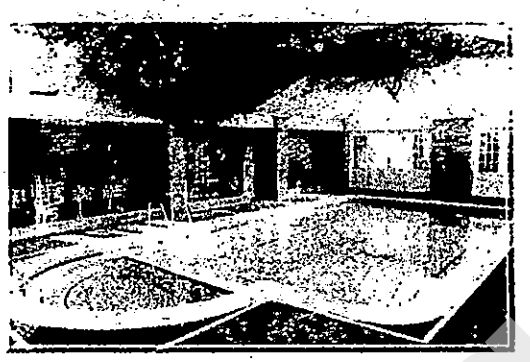
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33. The diagrams below show two types of swimming pool.



Outdoor pool (without shelter)



Indoor pool (with shelter)

a) The floor area around the outdoor pool is likely to be **drier** on a sunny day. Explain why. *(2m)*

_____

_____

b) Children at the indoor pool tend to slip easily when walking around the pool.

Explain how adding fans around the indoor pool reduces the number of children slipping. *(1m)*

_____

_____

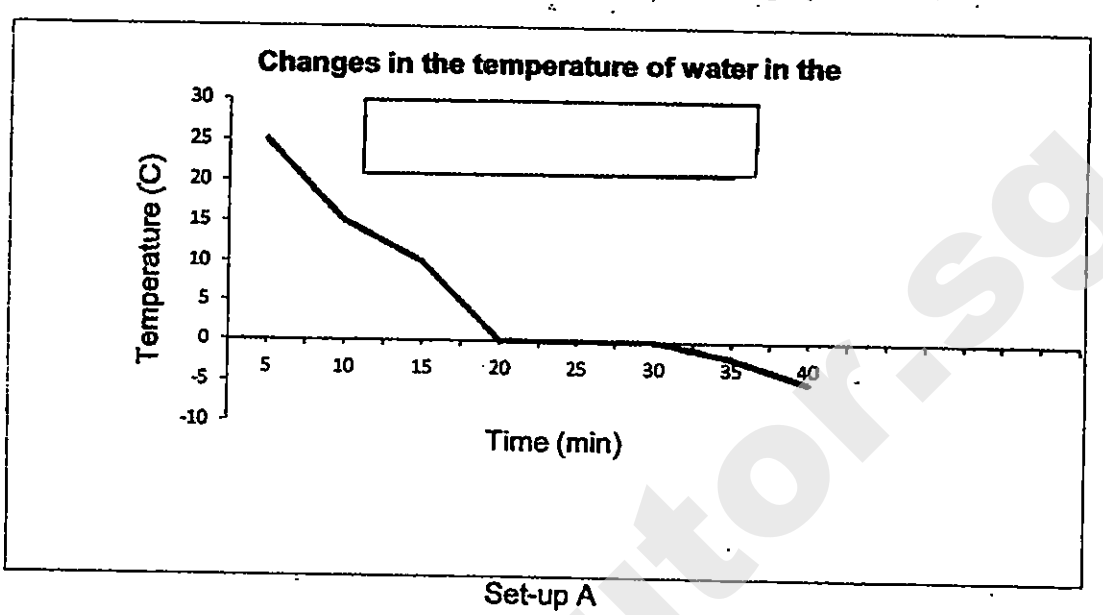
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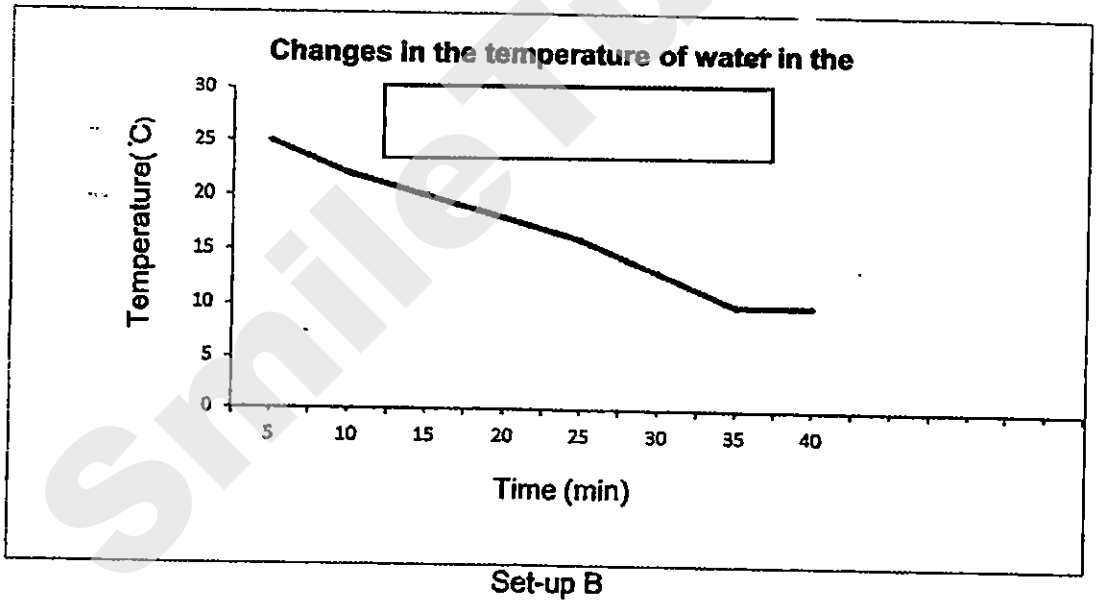
34. Two glasses of water (at room temperature and of the same volume) are placed in the refrigerator and the freezer at the same time.

The graphs below show changes of the temperature of water for duration of forty minutes.

a) Write **'Refrigerator'** or **'Freezer'** in the correct boxes in the graphs below. *(2m)*



Set-up A



Set-up B

b) What is the state of water in the glass in Set-up B between 35th and 40th minute? *(2m)*
Give a reason for your answer.

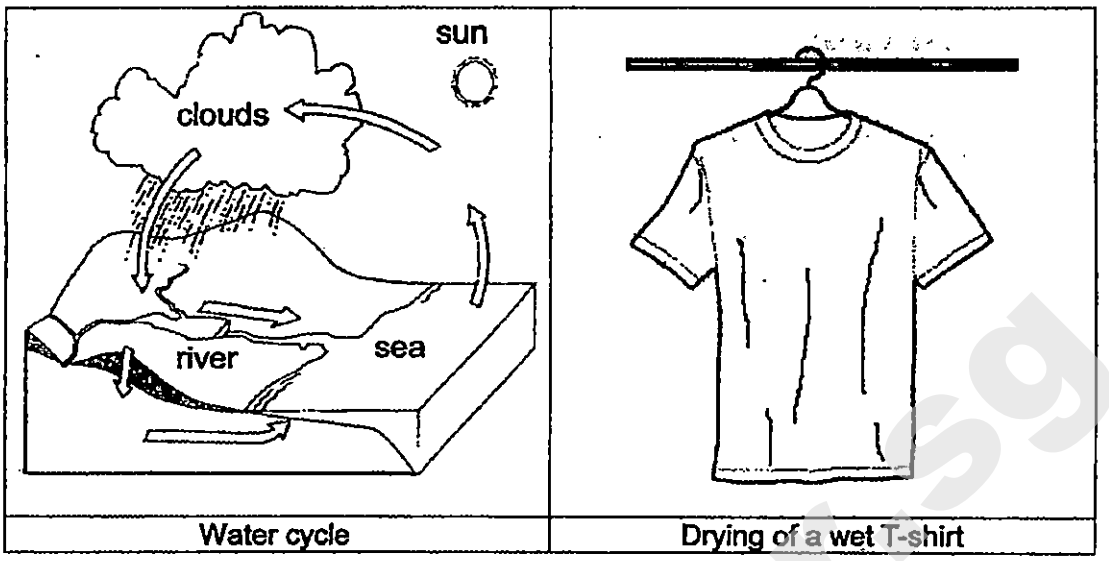
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35. The diagrams below show the water cycle and the drying of a wet T-shirt.



Water cycle | Drying of a wet T-shirt

a) Name the process that is observed in both the water cycle and the drying of the wet T-shirt. *(1m)*

_____

b) State **two** factors that can slow down the rate of evaporation of water. *(2m)*

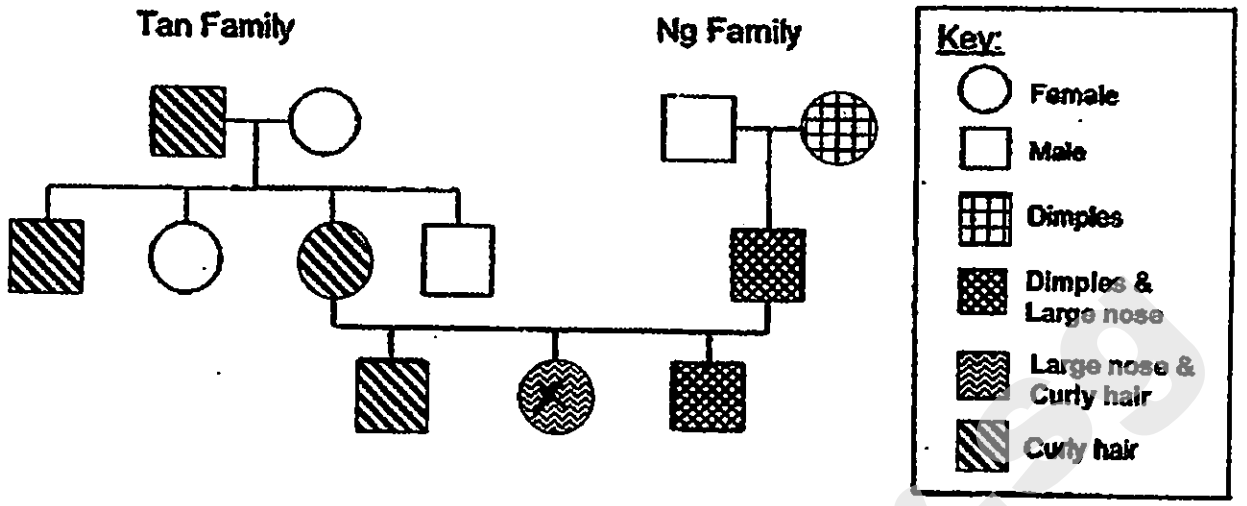
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36. Study the family tree below carefully.



a) Rachel is the daughter of Andrew Ng and Mary Tan. Write 'X' to indicate Rachel on the family tree above. *(1m)*

b) What feature did Rachel's father have that she did not inherit? *(1m)*

_____

c) What feature did Rachel inherit from her mother? *(1m)*

_____

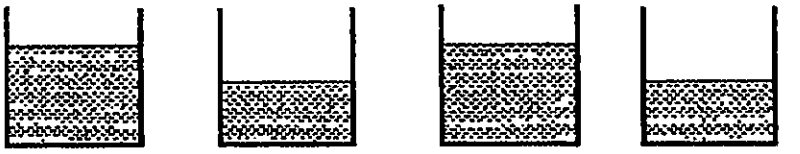
37. The following table shows the comparison between sexual reproduction in humans and in flowering plants.

Complete the table below by writing the correct word in each blank *(2m)*

	Humans	**Flowering plants**
Where male reproductive cell is produced	Testes	(a) _____
What happens after fertilisation	A foetus will develop in the (b) _____	The (c) _____ develops into a seed and the (d) _____ begins to swell.

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38. John has four beakers of water as shown below.



Beaker P	Beaker Q	Beaker R	Beaker S
600 ml of water at 70°C	400 ml of water at 70°C	600 ml of water at 85°C	400 ml of water at 20°C

a) Arrange the beakers, P, Q, R and S, in descending order according to the amount of heat they contain. *(1m)*



b) John wants to find out if the amount of water affects the amount of heat in each beaker. Which two set-ups should he use? *(1m)*

_____

_____

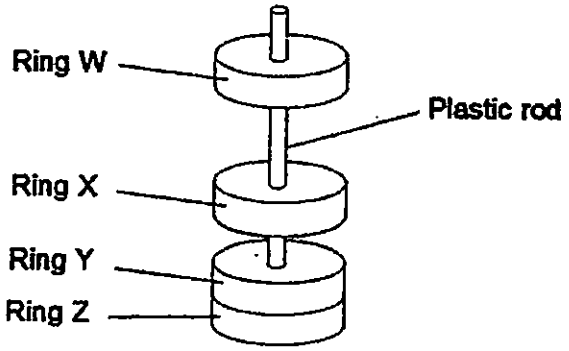
c) Name an instrument that is used to measure the temperature of water in each beaker accurately. *(1m)*

_____

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39. Mandel slotted four similar rings into a plastic rod and they came to rest in the positions shown below.



Four statements were made based on the above set-up.

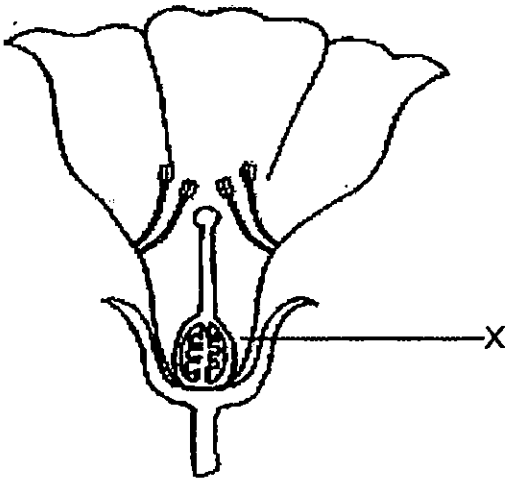
In the table below, put a tick (✓) under the correct heading to indicate if the statements are **'True'**, **'False'**, or **'Not Possible to Tell'**. *(2m)*

	Statement	True	False	Not possible to tell
(i)	All the four rings are definitely magnets.			
(ii)	Ring Z is made of iron.			
(iii)	The like poles of Rings W and X are facing each other.			
(iv)	Ring Y is made of plastic.			

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40. The diagram below shows the part of a flower.



(2m)

'X' shows where nectar is found in the flower.
Explain how this helps the flower to be pollinated by insects.

_____

_____

_____

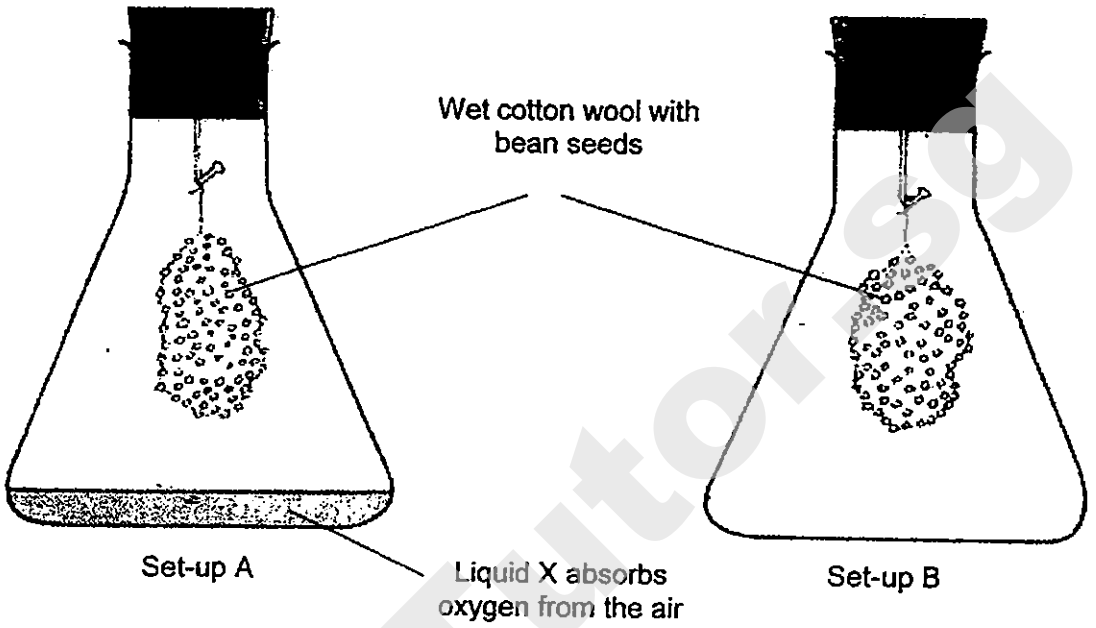
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41. Pete set up the experiment below to investigate the germination of bean seeds.

He soaked 2 similar-sized balls of cotton wool in the same volume of water, and attached the same number of bean seeds in each ball of cotton wool.

He then placed both set-ups under a lighted lamp for 5 days.



a) What is the purpose of the lighted lamp in the experiment above? *(1m)*

_____

b) State one other variable he had kept the same to conduct a fair test. *(1m)*

_____

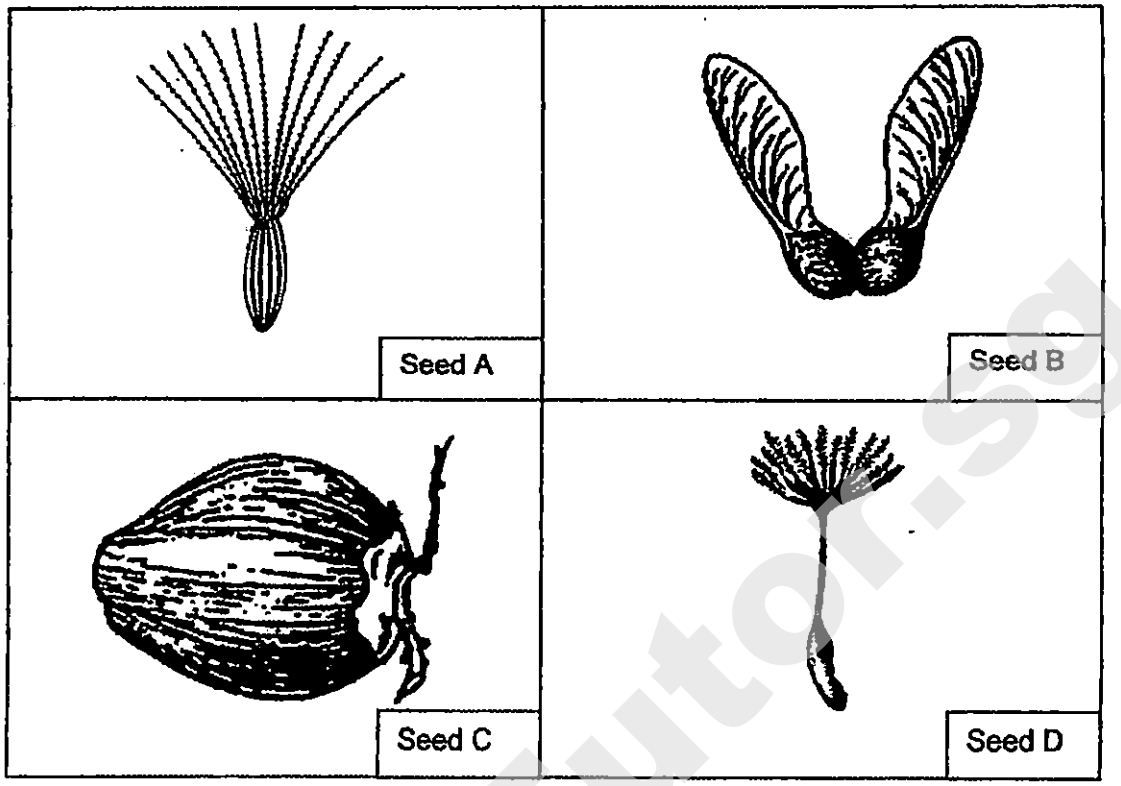
c) The bean seeds from which set-up (A or B) is not likely to germinate? Give a reason for your answer. *(1m)*

_____

_____

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42. Observe the characteristics of the seeds below carefully.



a) Which one of the seeds is likely to be dispersed differently from the rest? *(1m)*

_____

b) Explain clearly your answer in (a). *(2m)*

_____

_____

c) How is seed B dispersed? Based on your observation, give a reason for your answer. *(1m)*

_____

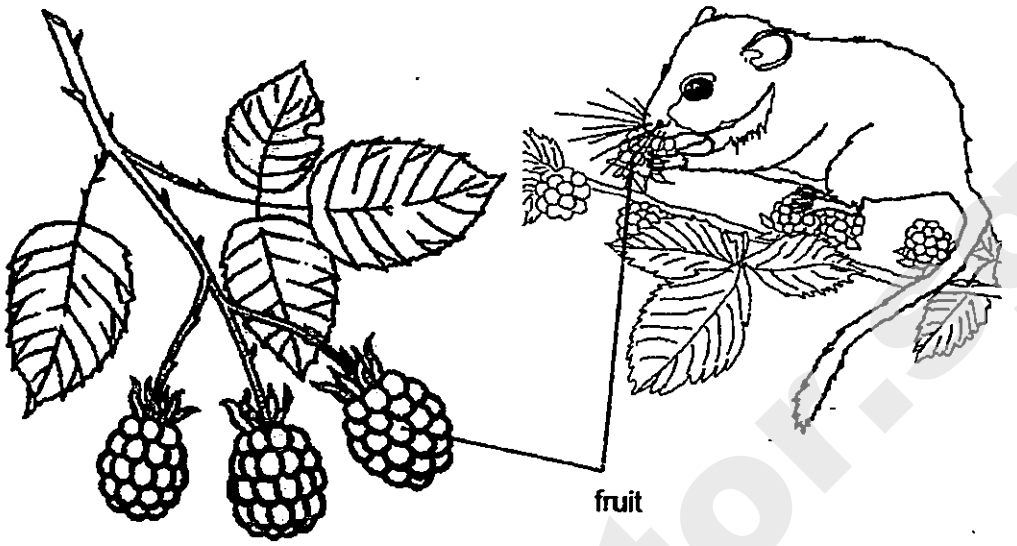
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43. Small animals help plants disperse their seeds when they eat the fruit and swallow the seeds.

The seeds are often found in the animals' droppings far away from the parent plants.



a) State <u>two</u> characteristics of the seeds of these plants. *(1m)*

(i) _____

(ii) _____

b) State <u>one</u> advantage to the plants when its seeds are carried far away from the parent plant. *(1m)*

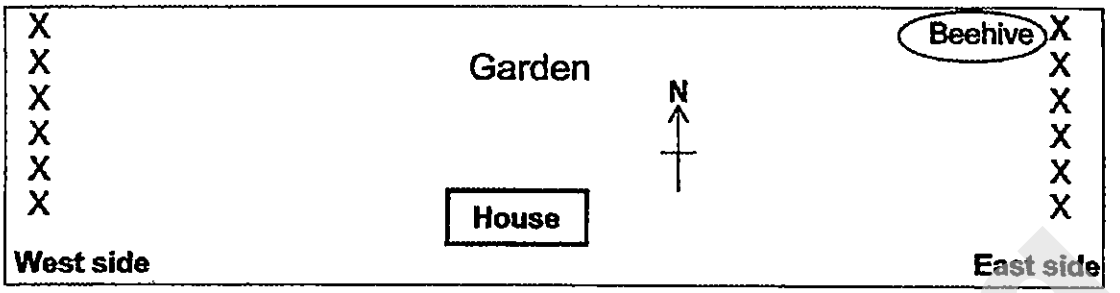
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44. The diagram below shows the layout of Jen's house and garden.
There are six adult fruit trees growing, on each side of the West and East side of the garden.
Jen noticed a small beehive in one of the trees growing on the East side.



Legend

X : *Fruit trees*

Jen observed the number of flowers and fruits from all her fruit trees over a four-year period (2011 - 2014) and recorded the numbers in the table below.

Year	Trees in the West side		Trees in the East side	
	Number of flowers	Number of fruits	Number of flowers	Number of fruits
2011	29	10	24	23
2012	34	12	33	33
2013	42	15	42	39
2014	38	9	36	35

a) Which side of the garden, West or East, produced **more** fruits over the four years? *(1m)*

_____

b) Suggest a reason for your answer in (a). *(2m)*

_____

_____

End of Booklet B

Setters: Mr Nelson Tong
Mdm Cecilia Quah
Ms Rebecca Lo

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EXAM PAPER 2013
LEVEL : PRIMARY 5
SCHOOL : HENRY PARK PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	4	1	2	4	4	1	2	1	2
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
4	3	4	2	3	3	2	1	2	3
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	2	1	2	3	3	3	2	1	3

Q31a. Group B : Gaseous Q31a. Group C: Liquid

Q32b. Group A has definite volume while Group B does not has definite volume.

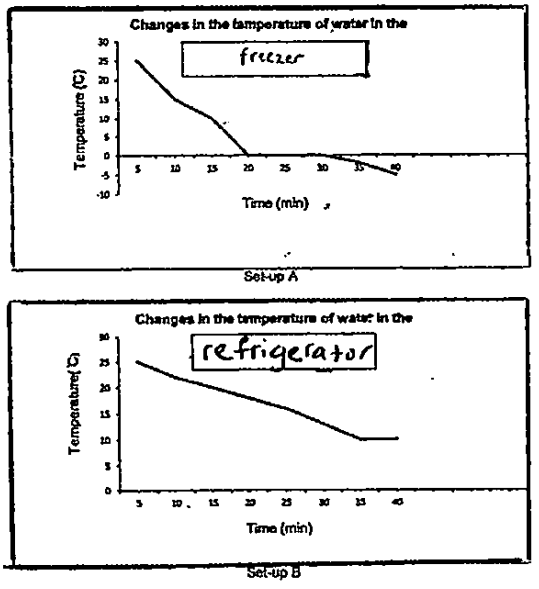
Q32a. The water in container X and container Y will gain heat by the busen burner and evaporate into water vapour. The water vapour will lose heat condense on the cool side of the mirror.

Q32b. Container X has a larger exposed surface area of water compared to container Y, hence container X will gain heat faster than container Y.

Q33a. Evaporation of water is faster as the surrounding temperature is higher.

Q33b. The increase of the amount of wind will make the water evaporate faster.

Q34a. **SEE PICTURE**



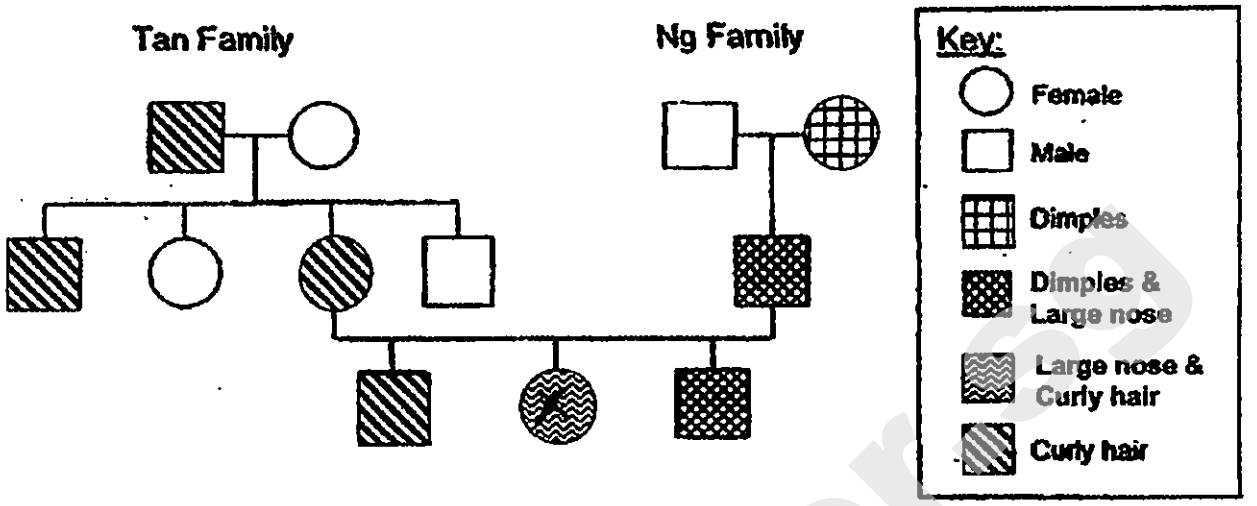
Q34b. Liquid. It has not reach the freezing point and just stop at the surrounding temperature.

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Q35a. Evaporation Q35bi) The high humidity Q35bii) The low temperature

Q36a. **SEE PICTURE**



Q36b. His dimples Q36c. Her curly hair.

Q37a. Anther Q37b. womb Q37c. ovule Q37d. Stem

Q38a. R → P → Q → S

Q38b. Set up P and set up Q

Q38c. The thermometer

Q39ai) Not possible to tell
Q39aii) Not possible to tell
Q39iii) TRUE
Q39iv) FALSE

Q40. While the bee collects nectar from a flower, the pollen grain will stick onto the bee's body. When it goes to another flower, the pollen grain will land on the stigma.

Q41a. It provides warmth.

Q41b. Amount of water

Q41c. Set up A. It does not has oxygen to survive.

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Q42a. Seed C

Q42b. A, B and D have wind like structure but seed C does not has.

Q42c. Seed B is dispersed by wind. It has wind like structure .

Q43ai) It is indigestible Q43aii) It is small

Q43b. No model answer

Q44a. Eastside Q44b. There is a beehive nearby and the bees will help with the pollination and fertilize faster.

THE END

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METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

SEMESTRAL ASSESSMENT 1 2015
PRIMARY 5
SCIENCE

BOOKLET A1

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____ ( )

Class: Primary 5._____

Date : 14 May 2015

This booklet consists of 12 printed pages including this page.

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For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet (OAS).

[30 marks]

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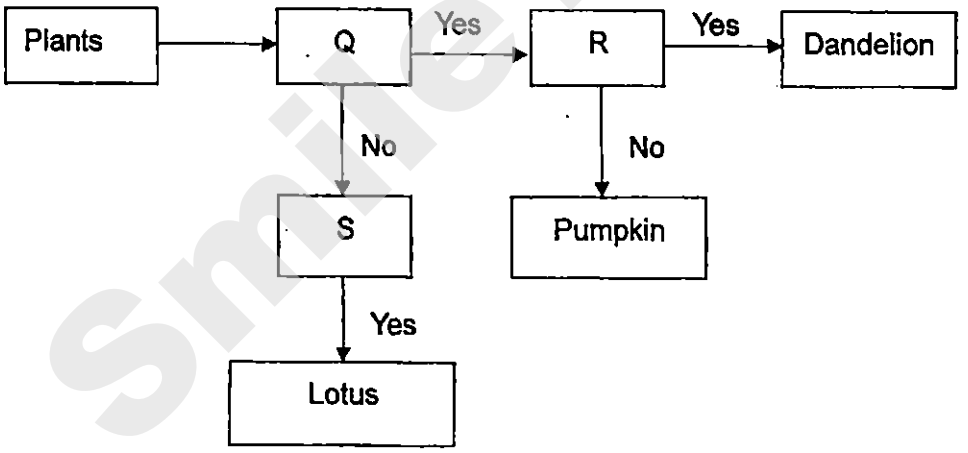
1. The table below shows how a pigeon, a bat, a platypus and a cat can be classified.

Animals			
Lays eggs		Does not lay eggs	
Has feathers	Has hair	Can fly	Cannot fly
pigeon	platypus	bat	cat

One of the purposes of this classification table is to show that a _____.

(1) cat and a bat do not reproduce
(2) bat and a platypus are mammals
(3) pigeon can fly but a platypus cannot
(4) platypus lays eggs but a bat does not

2. Study the flow chart below.



Which of the following best describes headings for Q, R and S?

	Q	R	S
(1)	Grows on land?	Dispersed by wind?	Reproduced from seeds?
(2)	Grows on land?	Dispersed by animal?	Reproduced from flowers?
(3)	Grows in water?	Dispersed by water?	Reproduced from seeds?
(4)	Grows in water?	Dispersed by water?	Reproduced from fruits?

(Go on to the next page)

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3. The table below shows the comparison between the life cycle of a butterfly and a grasshopper.

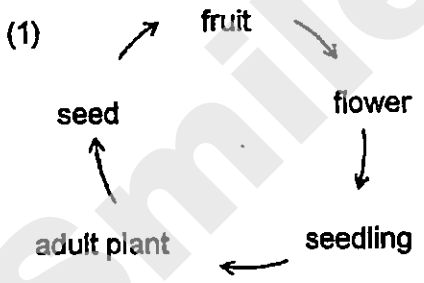
	Statements	Butterfly	Grasshopper
A	It has a four-stage life cycle.	Yes	Yes
B	The young has a pair of wings.	No	Yes
C	The young ~~does not resemble~~ resembles its parents.	No	Yes
D	The young undergoes moulting several times.	Yes	Yes

Which of the statements show the correct comparison?

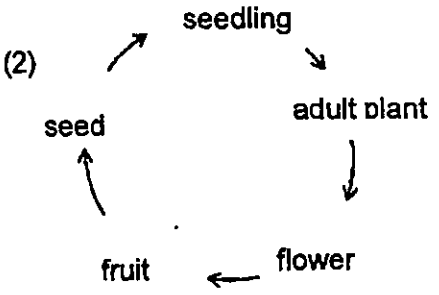
(1) A and B only
(2) C and D only
(3) A, B and D only
(4) B, C and D only

4. Which one of the following diagrams shows the stages of development in a flowering plant?

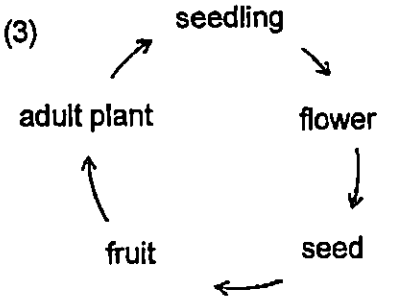
(1)



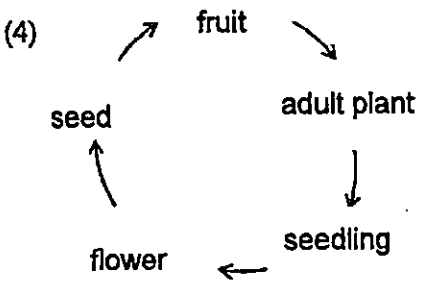
(2)



(3)



(4)



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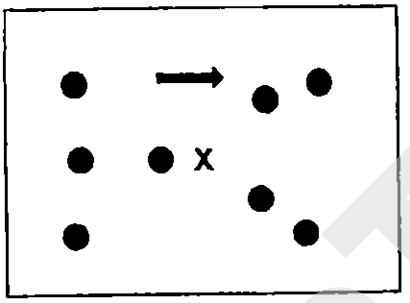
5. Salim found a fruit as shown below while he was walking in MacRitchie Reservoir.



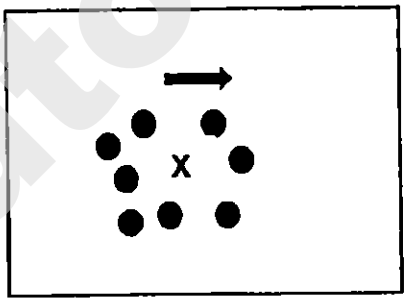
KEY:
- ➡ wind direction
- X parent plant
- ● position of fruits

Based on the structure of the fruit, which one of the diagrams below best illustrates the dispersal pattern of the fruit?

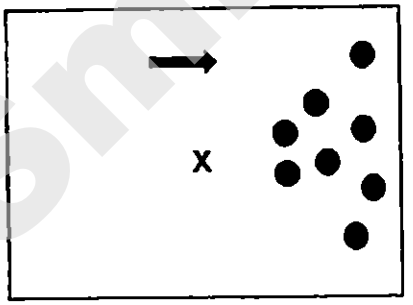
(1)



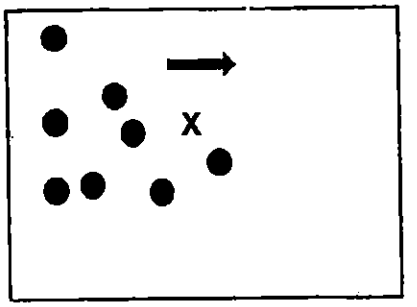
(2)



(3)



(4)

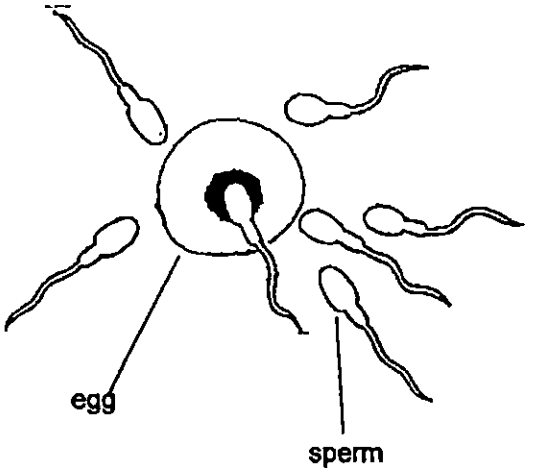


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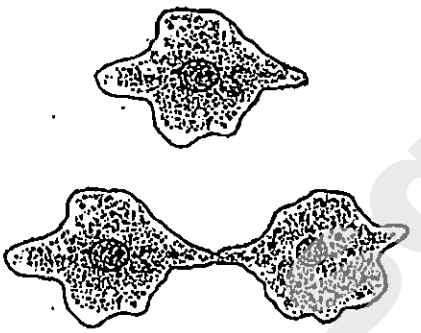
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6. The diagrams show how reproduction takes place in a human and an amoeba.



Fusion of human sperm and egg



Cell division in amoeba

Which of the following pair of statements about the two methods of reproduction is **not correct**?

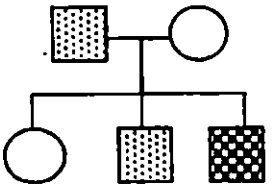
	Human	Amoeba
(1)	Two parents (a male and a female) are involved.	Only one organism is involved.
(2)	The offspring has some of the characteristics of both parents.	The two amoebae have identical characteristics as their parent.
(3)	Fertilisation is required.	No fertilisation is required.
(4)	Cells multiply through budding.	Cells divide and multiply.

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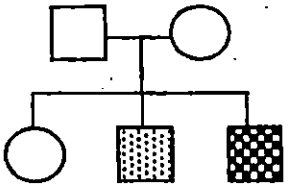
7. Ali has a rare blood disease. His mother and sister do not have this disease. However, his father and brother are carriers of this disease. Which one of the family trees shown below correctly represents the above information?
(A carrier is a person who is infected with the disease but does not display any symptoms.)

(1)



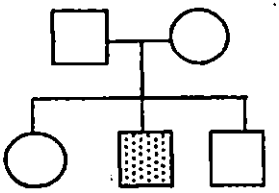
Ali

(2)



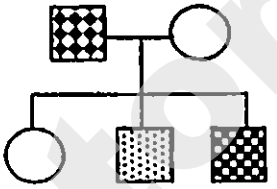
Ali

(3)



Ali

(4)



Ali

Key:

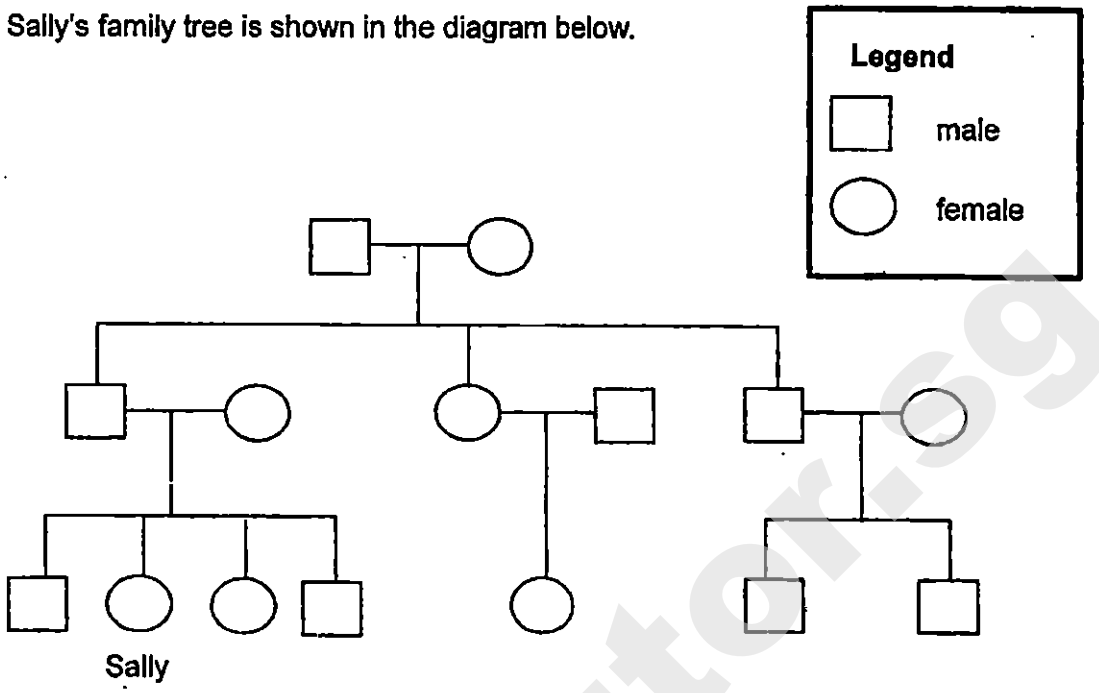


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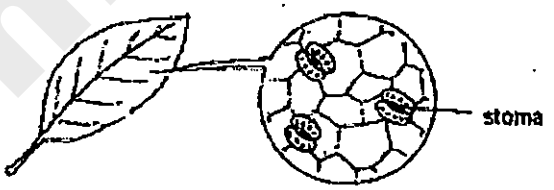
8. Sally's family tree is shown in the diagram below.



How many cousins does Sally have?

(1) 1
(2) 2
(3) 3
(4) 6

9. Study the diagram below.



Which of the following is **not** a function performed by the stomata?

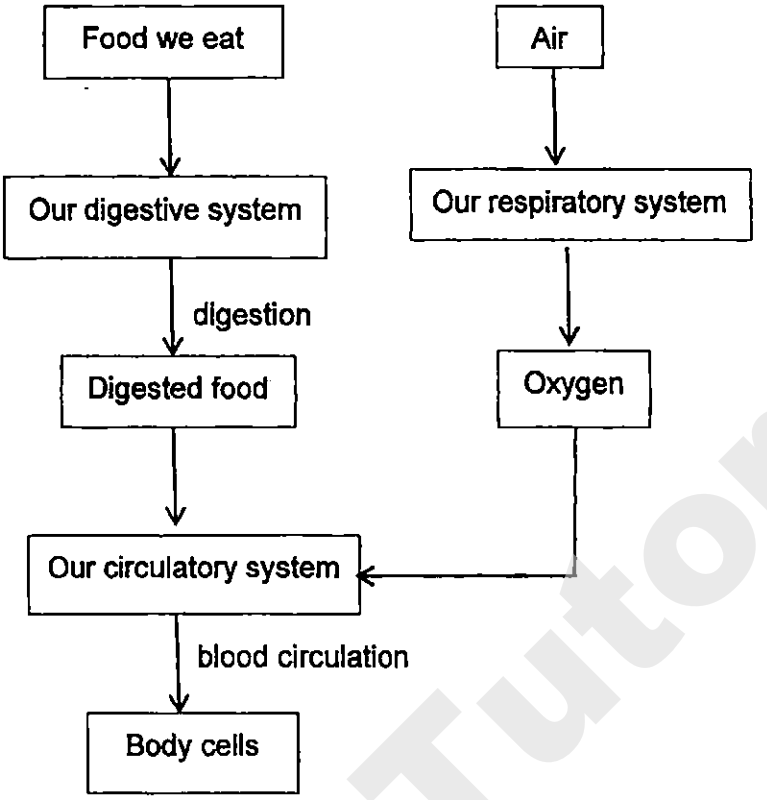
(1) Trap sunlight to make food for the plant.
(2) Take in carbon dioxide and give out oxygen.
(3) Take in oxygen and give out carbon dioxide.
(4) Allow excess water to evaporate from the leaves.

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10. Study the flowchart below carefully.



Based only on the flowchart above, what information can you gather from it?

A : breathing take place in our circulatory system.
B : Our circulatory system transports digested food and oxygen to our body cells.
C : The food we eat is completely digested in the small intestine in our digestive system.
D : Different systems in our body work together to carry out life processes efficiently.

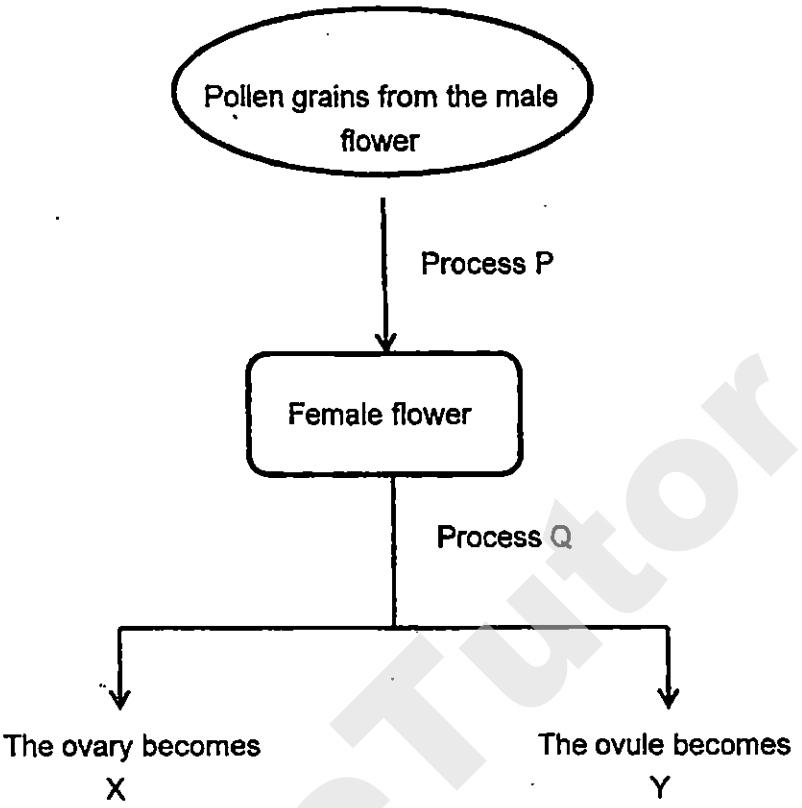
(1) A and C only
(2) B and D only
(3) A, C and D only
(4) All of the above

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11. Study the diagram below carefully.



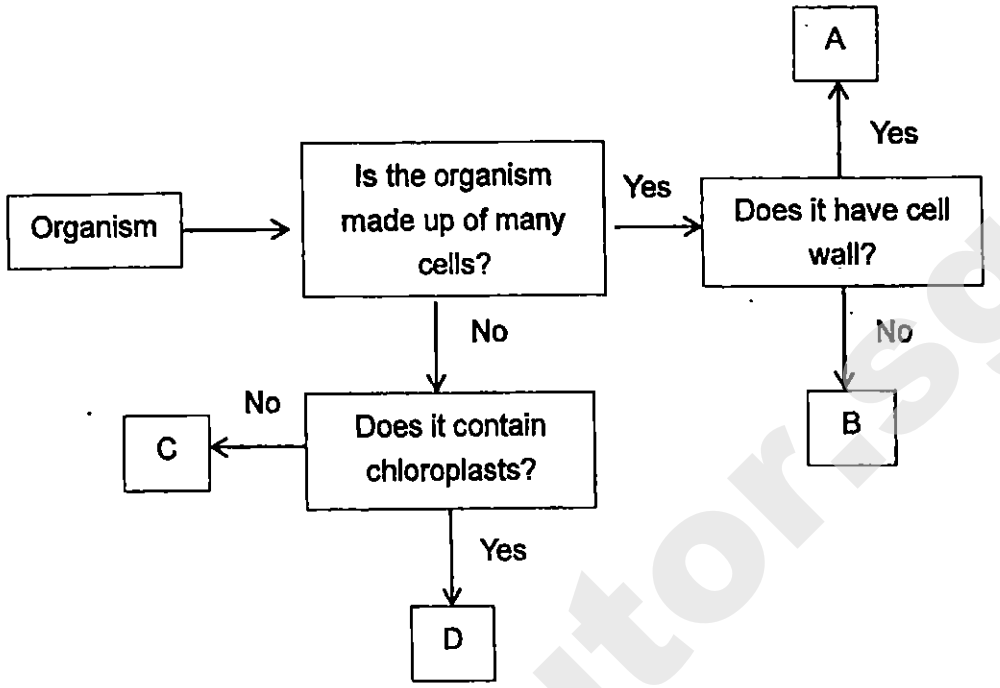
Which one of the following correctly represents P, Q, X and Y?

	Process		Part of the plant	
	P	Q	X	Y
(1)	Fertilisation	Pollination	Seed	Fruit
(2)	Pollination	Fertilisation	Fruit	Seed
(3)	Pollination	Fertilisation	Seed	Fruit
(4)	Fertilisation	Pollination	Fruit	seed

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12. Study the flowchart below.



Based on the information given in the flowchart, what are organisms, A,B,C and D?

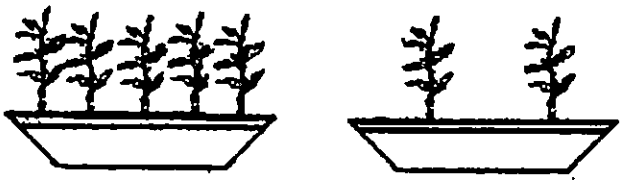
	A	B	C	D
(1)	moss	amoeba	algae	mimosa
(2)	mimosa	insect	bacterium	algae
(3)	insect	bacterium	mushroom	moss
(4)	amoeba	algae	insect	bacterium

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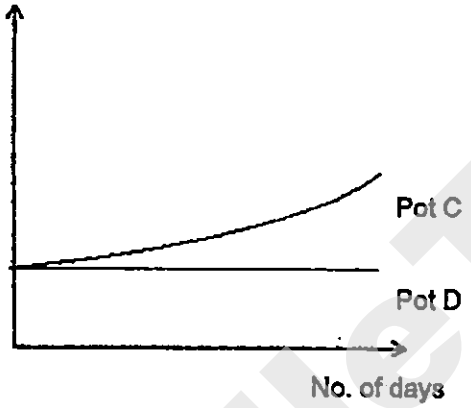
13. Some seedlings were planted in two identical pots, C and D for two weeks. The pots had the same amount of soil and were placed side by side in the garden, receiving the same amount of sunlight. The pots were given the same amount of water daily.



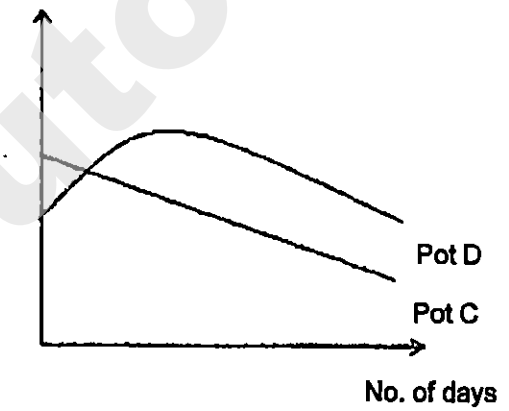
Pot C Pot D

Which graph below correctly shows the average heights of the plants in pots C and D?

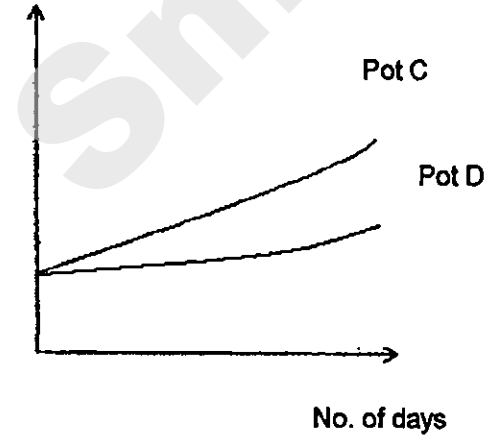
(1)



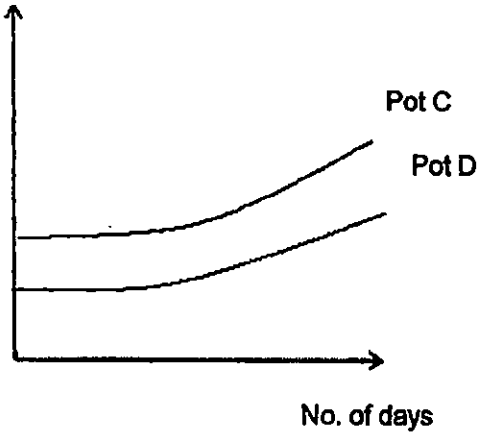
(2)



(3)



(4)

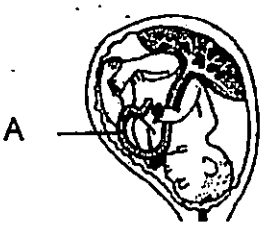


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14. The diagram below shows a developing baby in the mother's womb.



How does Part A help the developing baby ?

A : It carries digested food to the developing baby.
B : It carries oxygen to the developing baby.
C : It carries the developing baby's wastes to his mother to be removed.

(1) A only
(2) B and C only
(3) A and C only
(4) A, B and C

15. The table below describes the differences in sexual reproduction between plants and humans.

	Humans	Plants
Male sex cell	sperm	X
Female sex cell	egg	Y
Formed after fertilisation	baby	Z

Which of the following correctly identifies X, Y and Z?

	X	Y	Z
(1)	anther	stigma	seed
(2)	sperm	ovary	fruit
(3)	filament	style	seed
(4)	pollen grain	egg	seed

End of Booklet A1

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METHODIST GIRLS' SCHOOL

Founded in 1887

SEMESTRAL ASSESSMENT 1 2015
PRIMARY 5
SCIENCE

BOOKLET A2

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES
Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____ ( )

Class: Primary 5._____

Date : 14 May 2015

This booklet consists of 14 printed pages including this page.

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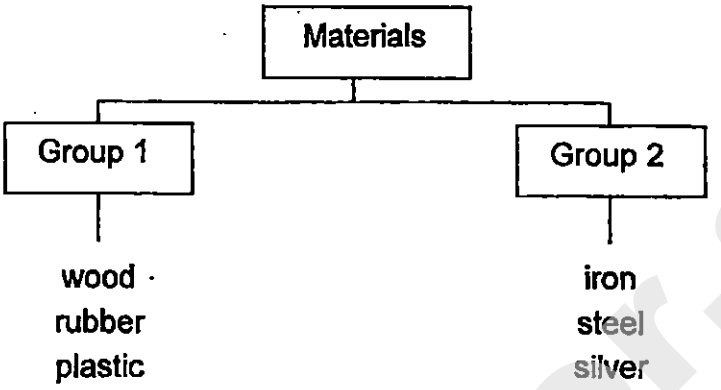
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For each question from 16 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet (OAS).

[30 marks]

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16. The following shows a classification diagram.



How are the materials in Group 1 different from those in Group 2?

	Group 1	Group 2
A	Flexible	Inflexible
B	Non-metals	Metals
C	Non-magnetic	Magnetic
D	Poor conductors of heat	Good conductors of heat

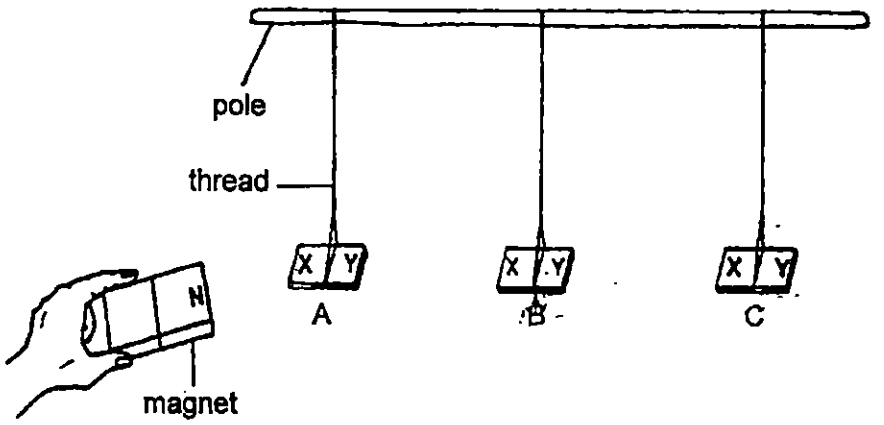
(1) A and C
(2) B and D
(3) B, C and D
(4) A, B, C and D

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17. Mei Ling hung three bars, A, B and C from a pole.



She held the N-pole of a magnet near X and then Y of each bar. She recorded her observations in the table below.

	Bar A	Bar B	Bar C
N-pole of magnet and X	remained stationary	attracted	attracted
N-pole of magnet and Y	remained stationary	attracted	repelled

What do the above observations show about the three bars?

A : Bar A could be made of iron but is not a magnet.

B : Bar B could be made of iron and is a magnet with a S-pole at X.

C: Bar C could be made of steel and is a magnet with a N-pole at Y.

D: Bar C could be made of copper and is a magnet with a S-pole at X.

(1) C only

(2) A and C only

(3) B and D only

(4) A, B, C and D

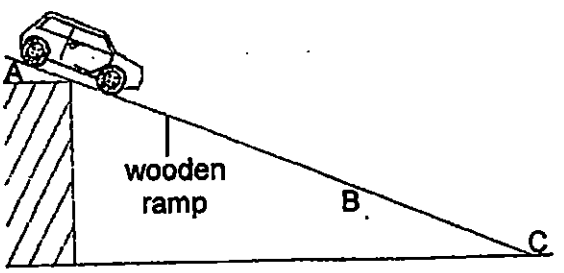
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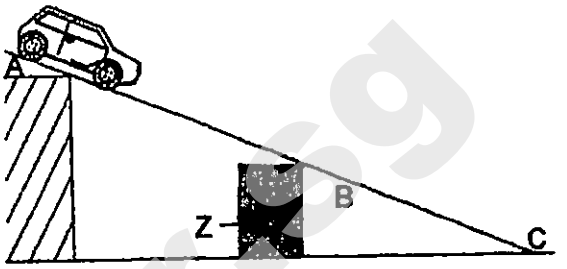
18. Two experiments were carried out as shown below.

In experiment 1, a toy car, made of iron, was released at A of a wooden ramp. The time taken for it to move from A to B and then from B to C was recorded.

In experiment 2, the same experiment was repeated with an object Z placed under the ramp.



Experiment 1



Experiment 2

The following table shows the time taken for the toy car to travel from A to B and from B to C in the two different experiments.

Experiment	Time taken (seconds)	
	A to B	B to C
1	14	6
2	10	9

Which of the following statements about the two experiments are correct?

A : Object Z was likely to be a magnet.

B : Object Z was likely to be a block of wood.

C : Object Z caused the toy car to travel down slower from A to B, but faster from B to C.

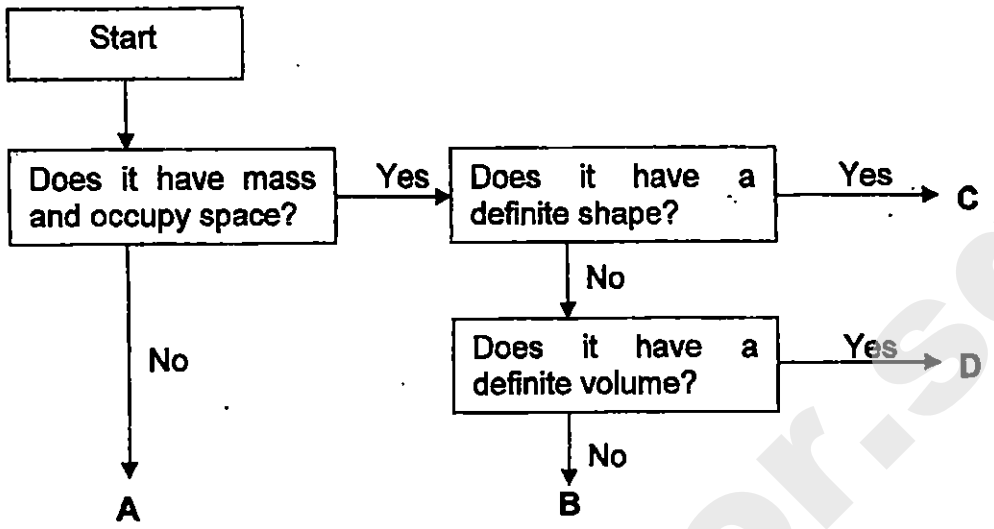
D : Object Z caused the toy car to travel down faster from A to B, but slower from B to C.

(1) A and C
(2) A and D
(3) B and C
(4) B and D

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19. Study the following flow chart.



Exit points : **A, B, C and D**

Which set of exit points correctly matches each of the given things in the table below?

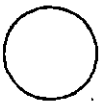
	Oxygen	Petrol	Stone	Shadow
(1)	A	D	C	B
(2)	B	D	C	A
(3)	C	B	D	A
(4)	D	A	B	C

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20. Jane accidentally stepped on a table tennis ball. When she examined the table tennis ball, she noticed that there was a dent on it. However, the table tennis ball was not broken and there were no holes on it.



normal table tennis ball

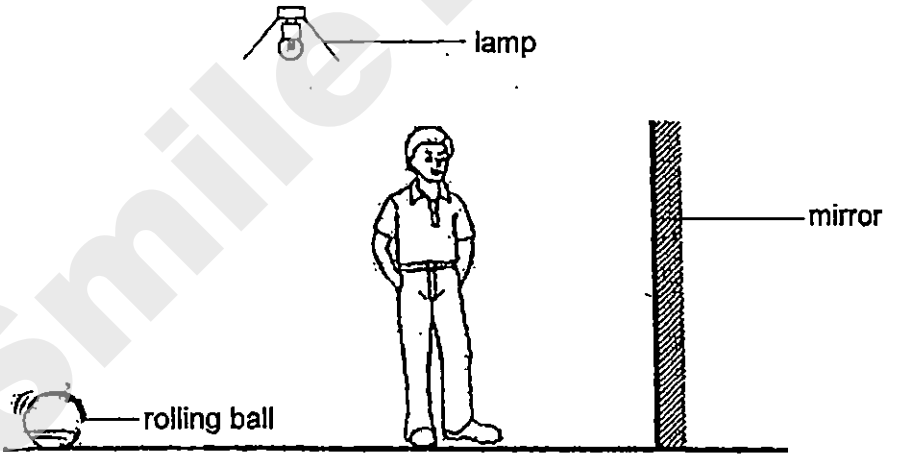


dented table tennis ball

Which one of the following correctly shows the changes in the mass and volume of the dented table tennis ball?

	Mass	Volume
(1)	no change	no change
(2)	increase	increase
(3)	no change	decrease
(4)	decrease	decrease

21. When the boy looks into the mirror, he can see the ball rolling towards him.



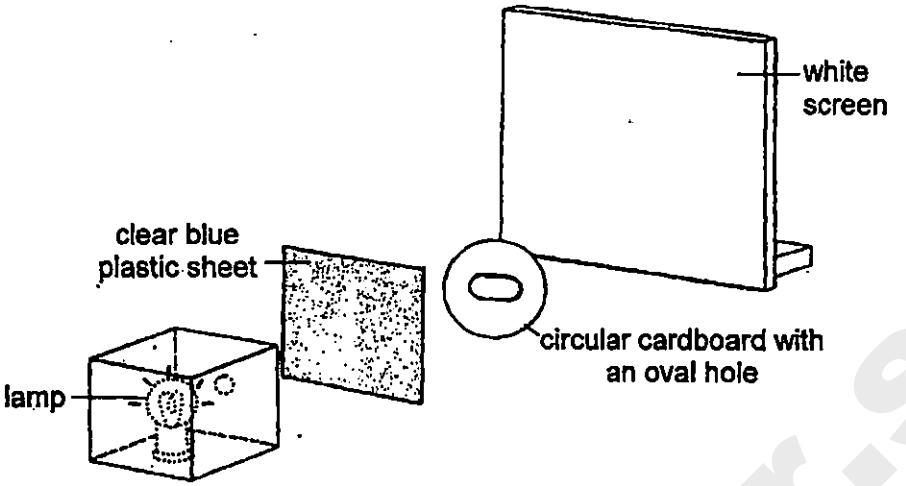
Which one of the following shows correctly the path of light that makes it possible for the boy to see the ball in the mirror?

(1) From ball to boy to lamp
(2) From ball to mirror to lamp to boy
(3) From lamp to ball to boy
(4) From lamp to ball to mirror to boy

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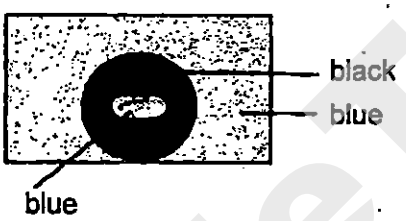
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22. An experiment was carried out using the set-up below and a shadow was formed on the white screen.

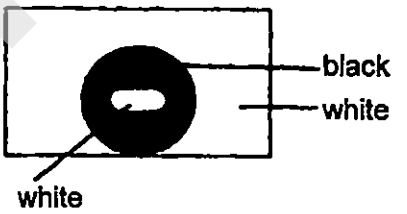


Which one of the following shadows would be observed on the white screen?

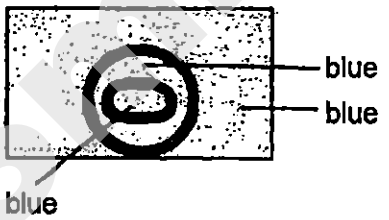
(1)



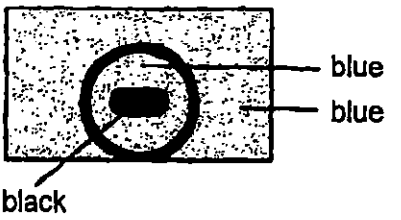
(2)



(3)



(4)

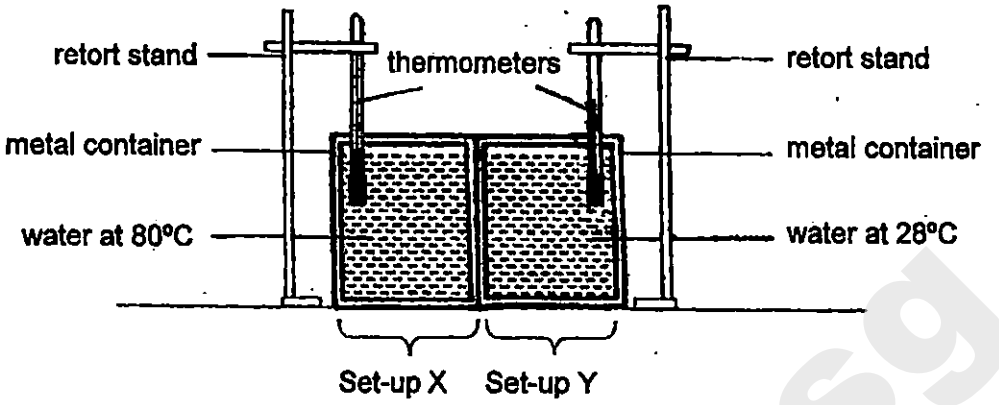


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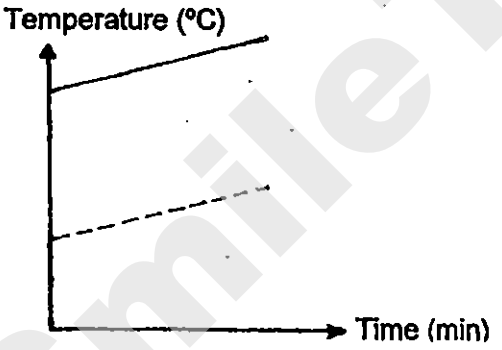
23. Two set-ups, X and Y, were placed beside each other in a room at 30°C as shown below.



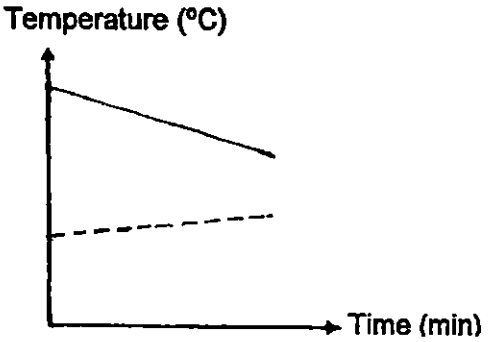
Which one of the following graphs shows the most likely temperature changes in each set-up for a period of three minutes?

Key :
— Set-up X
---- Set-up Y

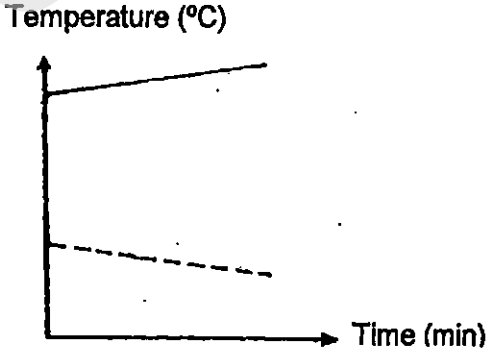
(1)



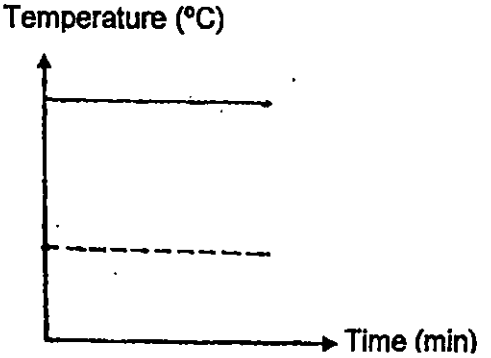
(2)



(3)



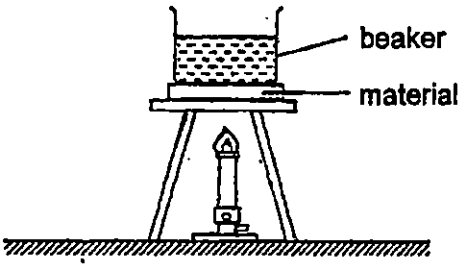
(4)



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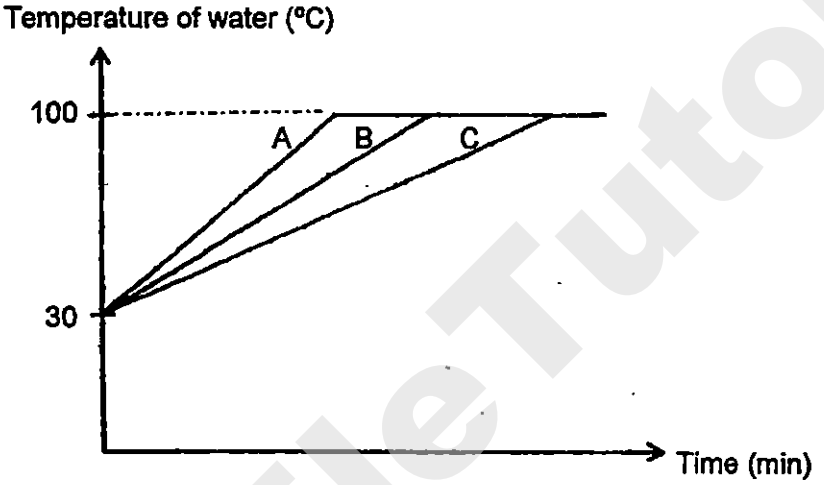
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24. Roshini conducted an experiment using the set-up shown below. The beaker contained 100 ml of water at 30°C.



She recorded the time taken for the water to boil when different materials A, B and C were placed below the beaker of water.

Her results are shown in the graph below.



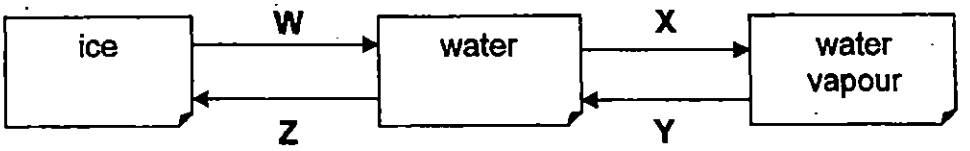
Roshini wanted to bring cold drinks and hot food for a picnic. She wanted to keep the drinks cold and the food hot. Which material would be the most suitable for the containers carrying cold drinks and hot food respectively?

	Material for container carrying	
	cold drinks	**hot food**
(1)	A	A
(2)	B	B
(3)	C	A
(4)	C	C

(Go on to the next page)

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25. The diagram below shows the three states of water.
W, X, Y and Z represent four different processes.



Which one of the following correctly indicates whether heat is gained or heat is lost during the processes W, X, Y and Z?

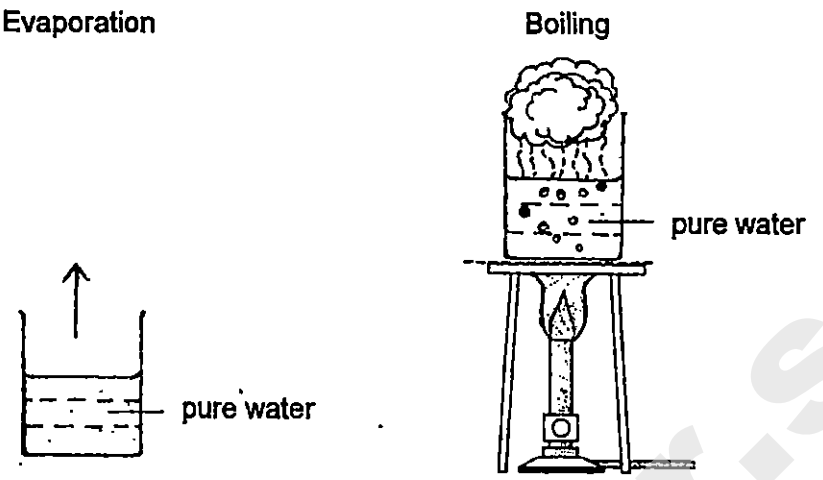
	W	X	Y	Z
(1)	Heat is gained	Heat is gained	Heat is lost	Heat is lost
(2)	Heat is gained	Heat is lost	Heat is gained	Heat is lost
(3)	Heat is lost	Heat is lost	Heat is gained	Heat is gained
(4)	Heat is lost	Heat is gained	Heat is lost	Heat is gained

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26. The experiment below was carried out in a school laboratory.



Each student made a statement about the two processes.

Susan : Evaporation is a slower process than boiling.

Mingwei : Evaporation takes place at any temperature while boiling takes place at 100°C.

Siti : Both evaporation and boiling take place throughout the liquid.

Raju : Both evaporation and boiling involve water changing from a liquid state to a gaseous state.

Whose statements are correct?

(1) Susan and Siti only
(2) Mingwei and Raju only
(3) Susan, Mingwei and Raju only
(4) Susan, Mingwei, Siti and Raju

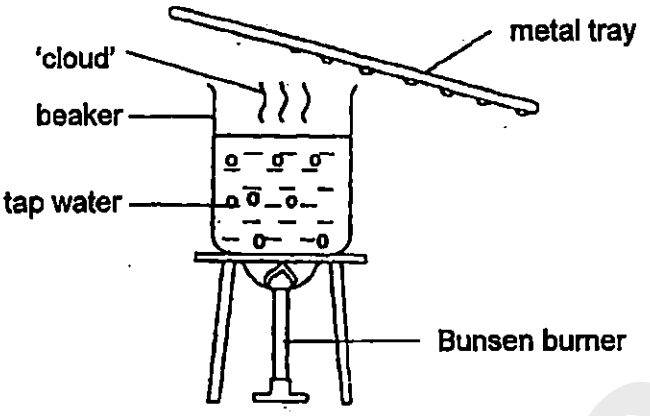
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27. An experiment was carried out using the set-up as shown below.

A beaker containing some tap water was heated until it boiled.

A metal tray was then placed above the beaker.



Which of the following statements about the experiment is **not true**?

(1) The 'cloud' was made up of tiny droplets of water.

(2) The 'cloud' was formed from the condensation of steam in the cooler air.

(3) When the metal tray was first placed above the beaker, it was cool and water droplets formed on it slowly.

(4) After some time, the metal tray became warm and fewer water droplets formed on it.

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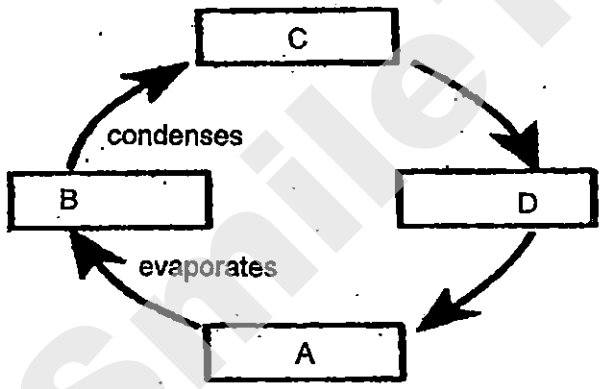
28. The following table shows the melting points and boiling points of four substances, P, Q, R and S.

Substance	Melting point (°C)	Boiling point (°C)
P	44	280
Q	80	218
R	119	445
S	114	184

Based on the information given above, which one of the following is **not correct**?

(1) All the four substances are solids at 5°C.
(2) One of the substances is a liquid at 20°C
(3) Two of the substances are solids at 100°C.
(4) All the four substances are gases at 500°C.

29. Study the diagram of the water cycle below.



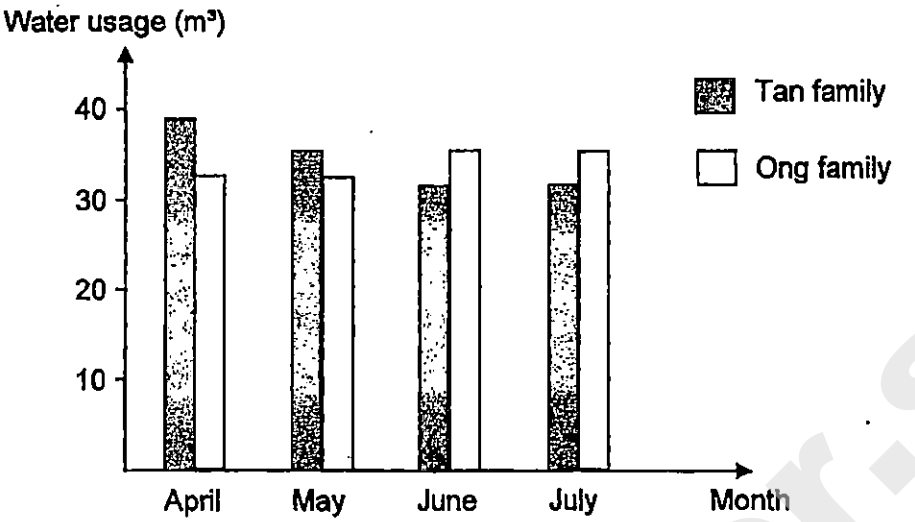
Which one of the following should be placed in the boxes to show the water cycle correctly?

	A	B	C	D
(1)	water	clouds	water vapour	rain
(2)	clouds	rain	water	water vapour
(3)	clouds	water vapour	rain	water
(4)	water	water vapour	clouds	rain

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30. The graph below shows the usage of water per month for the Tan and the Ong families from the month of April to July.



Which one of the following is the most likely reason for the change in the usage of water for both families?

(1) Both families implemented water saving tips at home.

(2) Both families switched to using a running hose to water the plants in their gardens instead of using a watering can.

(3) The Tan family started reusing rinse water from the washing machine to flush the toilets whereas the Ong family started to wash dishes in a container and not under a running tap.

(4) The Tan family started taking shorter showers and turning off the shower taps while soaping whereas the Ong family switched to using a running hose instead of a pail of water to wash their car.

End of Booklet A2

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METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

SEMESTRAL ASSESSMENT 1 2015
PRIMARY 5
SCIENCE

BOOKLET B1

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____ ( )

Class: Primary 5 _____

Date : 14 May 2015

This booklet consists of 8 printed pages including this page.

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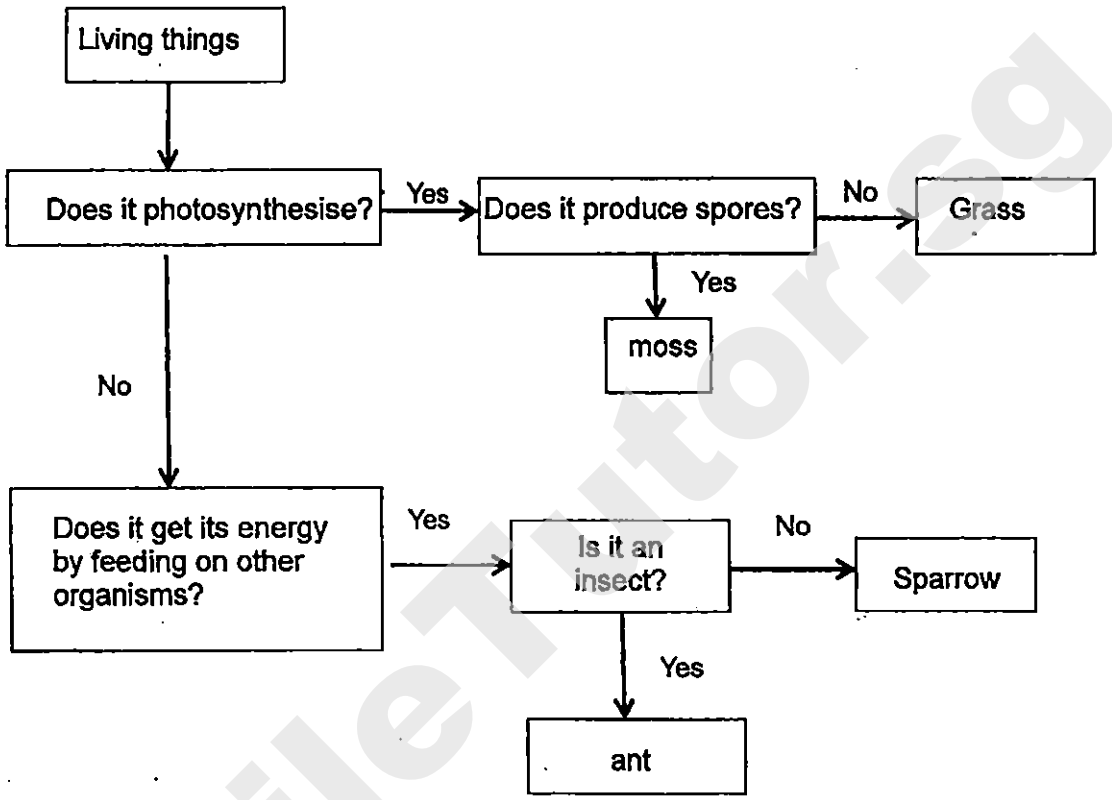
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For questions 31 to 37, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[20 marks]

31. The flowchart below shows the differences between a few living things.



(a) Based on the flowchart, what are the characteristics of the moss? [1]

(b) Based on the above flowchart, the sparrow and the ant are living things. State one similarity between the sparrow and the ant. [1]

2

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32. Salim is investigating a particular condition that seeds require in order to germinate. He puts the same amount of cotton wool and 10 similar-sized bean seeds in each of the three similar petri dishes.

He then puts one petri dish into the refrigerator, one in the corner of the classroom and one in a sunny spot in the garden. He waters the seeds daily and recorded the results in the table below.

	Number of seeds germinated			
	Day 1	Day 2	Day 3	Day 4
Refrigerator	0	0	0	0
Classroom	0	4	10	10
Garden	0	1	3	6

(a) State two **other** variables that he needs to keep the same in order to conduct a fair test. [1]

_____

_____

(b) Salim observed that the classroom was the most suitable place for germination to take place. Explain how the data in the table supports Salim's observation. [1]

_____

_____

(c) Based on the results obtained, what is the condition needed for seeds to germinate? [1]

_____

3

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33. The diagrams below show two systems in the human body.

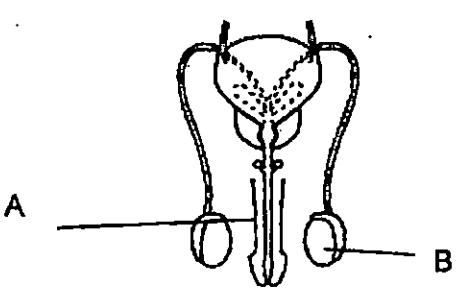


Diagram X

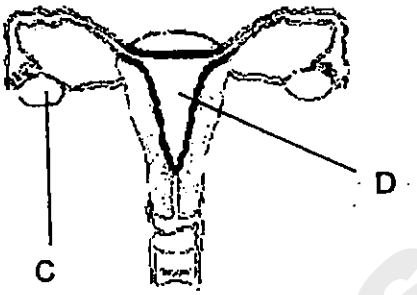


Diagram Y

(a) What systems do diagrams X and Y represent? [1]

Diagram X : _____

Diagram Y : _____

(b) Name the parts labelled B and C [1]

Part B : _____

Part C: _____

(c) Why do the offspring and parents share some common characteristics? [1]
Explain your answer clearly.

_____

_____

3

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34. Leila has one brother and two sisters. Her maternal and paternal grandparents are still alive. Her maternal grandparents have two sons and a daughter, while her paternal grandparents have a son and a daughter.

(a) In the box below, draw Leila's family tree. Label Leila in the family tree. [2]

KEY:
□ Male
○ Female

(b) How many uncles does Leila have in total? [½]

_____

(c) How many children do Leila's parents have? [½]

_____

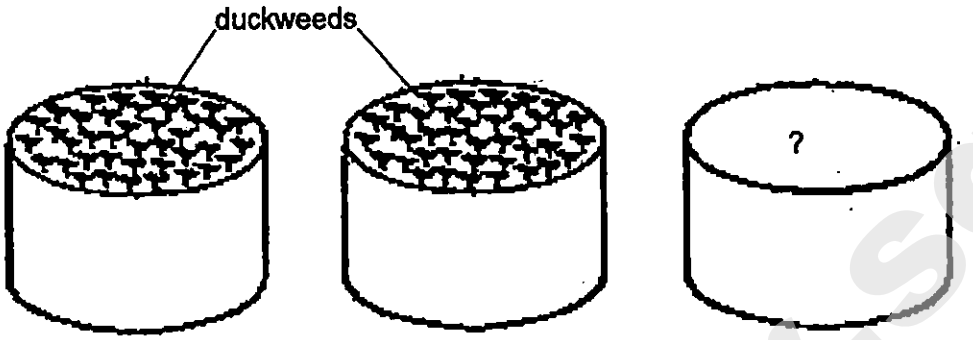
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35. Cindy set up an experiment to find out how the amount of soap solution affects the growth of duckweeds. She used three identical containers and filled them with the same type of duckweeds and the amount of pond water. She then added soap solution into Set-up 1 and Set-up 2.



Set-up1 Set-up 2 Set-up 3

The table below shows how the experiment was set up.

	Number of duckweeds	Soap solution (ml)	Pond water (ml)
Set-up 1	40	5	500
Set-up 2	40	10	500
Set-up 3			

(a) In order to conduct a fair test, she used Set-up 3 as a control experiment. Complete the table for Set-up 3. [1]

(b) Besides using the same type of soap solution, pond water and duckweed, what is **another** important factor not stated above that should be kept constant in order for the experiment to be a fair test? [1]

_____

_____

(c) What observation should Cindy make in order to compare how well the duckweeds grow in each set-up? [1]

_____

_____

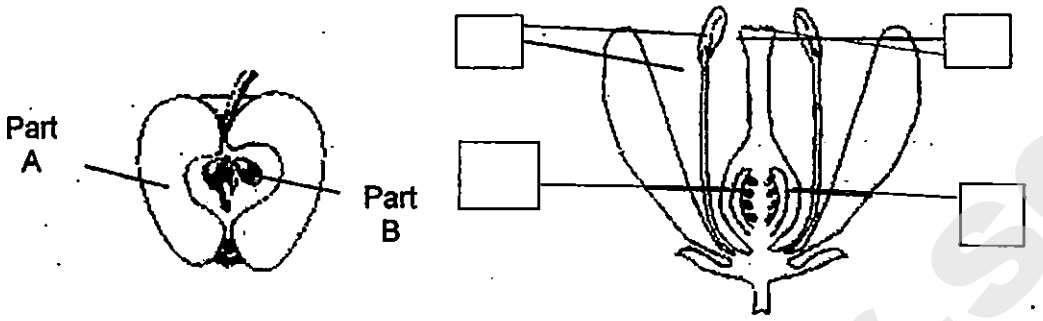
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36. The diagram below shows two plant parts, Fruit S and Flower S, which belong to the same plant. Part A and Part B of Fruit S were developed from two parts of Flower S.



Fruit S Flower S

(a) Write A and B in the appropriate boxes to match Part A and B in the fruit. [1]

Fruit Q in the diagram below is inedible but like Fruit S, is dispersed by animals.



(b) Explain how the characteristics of the two fruits, S and Q, enable them to be dispersed by animals. [2]

Fruit S : _____

_____

Fruit Q : _____

_____

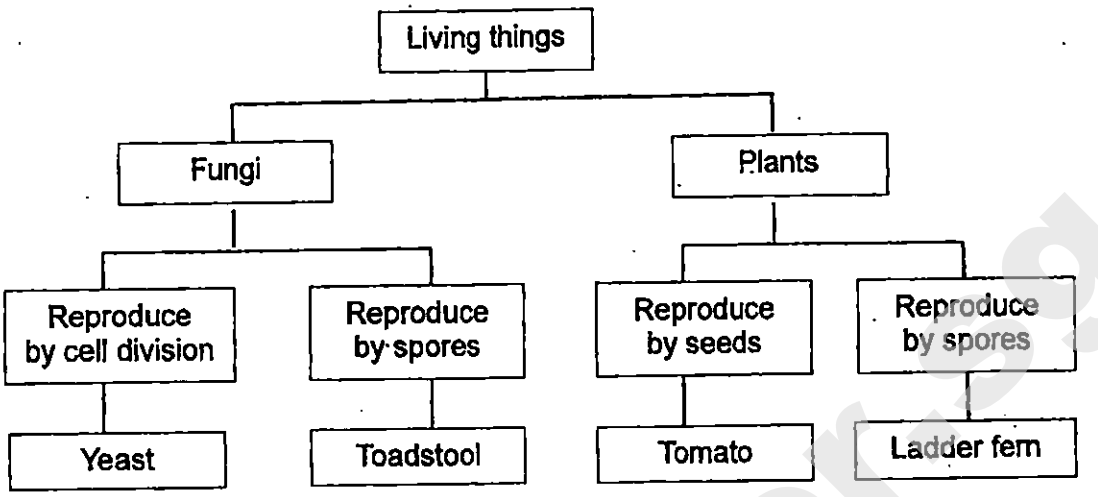
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37. Study the classification chart below carefully.



(a) Based on the classification chart above, state a similarity between the toadstool and the ladder fern. [1]

_____

(b) Like plants, fungi are organisms with a cell wall, cell membrane and cytoplasm. However, they are not grouped under plants. Explain why.
(Do not compare their physical appearances.) [1]

_____

_____

(c) A pot of soil was left in Jamal's garden for a long time. No plant was found growing in it. He used it as a container to feed the birds. He scattered some cooked rice in it to feed the birds coming to his garden. After some time, he was surprised to find a tomato plant growing in the pot. Nobody had planted it.

Explain how the tomato plant got there. [1]

_____

_____

END OF BOOKLET B1

3

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SEMESTRAL ASSESSMENT 1 2015
PRIMARY 5
SCIENCE

BOOKLET B2

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____ ( )

Class : Primary 5._____

Date : 14 May 2015

Booklet A1 & A2	/60
Booklet B1	/20
Booklet B2	/20
Total	/100
Parent's Signature	

This booklet consists of 10 printed pages including this page.

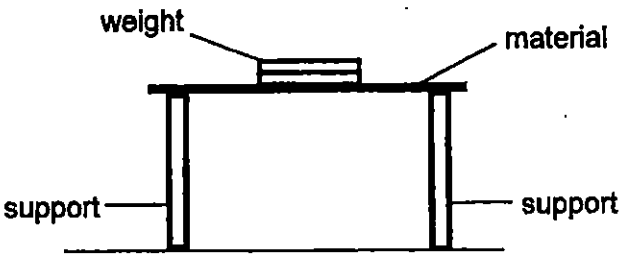
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For questions 38 to 44, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[20 marks]

38. Mr Lee tested four different types of materials, A, B, C and D. Each piece of material was of the same size and thickness. He placed weights on each piece of material and increased the number of weights until the piece of material broke.



In the table below, he recorded the maximum number of weights that each piece of material could support before breaking.

Material	Number of weights the material could support before breaking
A	10
B	3
C	7
D	5

(a) What property of the materials was Mr Lee testing? [1]

(b) Which material, A, B, C or D would be best for making a bookshelf? Explain your answer. [1]

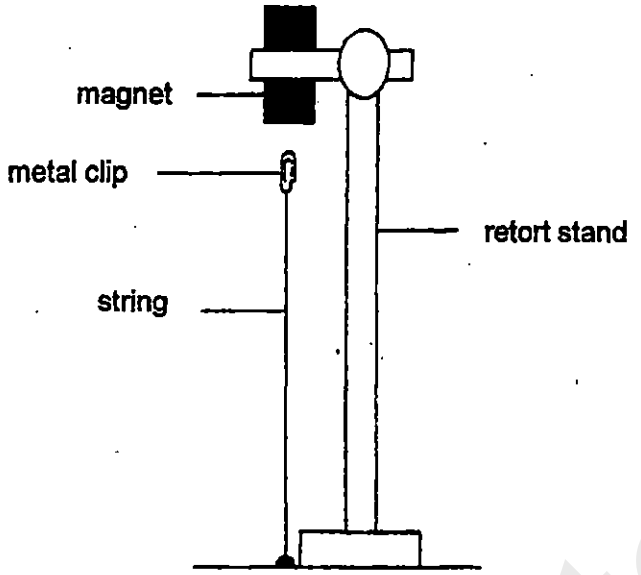
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39. Sally carried out the following experiment. She clamped a magnet as shown. A metal clip, tied to the bench by a string of length 30 cm, was found to remain in the air.



(a) Give a reason why the metal clip could remain in the air as shown in the diagram. [1]

_____

_____

(b) Sally placed a sheet of glass between the magnet and the metal clip. The metal clip remained where it was. What does this show? [1]

_____

_____

(c) Sally dropped the magnet on the floor 40 times. She observed that unless she used a longer string of length 32 cm, the metal clip dropped to the bench. Give a reason why she had to use a longer string of 32 cm. [1]

_____

_____

3

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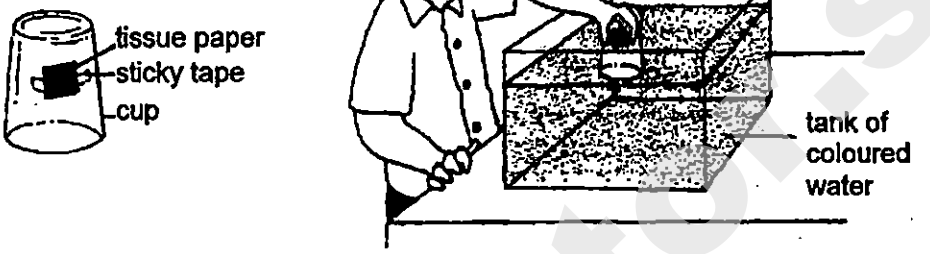
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40. John conducted three different activities as shown below.

(a) First activity

John stuck a piece of tissue paper inside a clear plastic cup. Then he held the cup upside down and pushed it down vertically into a tank of coloured water until it touched the bottom of the tank.

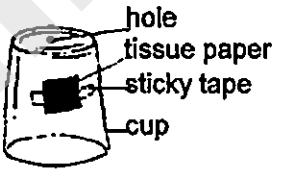


When John lifted the cup out of the water, he observed that the tissue paper was dry. From this observation, what property of air can John infer? [1]

_____

(b) Second activity

John made a small hole at the bottom of the same cup. Then he pushed it down vertically into the same tank of coloured water until it touched the bottom of the tank.



When John lifted the cup out of the water this time, he observed that the tissue paper was wet with water. Explain how the tissue paper became wet with water. [1]

_____

_____

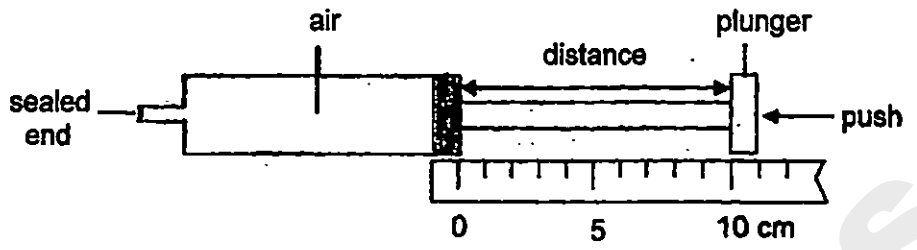
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(c) Third activity

John filled a syringe completely with air. The diagram below shows the syringe at the start of the experiment before the plunger was pushed in.



Next, he pushed in the plunger of the syringe as hard as possible. He was able to obtain a distance of 5 cm. However, he could not obtain a distance of 0 cm no matter how hard he tried.

(c) Why was John able to obtain a distance of 5 cm but not a distance of 0 cm? [1]

_____

_____

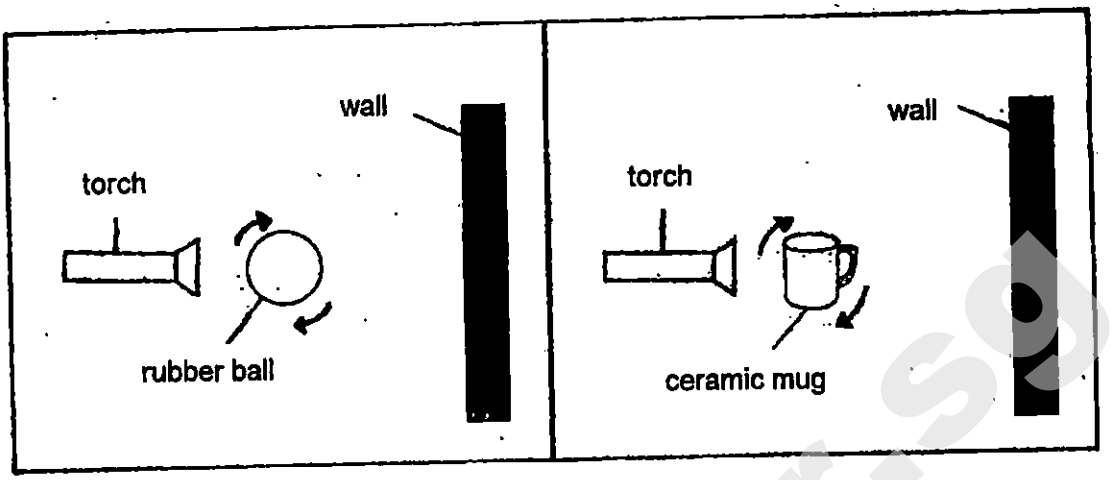
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41. A ball and a mug were slowly rotated in front of a torch in separate experiments as shown below. The shadows of the ball and the mug were formed on the wall.



(a) What caused the shadows of the objects to form on the wall? [1]

_____

(b) Would the shape of the shadows of the ball and the mug remain the same or change as they were slowly rotated? [1]

Shape of the shadow of the ball :

_____

Shape of the shadow of the mug :

_____

(c) The ball and the mug were moved nearer to the wall while the torch remained in the same position. What would happen to the **size** of the shadows? [1]

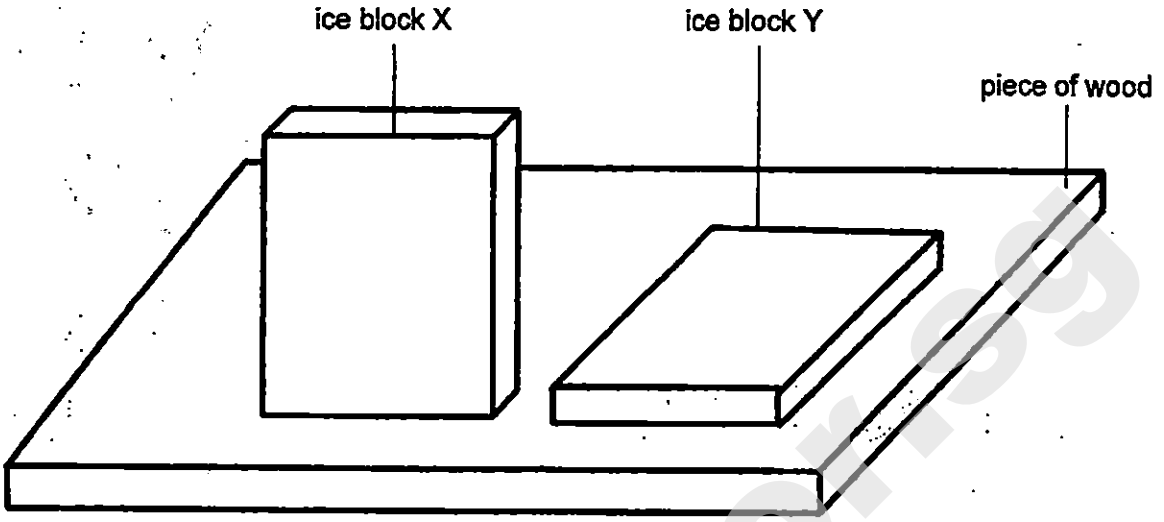
_____

3

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42. Henry placed two identical blocks of ice, X and Y, of the same shape and volume, on a piece of wood as shown below.



He measured the time taken for each block of ice to melt completely. He recorded his results in the table below.

Ice block	Time taken (min)
X	30
Y	60

(a) Ice block X took a shorter time than ice block Y to melt completely. Explain why. [1]

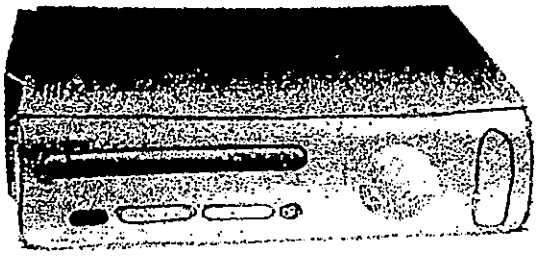
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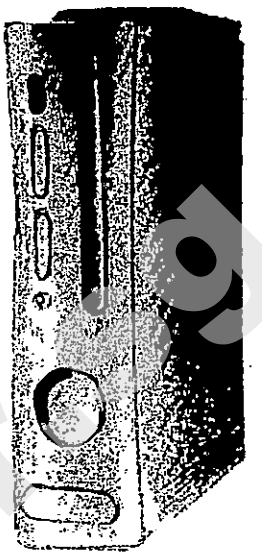
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(b) Henry bought a game console and was deciding if he should place it horizontally or vertically so as to prevent it from overheating after a long period of play.



Game console placed horizontally



Game console placed vertically

How should he place the game console so as to prevent it from overheating after a long period of play? Explain your answer. [2]

_____

_____

_____

2

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43. Azman conducted an experiment as shown below. He washed his T-shirt, weighed it and then hung it on a clothesline in his backyard.



He weighed the T-shirt every 15 minutes and recorded his results in the following table.

Time (min)	Mass of T-shirt (g)
0	450
15	430
30	405
45	335
60	305
75	280
90	255
105	240
120	?
135	240

(a) What is the mass of the T-shirt at the 120th minute? [1]

_____

(b) Explain your answer in (a). [1]

_____

_____

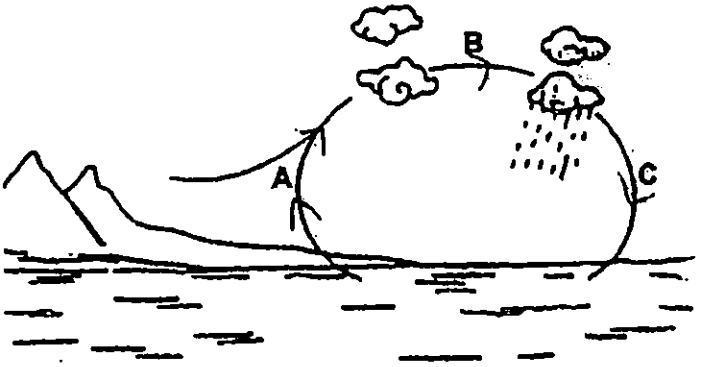
(c) Azman repeated the experiment the next day. He hung the same wet T-shirt weighing 450g in the same way at the same place. He found out that his T-shirt dried faster this time round. Suggest a reason why his T-shirt dried faster. [1]

_____

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44. Study the diagram of the water cycle below.



(a) **Draw arrowheads on the lines A, B and C** to show the movement of water in the water cycle. [1]

(b) Why is the sun's heat energy necessary for the water cycle? [1]

_____

_____

(c) Explain why the water cycle is important to living things. [1]

_____

_____

3

End of Booklet B2

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : METHODIST GIRLS' SCHOOL (PRIMARY)
SUBJECT : SCIENCE
TERM : SA1

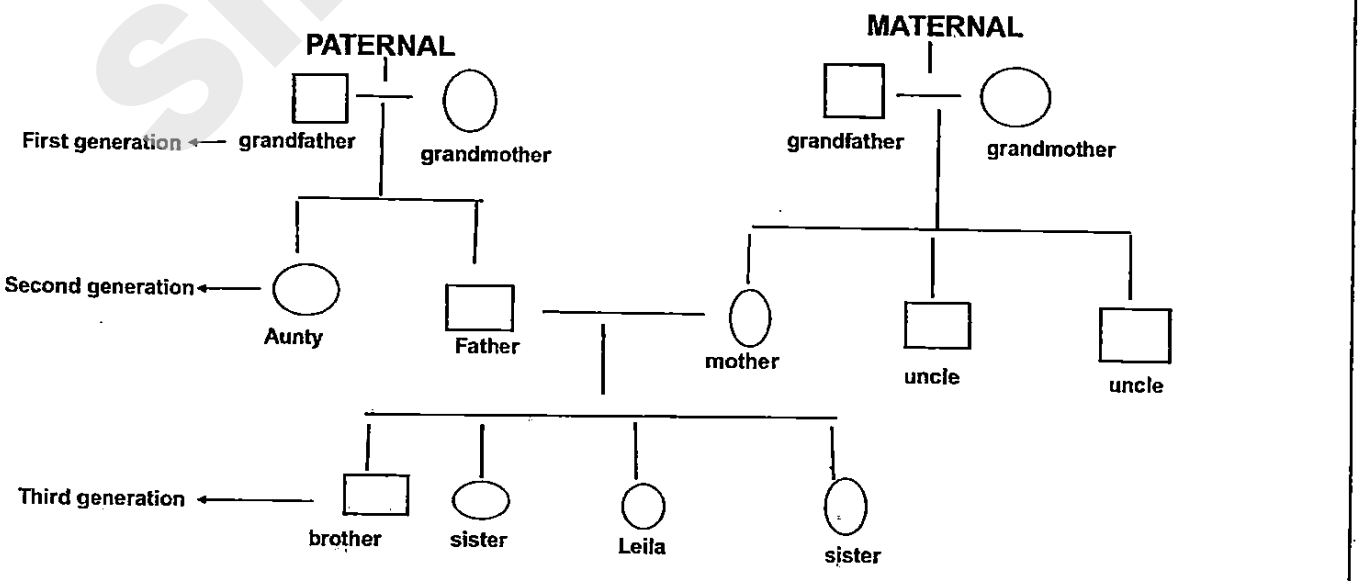
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	1	2	2	3	4	1	4	1	4
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	2	3	4	4	2	1	4	2	3
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	2	---	---	1	---	---	2	4	4

Q31a. It is a living thing, it photosynthesizes and it produces spores.
Q31b. They do not phtosynthesise.

Q32a. Same type of beans and amount of water.
Q32b. Most number of seeds germinated on the second day and by the 4th day, all the seeds have germinated compared to the other 2 locations.
Q32c. Warmth.

Q33a.
Diagram X : Male reproductive system
Diagram Y : Female reproductive system
Q33b.
Part B: Testis
Part C: Ovary
Q33c. The offspring inherits the characteristics from the parents when the nucleus of the sperm and the nucleus of the egg fuse together.

Q34a. SEE PICTURE

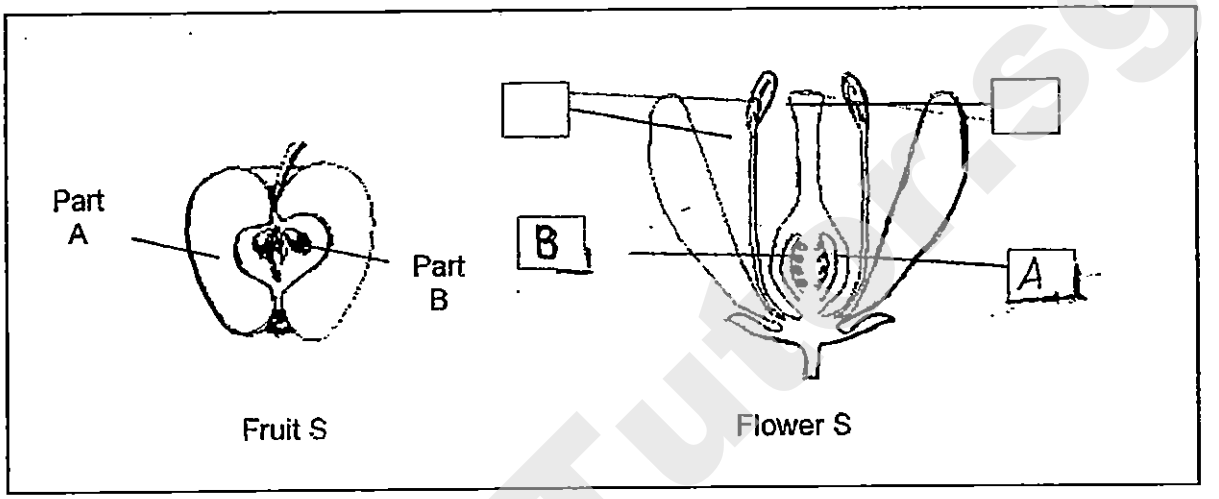


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Q34b. 2 uncles
Q34c. 4 children

Q35a.
No. of duckweeds – 40
Soap solution – 0ml
Pond Water -- 500ml
Q35b. They must be placed in the same location or same temperature of the surroundings.
Q35c. She should count the number of live / dead duckweeds in the 3 containers.

Q36a. SEE PICTURE



Q36b.
Fruit S : It is brightly coloured and has a sweet scent. The animal is attracted to eat the fruit and discard the seeds or pass them out in their waste.
Fruit Q. It has stiff hairs, which hook onto the animal's outer covering, and they are dispersed as the animals move around or thrown away by the man.

Q37a. Both of them reproduce by spores.
Q37b. Fungi cannot make food unlike plants and they do not have plant parts unlike plants.
Q37c. Some of the birds have eaten a tomato and dispersed its seeds through its droppings in the pot. The conditions were right for the tomato to grow, and thus a tomato plant would grow in the pot.

Q38a. Strength
Q38b. A. A could support the greatest number of weights before breaking, showing that is the strongest.

Q39a. The metal clip, which is made of a magnetic material, is attracted to the magnet.
Q39b. Magnetism can pass through non – magnetic materials such as glass.

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Q39c: Dropping the magnet has caused the magnet to lose some of its magnetism, so a longer string of 32cm allows the metal clip to be nearer to the magnet so as to be attracted by it.

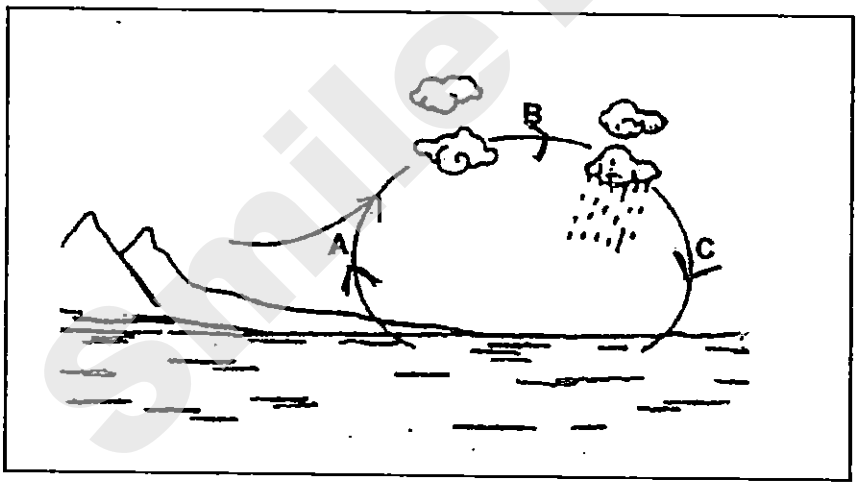
Q40a. Air occupies space.
Q40b. Air came out through the hole in the cup and allowed the water to take its place. The water hen caused the tissue paper to be wet.
Q40c. Air can be compressed but not entirely, it also occupies space which does not allow the syringe to be pushed to a distance of 0 cm.

Q41a. Light was blocked by the object , causing a shadow to be formed.
Q41b. It would remain the same.
Q41c. It would change.
Q41c. The size of the shadow decreased.

Q42a. Ice block X has a bigger surface area to the air compared with ice block Y , thus ice block X gains heat at a faster rate and melts faster.
Q42b. He should place the game console vertically so that there is a bigger exposed surface area to the air for it to lose heat at a faster rate.

Q43a.240g
Q43b. Most of the water from the wet T- shirt has evaporated decreasing in mass. From the 105 minutes, the mass has remained constant.
Q43c. The next day was hotter.

Q44a. SEE PICTURE



Q44b. So that the water can evaporate which allows it to form water vapour. It then condenses to form clouds and when it is too heavy, it would rain.
Q44c. It ensures a continuous supply of water to the living things on earth.

THE END

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NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2015
PRIMARY 5

SCIENCE

BOOKLET A

30 Multiple Choice Questions (60 marks)

Total Time for Booklets A and B : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.

Marks Obtained

Booklet A		**/ 60**
Booklet B		**/ 40**
Total		**/100**

Name: _____ **(** **)** **Class: P 5** _____

Date : 8 May 2015 **Parent's Signature:** _____

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Section A: (30 x 2marks = 60marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which of the following statements are true about sexual reproduction in plants?

A The new plant grows from a seed.
B Male and female sex cells are needed.
C The new plant will definitely not inherit any traits from parent plant.
D Reproduction is to ensure the continuity of the species to avoid extinction.

(1) A and D only
(2) B and D only
(3) A, B and C only
(4) A, B and D only

2. Study the flower below.



What is the most likely agent of pollination for the flower above?

(1) Wind
(2) Water
(3) Insect
(4) Hummingbird

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3. Clarice cleared her garden for planting rose plants. After a few weeks, she noticed that there were other plants growing there as well. As these plants were not planted by her, how did they get carried there?

A The Sun disperses the seed with its light.
B The wind disperses the seeds to the garden.
C Birds eat the fruit and the seeds, the seeds are then passed out with the waste materials in the garden.

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

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4. Two test tubes were set up in Diagram 1 and left for a few days in the Science Laboratory at room temperature. After 5 days, the seeds in set-up B germinated but those in set-up A did not as shown in Diagram 2. In the experiment, Solution X was used to absorb oxygen and Solution Y was used to absorb carbon dioxide.

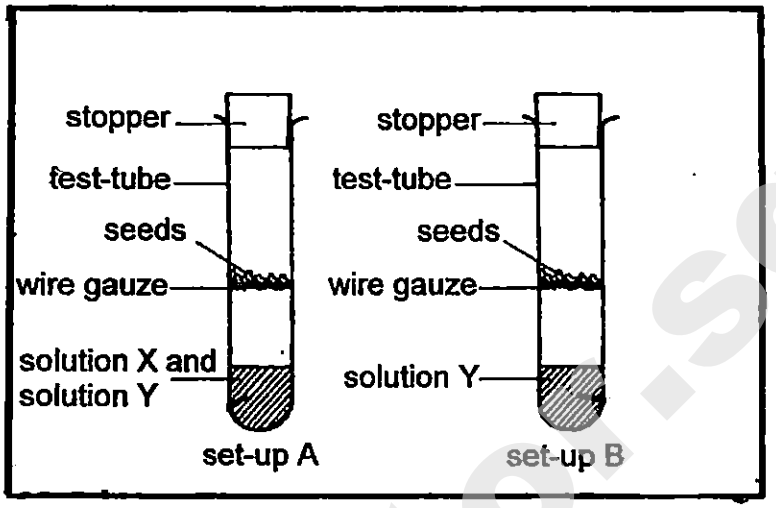


Diagram 1

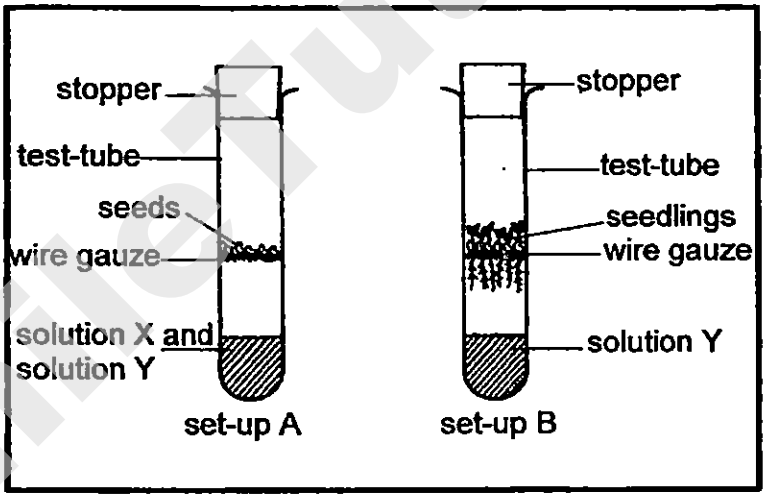


Diagram 2

What can you conclude from the experiment?

(1) Seeds do not need oxygen to germinate.
(2) Seeds do not need carbon dioxide to germinate.
(3) Both oxygen and carbon dioxide are needed for seeds to germinate.
(4) Both oxygen and carbon dioxide are not needed for seeds to germinate.

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5. Mary has long hair, hitch hiker's thumb and double eyelids.
Which of the following characteristic(s) did Mary inherit from her parents?

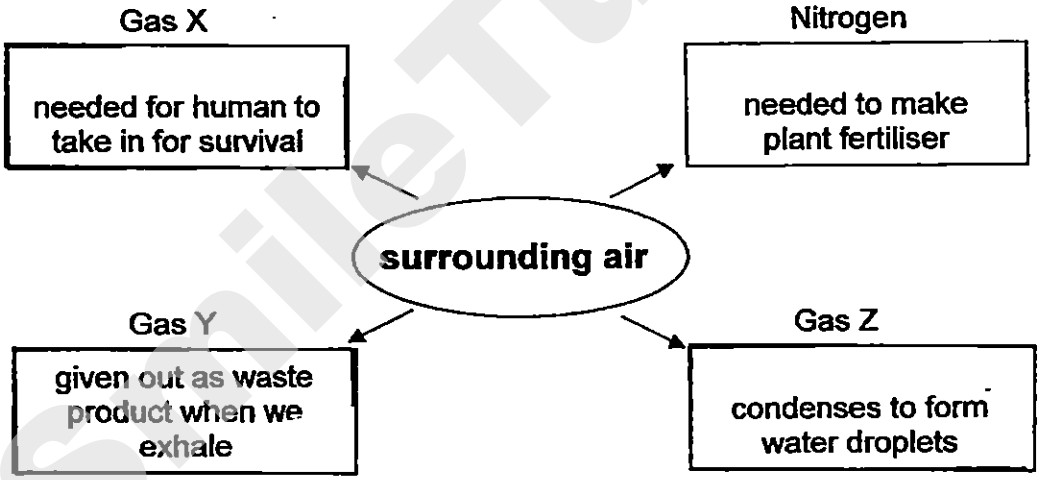
A Long hair
B Double eyelids
C Hitch hiker's thumb

(1) C only
(2) A and B only
(3) B and C only
(4) A, B and C

6. In most cases in human reproduction, how many months does it take for a fertilised egg to develop into a foetus before it is ready to be delivered?

(1) 6 months
(2) 7 months
(3) 8 months
(4) 9 months

7. The diagram shows the different types of gases in the surrounding air.

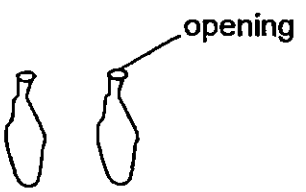


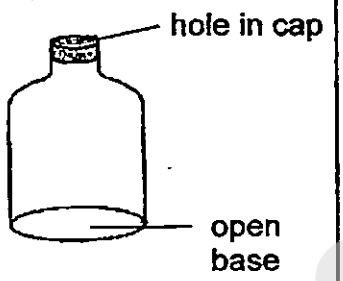
Which one of the following is correct?

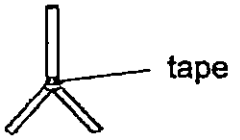
	Gas X	Gas Y	Gas Z
(1)	carbon dioxide	water vapour	oxygen
(2)	oxygen	water vapour	carbon dioxide
(3)	water vapour	oxygen	carbon dioxide
(4)	oxygen	carbon dioxide	water vapour

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8. Sam made a model of the human respiratory system with four main parts.

<table>
<tr>
<td>Part A


balloons</td>
<td>Part B


plastic bottle</td>
</tr>
<tr>
<td>Part C


drinking straws</td>
<td>Part D


rubber sheet representing muscle</td>
</tr>
</table>

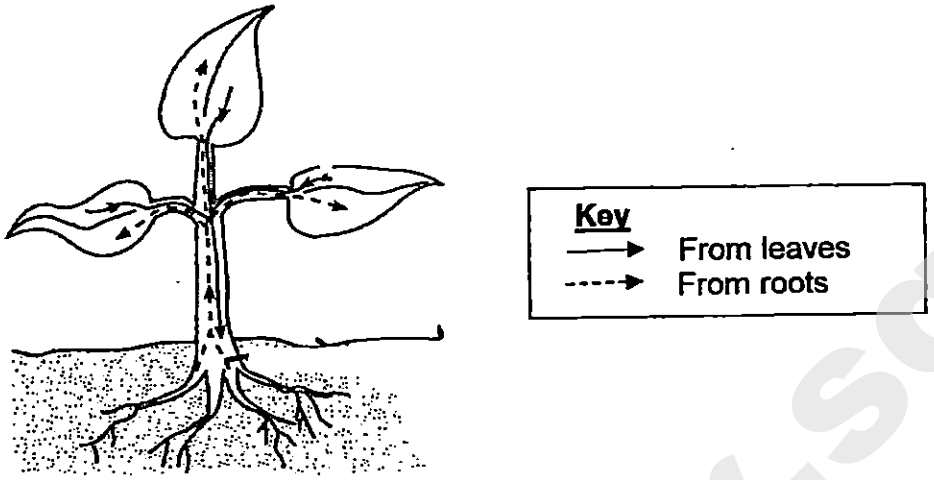
Which one of the following correctly represents the parts of the respiratory system?

	Parts		
	A	B	C
(1)	air tubes	muscle	lungs
(2)	lungs	muscle	air tubes
(3)	air tubes	chest	lungs
(4)	lungs	chest	air tubes

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9. The diagram below shows materials which are needed for survival being transported inside a plant.



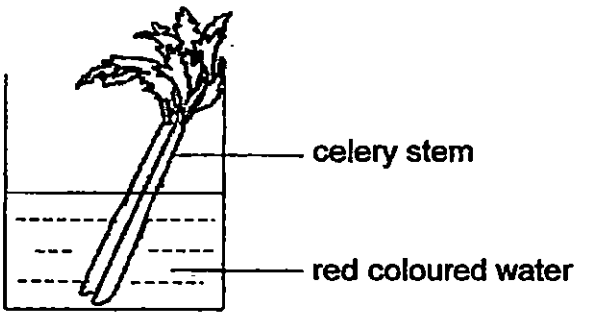
Which body system performs this function in humans?

(1) Skeletal system
(2) Digestive system
(3) Circulatory system
(4) Respiratory system

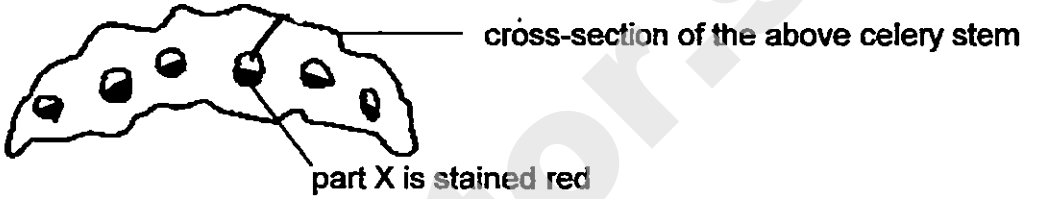
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10. Ali conducted an experiment with the set-up below.



3 hours later, he cut out a cross-section of the celery stem and examined it carefully.

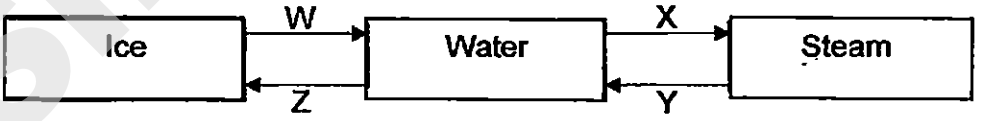


Which of the following statement(s) about part X can be concluded from his experiment?

A Part X transports food.
B Part X transports water.
C Part X transports gases.

(1) A only
(2) B only
(3) A and C only
(4) B and C only

11. Study the diagram below.



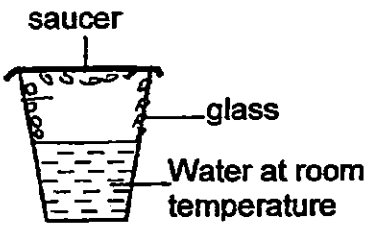
Name the processes represented by the arrows, W, X, Y and Z.

	W	X	Y	Z
(1)	Melting	Evaporation	Condensation	Freezing
(2)	Condensation	Melting	Freezing	Boiling
(3)	Melting	Boiling	Condensation	Freezing
(4)	Evaporation	Freezing	Melting	Condensation

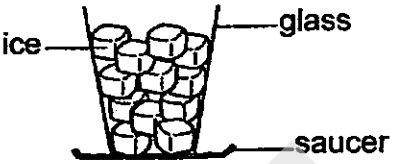
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12. Which one of the following set-ups can be used to show that there is water vapour in the air?

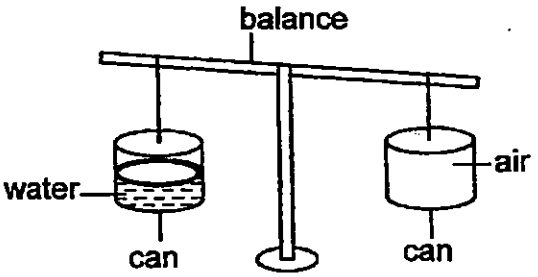
(1)



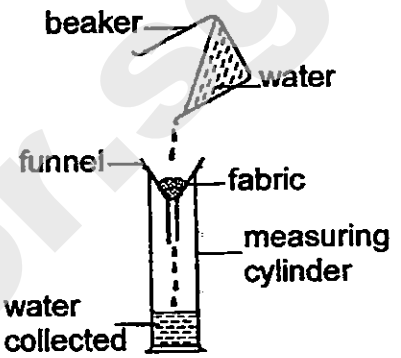
(2)



(3)

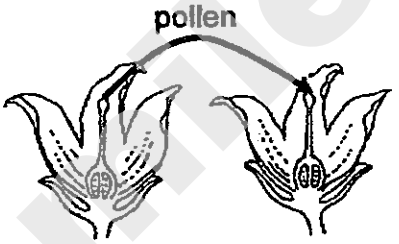


(4)

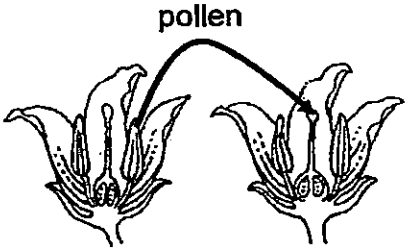


13. Which diagram correctly shows the pollination of flowers?

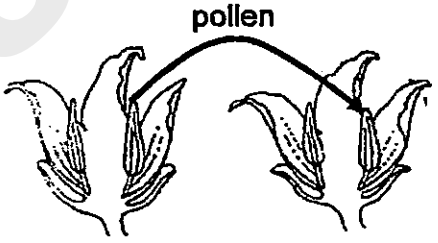
(1)



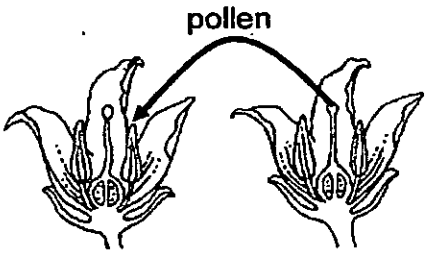
(2)



(3)



(4)



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14. Ryan had 3 flowers, A, B and C. All the flowers had male and female parts. He then conducted an experiment to find out if a fruit could be produced when a certain part of a flower was removed. He used the same type of flower for his experiment.

Flower A: Petals were removed.
Flower B: Stigma was removed.
Flower C: Anther was removed.

After removing the parts from the flowers, he dusted pollen grains from the same type of flower over Flowers A, B and C respectively. He observed them for two weeks. Which of the flowers are most likely to produce fruit after two weeks?

(1) Flowers A and B
(2) Flowers A and C
(3) Flowers B and C
(4) None of the flowers

15. A green bean was soaked until it was soft. The seed coat was removed and the seed was spilt as shown in the diagram below.

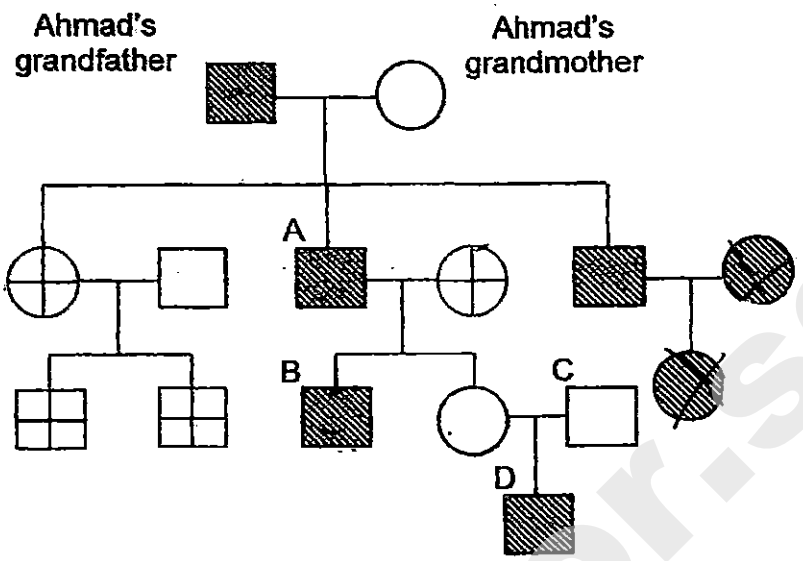


Both halves, R and S, were placed on damp cotton wool and left aside for a few days. The halves were then observed. Which of the following is the correct observation?

	Observation at R	Observation at S
(1)	Nothing happened.	Nothing happened.
(2)	Nothing happened.	Seedling emerged.
(3)	Seedling emerged.	Nothing happened.
(4)	Seedling emerged.	Seedling emerged.

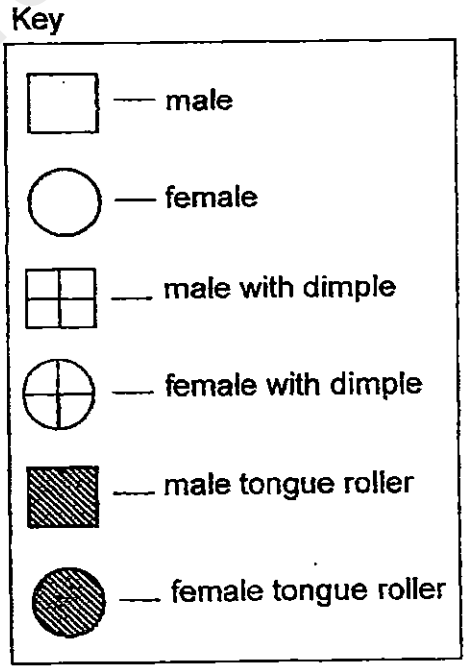
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16. The diagram below shows the characteristics of Ahmad's family members.



Ahmad can roll his tongue. He notices that Uncle Rahim and Aunt Minah are able to roll their tongues. Who is Ahmad?

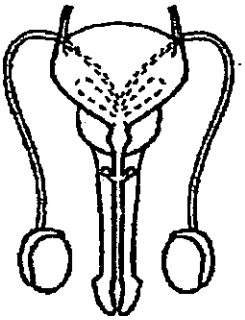
(1) A
(2) B
(3) C
(4) D

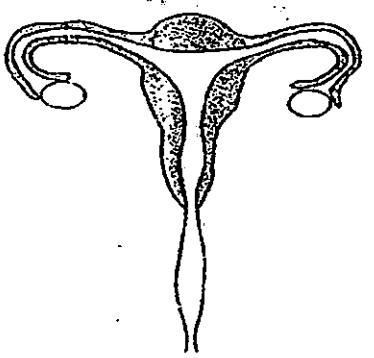


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17. The diagrams below show the human reproductive system.





Which of the following statement(s) is/are true of the function(s) of both systems?

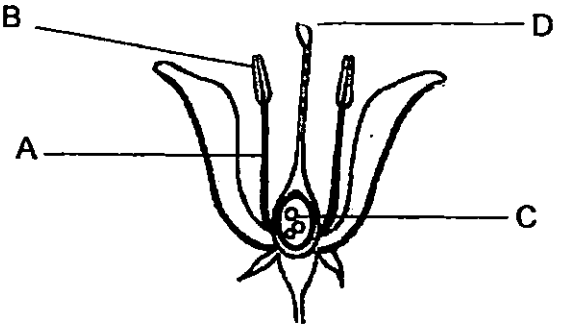
A Both systems allow fertilisation to occur in them.
B Both systems provide food for the developing embryo.
C Both systems allow reproductive cells to be produced.
D Both systems allow the embryo to be developed in them.

(1) C only
(2) A and D only
(3) A, B and C only
(4) B, C and D only

18. Study the diagrams below.



Process X



Flower T

In which part of Flower T does Process X take place?

(1) A
(2) B
(3) C
(4) D

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19. Figures 1 and 2 show the blood flow in fish and human respectively.

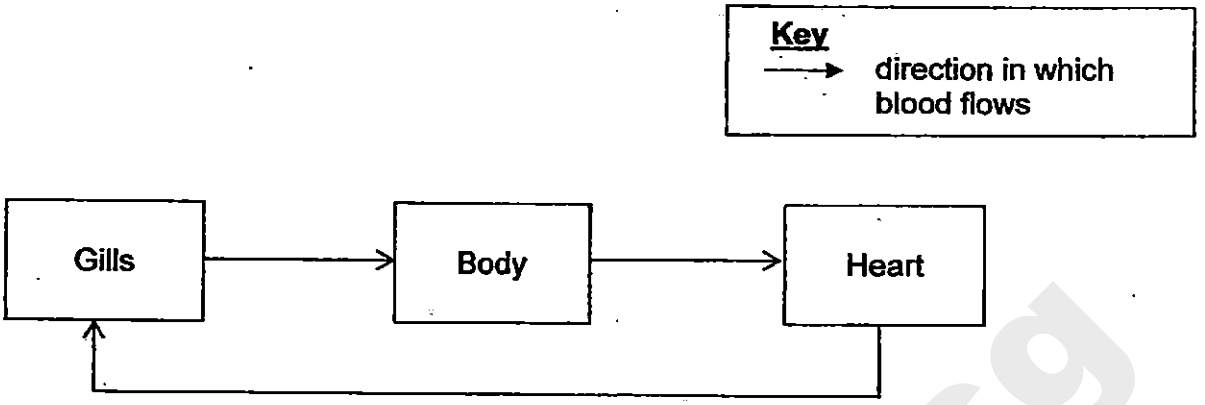


Figure 1 (fish)

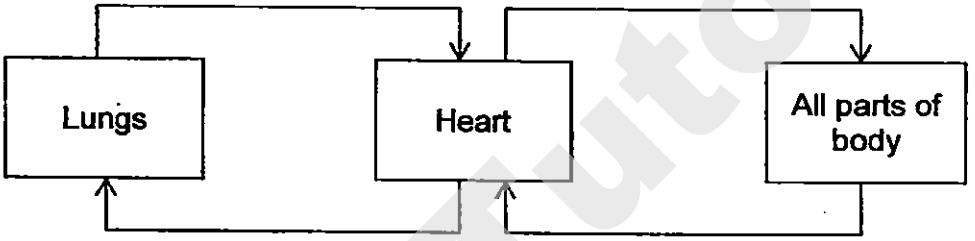


Figure 2 (human)

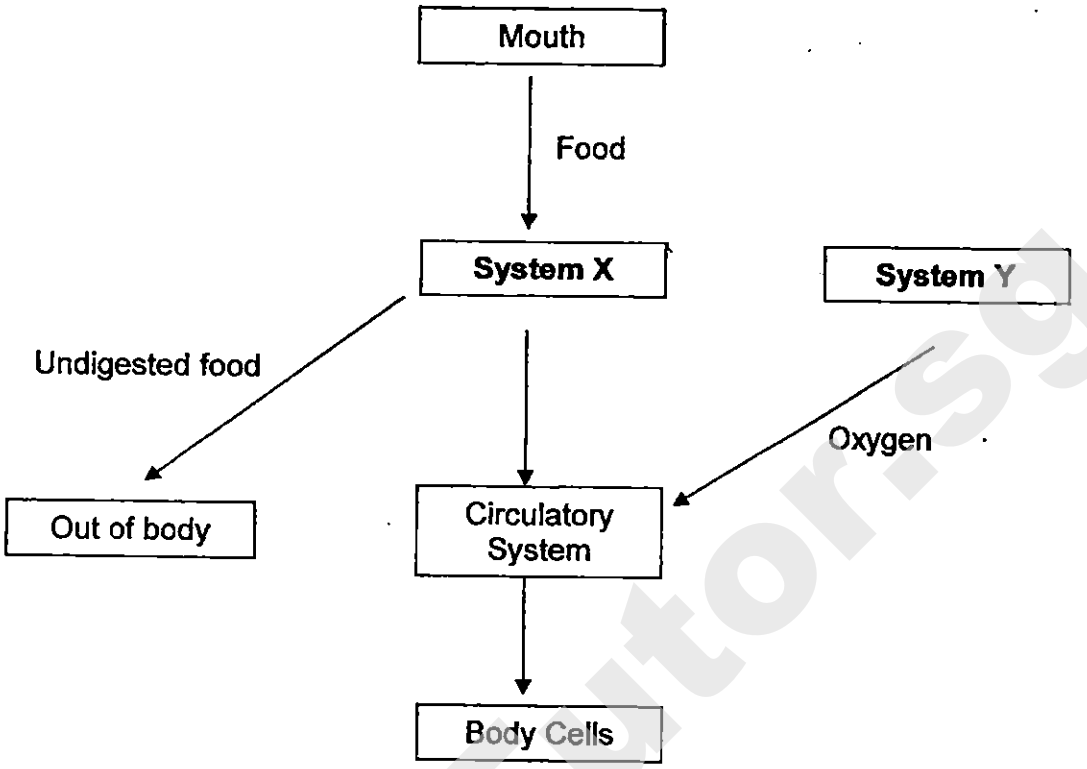
Based on Figures 1 and 2, which of the following statement(s) is/are correct?

	Figure 1	Figure 2
A	The blood passes through the heart once to complete a single circulation.	The blood passes through the heart twice to complete a double circulation.
B	The gills is needed to take in water.	The lungs is needed to take in air.
C	The circulatory system consists of gills, heart, blood and blood vessels.	The circulatory system consists of lungs, heart, blood and blood vessels

1) A only
2) B only
3) B and C only
4) A, B and C

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20. Study the flow chart below.



Which one of the following is the correct system for X and Y?

	System X	System Y
(1)	Digestive system	Respiratory system
(2)	Respiratory system	Digestive system
(3)	Skeletal system	Nervous system
(4)	Muscular system	Skeletal system

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21. Figures 1 and 2 show how a certain substance is transported in plant and human respectively.

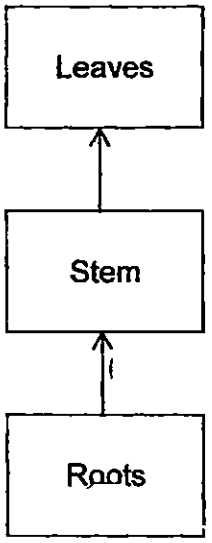


Figure 1 (plant)

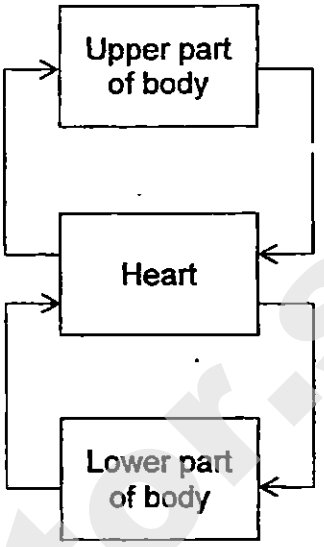


Figure 2 (human)

Which of the following is/are correct?

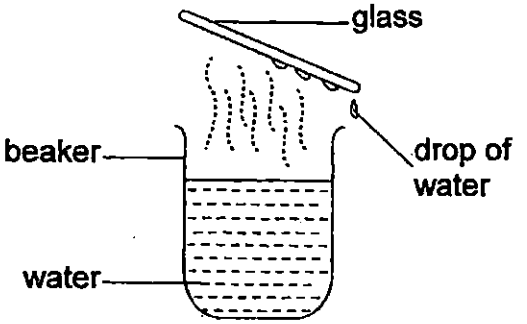
A The substance that is transported in both systems is most likely water.
B The substance in figure 1 flows in one direction while the substance in figure 2 flows in two directions.
C The substance in figure 1 does not need a heart to pump it to all parts of the plant. The substance in figure 2 needs a heart to pump it to all parts of the body.

(1) A only
(2) B and C only
(3) A and C only
(4) A, B and C

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22. Four pupils were making statements about condensation done in the experiment shown below.



Ariel	Water vapour loses heat during condensation.
Brandon	The temperature of the water in the beaker increases after condensation.
Chole	Water vapour changes from gaseous state to liquid state during condensation.
Donald	The rate of condensation decreases as time goes by as the glass gained more heat from the water vapour.

Who are making the correct statements?

(1) Ariel and Brandon only
(2) Chole and Donald only
(3) Ariel, Brandon and Chole only
(4) Ariel, ~~Chloe~~ chole and Donald only

23. The table below shows the freezing points and boiling points of three unknown substances, P, Q and R.

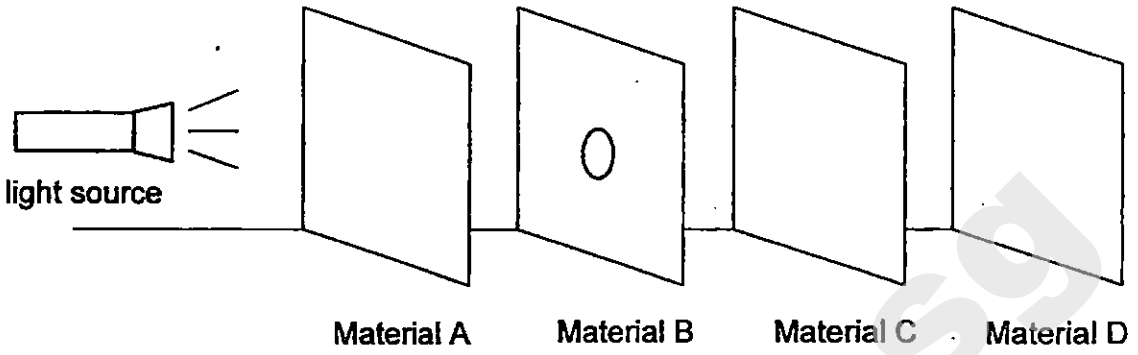
Substance	Freezing point (°C)	Boiling point (°C)
P	0	100
Q	16	42
R	45	165

Which of the following substances, P, Q and R, is/are liquid(s) at 40°C?

(1) R only
(2) P and Q only
(3) Q and R only
(4) P, Q and R

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24. An experiment is carried out in a dark room to find out if light can pass through Material A, B, C and D.



Material B has a circular hole being cut out. When the torch is switched on, a bright circular patch of light is observed on Material C.

Which of the following statements are definitely true about the property of materials A, B, C and D?

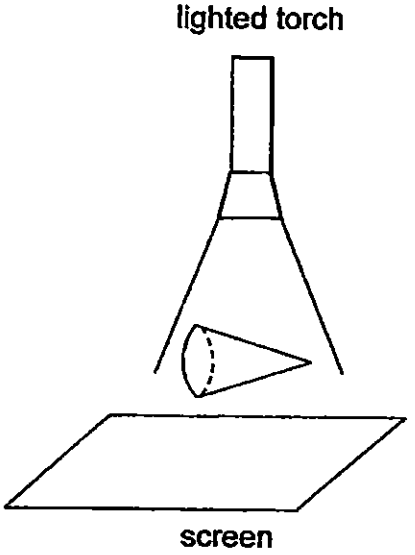
A Material A allows light to pass through.
B Material B allows light to pass through.
C Material C does not allow light to pass through.
D Material D does not allow light to pass through it.

(1) B and D only
(2) A and C only
(3) A, C and D only
(4) A, B, C and D

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25. A cone is placed directly under a light source in a dark room. A shadow is formed on the screen.



Which one of the following shadows could be observed on the screen?

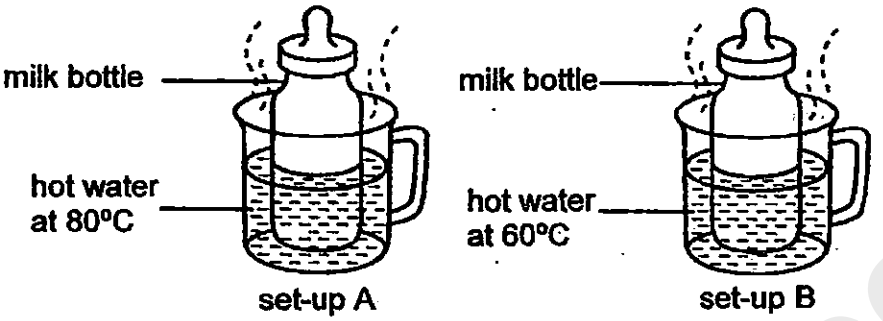


(1) (2) (3) (4)

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26. Sarah has just taken out two similar bottles of milk from the refrigerator and placed them in two water baths as shown below.

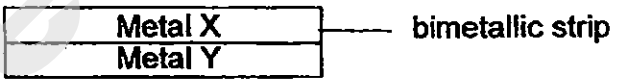


Which of the following statements are true?

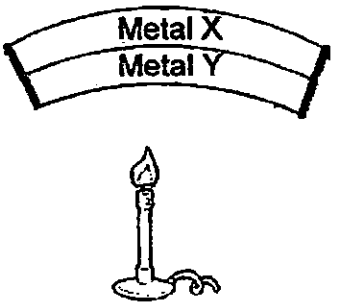
A The temperature in both bottles of milk will increase.
B In Set-up A, the heat from the water bath will travel to the milk.
C In Set-up B, the heat from the milk will travel to the water bath.
D The temperature of the bottle of milk in Set-up A will increase but the temperature of water in the water bath in set-up A will remain the same.

(1) A and B only
(2) A and C only
(3) C and D only
(4) A, B and D only

27. A bimetallic strip below is made up of two types of metals.



When it is heated, it becomes curved as shown below.



Which one of the following is the best conclusion?

(1) Metal X expands more than Metal Y.
(2) Metal Y expands more than Metal X.
(3) Metal X expands while Metal Y contracts.
(4) Metal Y expands while Metal X contracts.

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28. James made 4 statements on the 4 objects shown below.



20-cent copper coin


eraser



magazine


steel padlock

A They will not break when dropped.
B They are all made from plant parts.
C They are made from different materials that have different strength.
D The 20-cent coin can be used to scratch the eraser because the coin is stronger than the eraser.

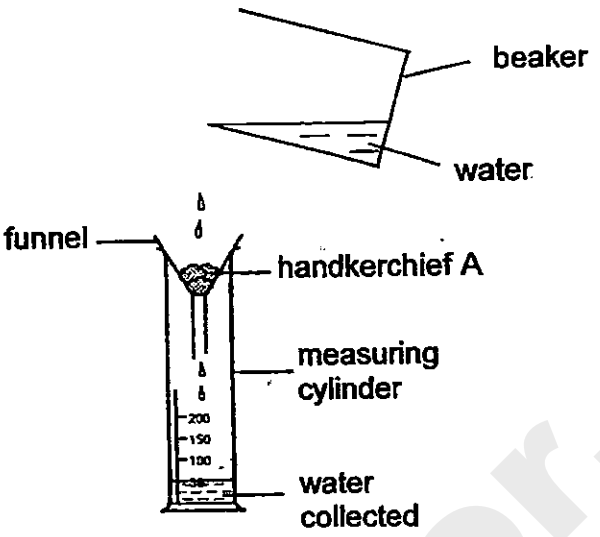
Which of the following statement(s) that James made is/are correct?

(1) B only
(2) A and C only
(3) B and D only
(4) A, C and D only

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29. Bala set up an experiment as shown below to find out which handkerchief can be used to soak up more of his sweat after his PE lessons.



He poured 100 ml of water from a beaker into a funnel. The water flowed through Handkerchief A before flowing out and being collected in a measuring cylinder. He recorded the amount of water collected in the measuring cylinder after 5 minutes.

After that, Bala replaced Handkerchief A with Handkerchief B and repeated the experiment. What is/are the condition(s) that Bala must keep the same in order to ensure a fair test?

A Type of fabric
B Duration of the experiment
C Amount of water in the beaker
D Amount of water collected in the measuring cylinder after 5 minutes

(1) A only
(2) B and C only
(3) A, B and C only
(4) B, C and D only

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30. Study the diagrams of the different types of leaves.

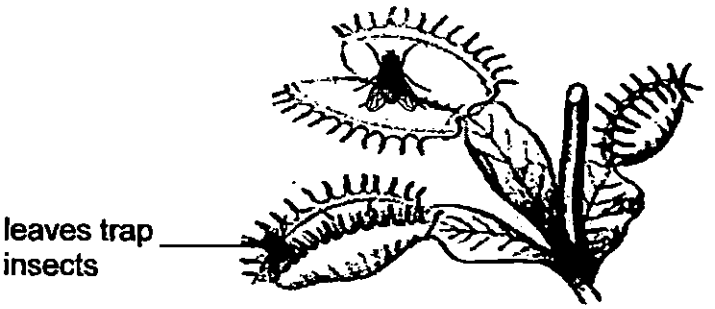


Diagram 1

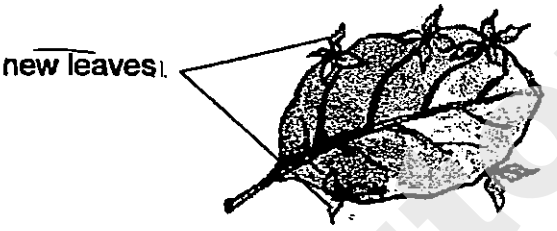


Diagram 2

Based only on the diagrams above, which one of the following statements on the function for each of the above leaves is correct?

	Diagram 1	Diagram 2
(1)	Reproduction	Transport food to other parts of plant
(2)	Help plants get nutrients	Absorb water
(3)	Provide shelter for the insect	Transport food to other parts of plant
(4)	Help plants get nutrients	Reproduction

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NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2015
PRIMARY 5

SCIENCE

BOOKLET B

14 Open-ended questions (40 marks)

Total Time for Booklets A and B : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

Marks Obtained

Section B		/40

Name: _____ ( ) **Class: P 5** _____

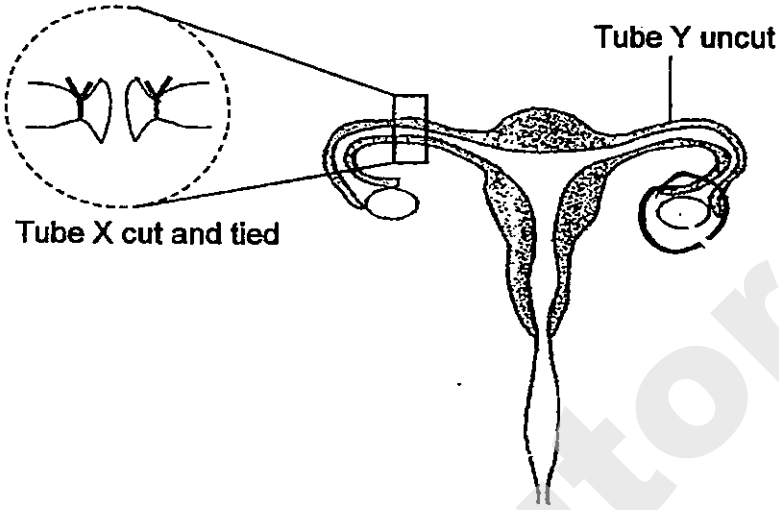
Date : 8 May 2015 **Parent's Signature:** _____

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Section B: (40marks)
Write your answers to question 31 to 44.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. Tube X in the female reproductive organ below was cut due to a medical condition.



(a) **Circle** and **label** the part of the organ that produces the female reproductive cell. [1]

(b) Explain clearly why fertilisation is still possible after tube X is cut and tied? [2]

_____

_____

_____

_____

Score	3

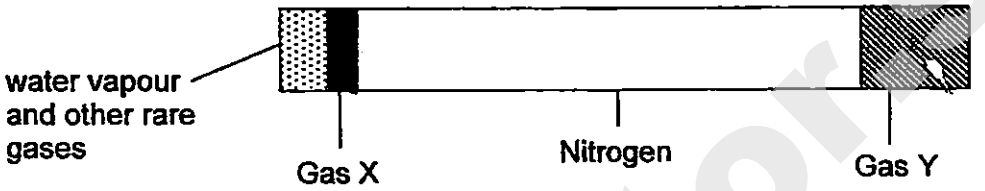
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32. Diagram 1 below represents the composition of gases in the surrounding air.



Diagram 2 below represents the composition of gases in the air exhaled by human.



(a) Name Gas X and Gas Y respectively. [1]

Gas X - _____ Gas Y - _____

(b) Which gas shown in Diagram 1 is needed during exercise? Explain. [1]

_____

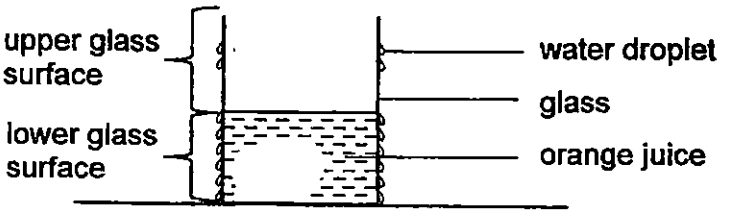
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Score	2

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33. Daniel poured some cold orange juice from the refrigerator into a glass as shown below.



(a) Daniel observed that there were more water droplets on the lower glass surface than the upper glass surface. Explain his observation. [2]

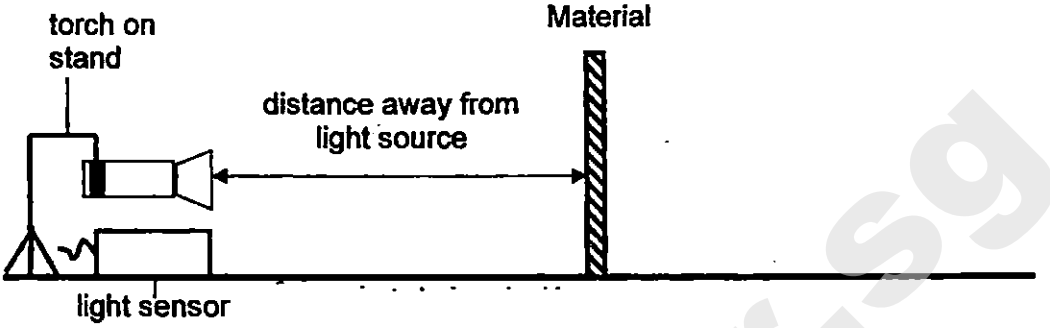
(b) Daniel wanted to chill the orange juice further by adding some ice cubes. His friend told him to crush the ice cubes into smaller pieces in order to chill the orange juice faster. Explain the reason why the orange juice will chill down faster. [1]

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Score 3

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34. An experiment was carried out to find out the amount of light reflected by two types of materials, X and Y.
Material X and Material Y of equal thickness are placed at an equal distance away from the light source and light sensor.



(a) State a reason why it is important to keep the same distance between the light source and both materials. [1]

_____

_____

The amount of light reflected by Material X and Material Y is recorded in Table A below.

Table A

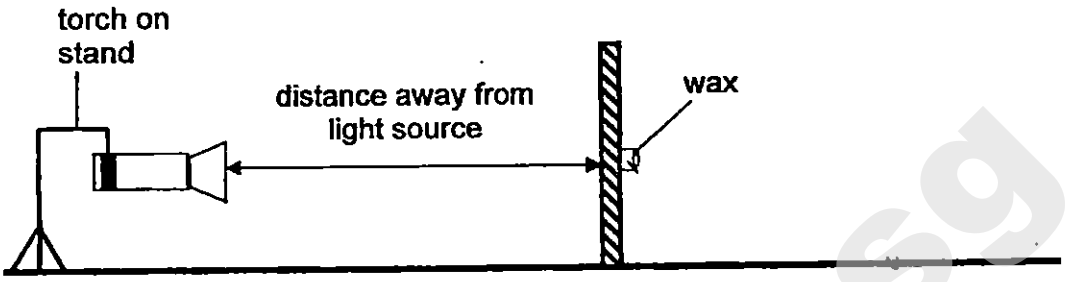
Material	Amount of light detected (lux)			
	1st attempt	2nd attempt	3rd attempt	Average
X	98	100	99	99
Y	36	38	37	37

Score	/ 1

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A second experiment using the same Material X and Material Y is carried out to find out heat conductivity of both materials. Wax of the same type and mass is attached to both materials.



The time taken for the wax to melt is recorded in the Table B below.

Table B

Material	Time taken for wax to melt (s)		
	1st attempt	2nd attempt	Average
X	20	18	19
Y	12	10	11

b) Based on Table A and B, how will the amount of light reflected by the material affect the amount of heat being conducted by the material? [1]

_____

_____

c) Based on the results of both experiments, explain which one of the two materials, Material X or Material Y, should be used to make a car sunscreen to keep the temperature in the car low. [2]

_____

_____

_____

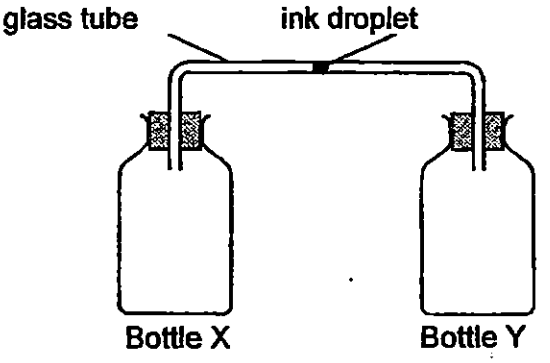
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Score		3

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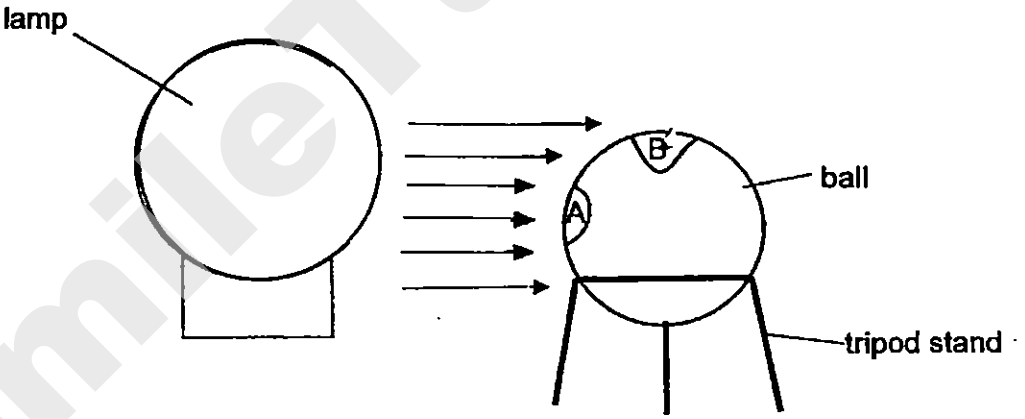
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35a. Study the diagram below. Two empty bottles, X and Y, are connected by a glass tube. An ink drop is placed in the middle of the tube.



Write down one way that can cause the ink drop to move towards bottle X when you are given a basin of ice. [1]

35b. Study the diagram shown below.



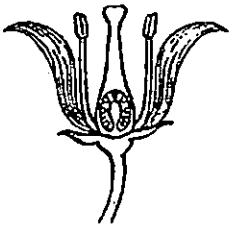
Give one reason why Area B will not be as hot as Area A. [1]

Score	2

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36. Su Fang observed the flower of Plant A in her garden. She found that the flower was being pollinated by some bees.



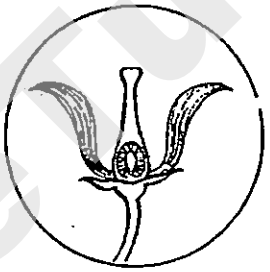
flower of Plant A

(a) State two characteristics that the flower has which enables it to be pollinated by bees. [1]

_____

_____

Su Fang conducted an experiment on a flower of Plant A in her garden. She removed a certain part of the flower as shown below.



Set-up X

She then tied a plastic bag over the flower as shown in set-up X. She observed that some parts of the flower dried up and developed into a fruit after some time.

(b) Explain how the flower in Set-up X can become a fruit. [2]

_____

_____

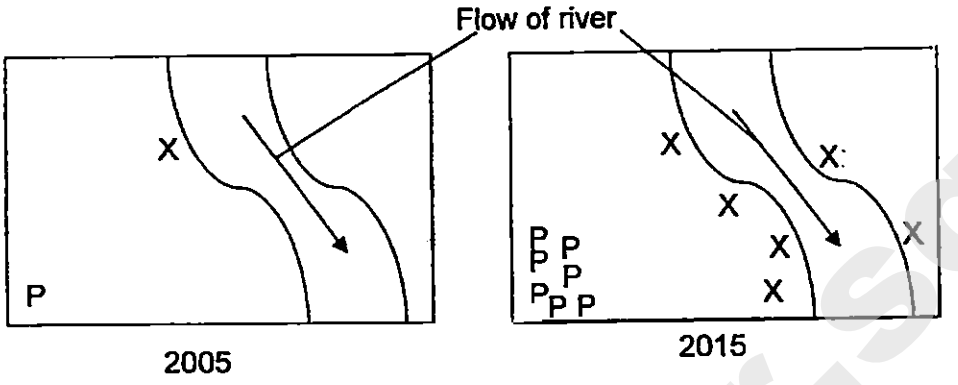
_____

Score	3

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37. Dylan observed and recorded the locations of some young plants on a plot of land in 2005. When he visited that plot of land in 2015, he found that the population of the plants had increased and recorded their locations.



(a) Name the method of seed dispersal of Plants P and X. [1]

(i) Plant P: _____

(ii) Plant X: _____

(b) He found that young of Plant P did not grow as healthily as Plant X due to the way they are dispersed. Explain why the young of Plant P did not grow as healthily. [2]

_____

_____

_____

_____

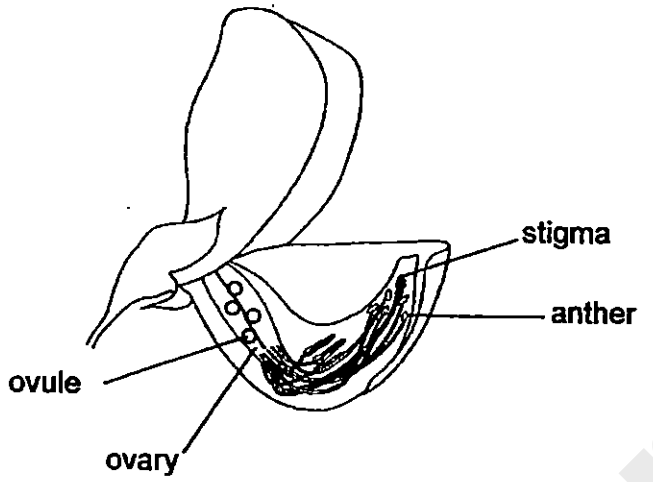
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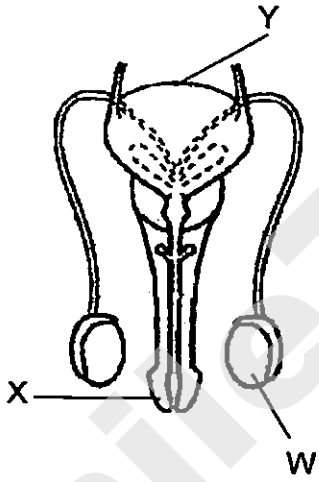
Score	3

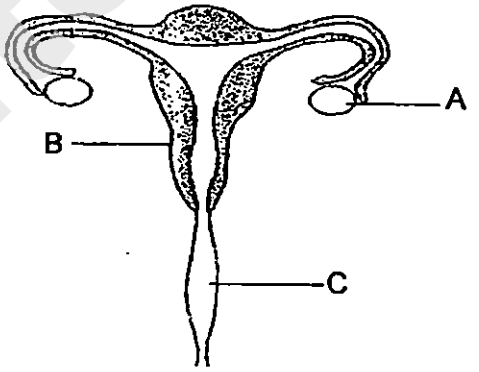
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38. The diagrams show the reproductive organs of a flowering plant and human.







(a) Write the letter representing the reproductive part of the human that has similar function as the plant part stated in the table below. [1]

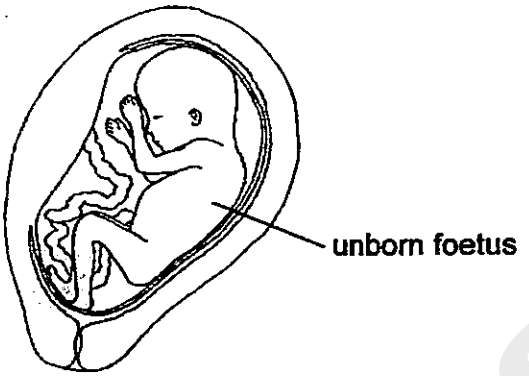
Plant reproductive part	Human reproductive part
Ovary	
Anther	

Score	/ 1

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(b) Diagram A below shows an unborn foetus.



From Diagram A, name the organ where the unborn foetus is found and state the function of the organ. [1]

(c) Diagram B below shows a seedling.



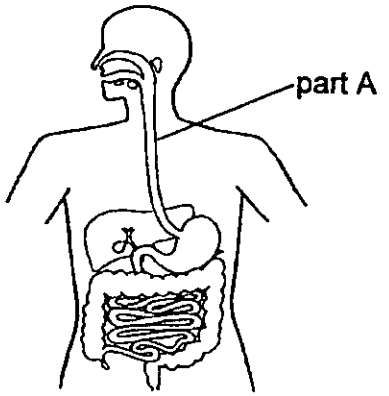
State a difference in the way the foetus and the seedling get their food. [1]

Score	2

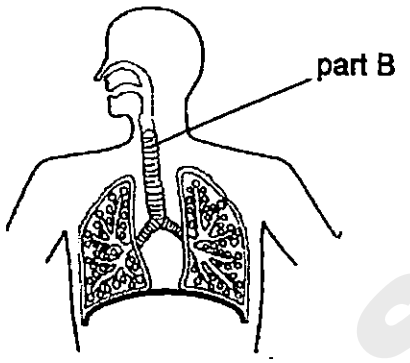
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39. The diagrams below show two systems in a human.



System X

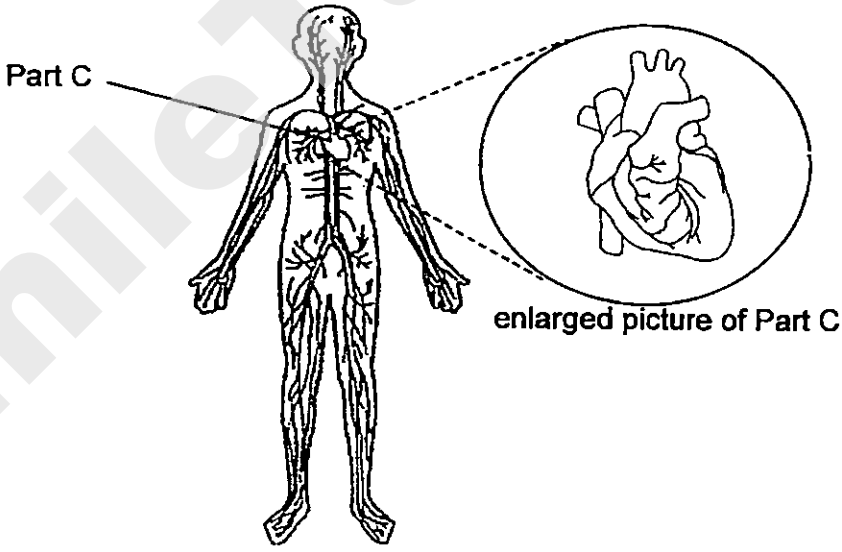


System Y

(a) What is the difference in function between part A and part B? [1]

_____

_____



(b) After the food is digested, how does part C help the digested food reach the rest of the body? [1]

_____

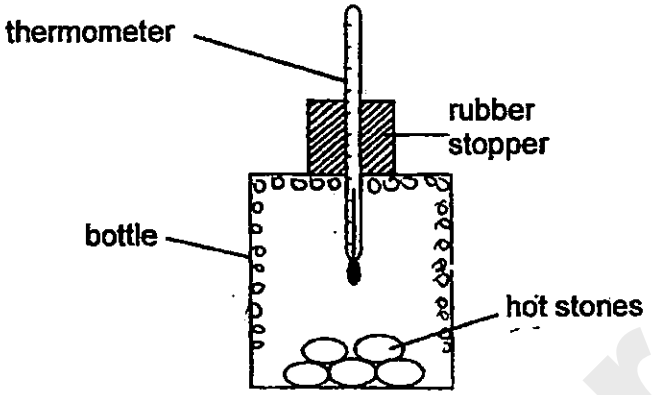
_____

Score	2

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40. Lifeng placed several hot stones in the bottle and closed the bottle so that it was air-tight. After 5 minutes, she recorded the temperature of the air in the bottle as shown in the diagram below.



Her results are shown in the table below.

	Temperature of air in the bottle
In the beginning	28°C
After 5 minutes	46°C

(a) Give a reason for the increase in the temperature of the air in the bottle. [1]

_____

_____

After a while, Lifeng noticed water droplets on the inner surface of the bottle.

(b) Explain how the water droplets appear in the bottle. [2]

_____

_____

_____

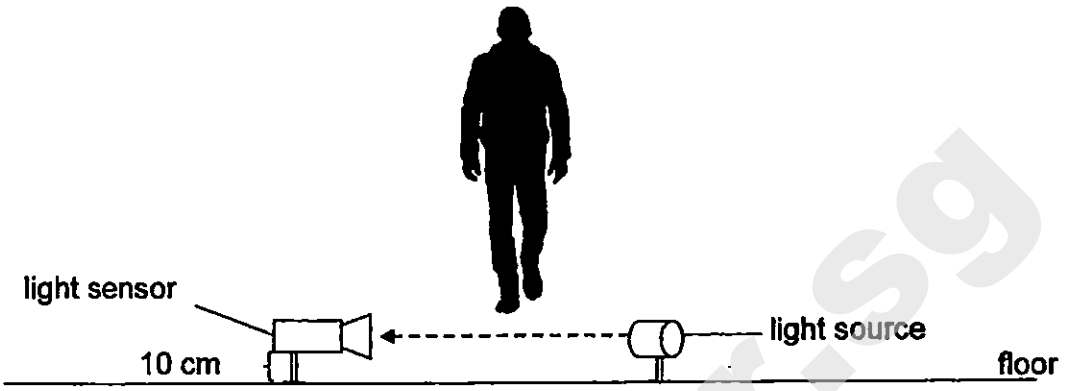
_____

Score	3

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41. The set-up below uses light sensor to count the number of customers entering a shop when somebody moves between the light source and light sensor.



(a) Will light be detected by the light sensor when a customer is between the light source and light detector? Explain. [2]

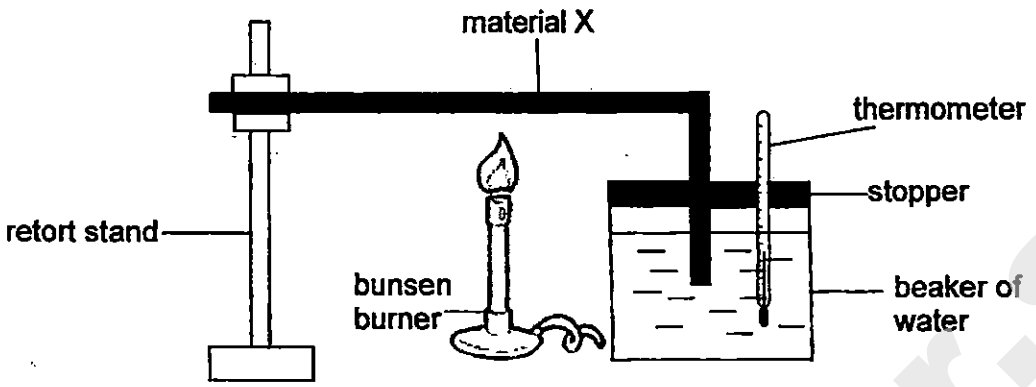
(b) Can the light sensor and light source be placed 3 metres above the floor? Give a reason for your answer. [1]

Score	/ 3

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42. Benjamin placed one end of the rod, which is made of Material X, into the beaker of water which has a temperature of 28°C. He heated the middle of the rod as shown below.



After 20 minutes, the water in the beaker reached 60°C. He repeated the experiment with two other types of material. He recorded the time taken by the water to reach 60°C in the table below.

Material	Time taken for the water to reach 60°C (min)
X	20
Y	16
Z	7

(a) Why did the water in the beaker become hotter? [1]

_____

_____

(b) What did the experiment show about the property of different materials? [1]

_____

_____

(c) Benjamin wants to buy a container to keep his food warm for his recess. Which material should he choose? Give a reason for your answer. [1]

_____

_____

Score 3

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43. The table below shows some properties of four different types of plastic.

Property	Plastic A	Plastic B	Plastic C	Plastic D
Strong	Yes	No	Yes	No
Lightweight	No	Yes	Yes	No
Waterproof	Yes	Yes	Yes	Yes
Hard	Yes	Yes	No	Yes

(a) State the common property found in the 4 different types of plastic. [1]

_____

_____

(b) Kate wants to buy a luggage bag to use for her holiday trip. She wants a luggage bag that will not break easily and can be carried around easily. Among the four types of plastic, which type is the best choice for Kate? Explain your choice of plastic. [2]

_____

_____

_____

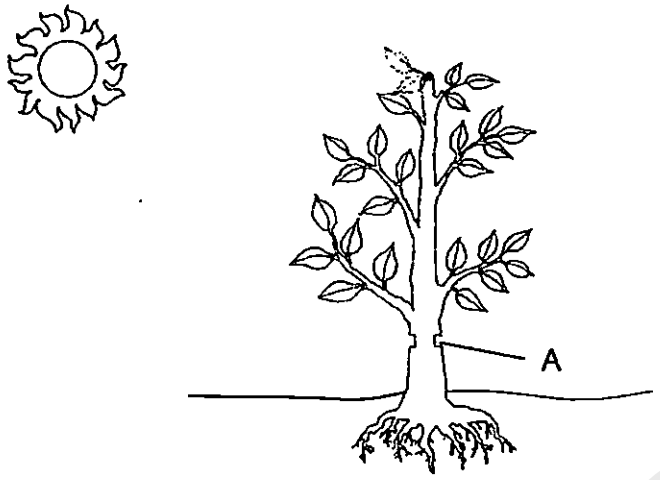
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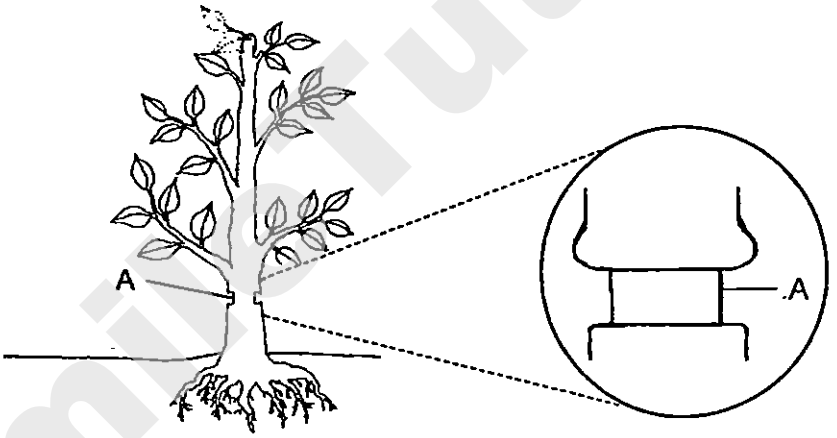
Score 3

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44. A small ring-like layer was carefully removed from the outer part of the stem at part A.



After a period of time, the upper part of the cut stem at part A swelled.
The enlarged view of part A is shown below.



(a) Why did the upper part of the stem at part A swell? Explain. [2]

_____

_____

(b) Give a reason why water is able to flow from the roots to the leaves? [1]

_____

_____

Score	3

END

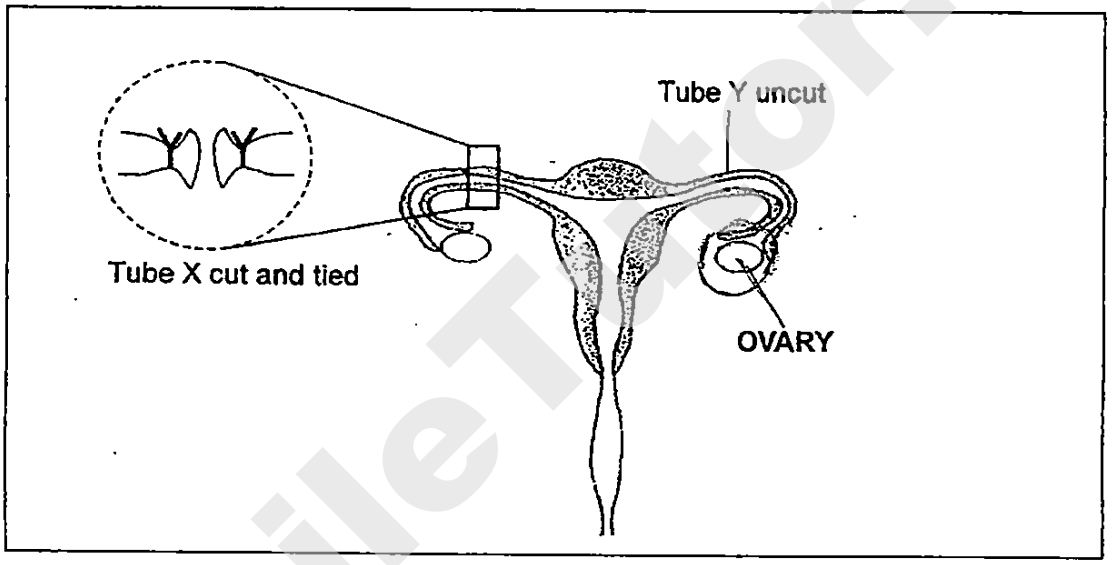
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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : NAN HUA PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	**1**	**3**	**2**	**3**	**4**	**4**	**4**	**3**	**2**
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	**2**	**2**	**2**	**3**	**2**	**1**	**3**	**1**	**1**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	**4**	**2**	**2**	**2**	**1**	**1**	**2**	**2**	**4**

Q31a. **SEE PICTURE**



Q31b. Although tube X is cut and tied, eggs produced by the ovary can still pass through the other fallopian tube. Sperms produced by the male reproductive system can fuse with the egg at the fallopian tube.

Q32a. Gas X : Carbon dioxide Q32a. Gas y : Oxygen

Q32b. Gas Y. The body needs more energy during exercise. Oxygen is needed to carry out respiration faster so more energy can be produced.

Q33a. The lower glass surface is cooler as it loses heat to the cold orange juice. Hence the water vapor in the surrounding air condenses faster on the cooler lower glass surface.

Q33b. The crushed ice cubes is in contact with more orange juice. The orange juice will lose heat to the ice faster and become chill faster compared to putting in ice cubes that are not crushed.

Q34a. So that only one variable is changed to ensure a fair test.

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Q34b. The greater the amount of light reflected, the smaller the amount of heat conducted by the material.

Q34c. Material X. It can reflect more light and the amount of heat conducted into the car is less.

Q35a. Place Bottle X in the basin of ice.

Q35b. Area B is further than Area A from the lamp, thus Area B will gain heat slower than Area A. More heat is lost since hat has to travel.

Q36a. (1) Brightly colored petals (2) Sweet smelling flowers

Q36b. The flower could be pollinated and fertilized before male parts were removed. The ovary became a fruit and ovules became seeds.

Q37a. (i) Plant P: Splitting (ii) Plant X: by water
Q37b. Young of P are clustered together. Young of P need to compete with parent plant and other seedling for nutrients, sunlight, water and space due to overcrowding. Young of X are further away from parent plant and other seedling, thus, young of X gets enough nutrients, sunlight, water and space and grows healthier than Plant P.

Q38a. Ovary : A Anther : W

Q38b. Womb. The womb allows unborn foetus to develop here.

Q38c. The foetus gets the food from the mother through the umbilical cord. The seedlings make its own food.

Q39a. Part A transports food while Part B transports air.

Q39b. Part C pumps blood containing digested food to the rest of the body.

Q40a. The air in the bottle gained heat from the hot stones and increased in temperature.

Q40b. The water in the bottle gained heat from the hot stone. It comes in contact with the cooler inner surface of the bottle and condenses into water droplets.

Q41a. No light will be detected. The customer is opaque. Light travels in a straight line. The light cannot pass through the customer, thus no light will be detected when a customer is between the light source and light detector.

Q41b. No. Normal people will not be that tall. If the light sensor and light source is placed 3 meters above the floor, no one will be able to be detected.

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Q42a. Material X gained heat from the Bunsen burner. The water gained heat from material X and and became hotter.

Q42b. Different material conducts heat at different rate.

Q42c. Material X. It is the poorest conductor of heat and the food will lose heat to the container the slowest.

Q43a.Waterproof

Q43b. Plastic C. C is strong and lightweight. C will not break easily and can be carried around easily. Thus, C is the best choice for Kate for her holiday.

Q44a. The food – carrying tube is removed. The food got stuck at A, thus upper part of stem at part A swelled.

Q44b. The phloem is at the outer part of the stem. Even if phloem is removed, xylem may not be removed. Thus, water is still able to flow from the roots to the leaves if xylem is not removed.

THE END

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NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 1
2015

BOOKLET A

Date : 12 May 2015
Duration : 1 h 45 min

Name : _____ **( )**

Class: Primary 5 (

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

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Section A (30 x 2 marks = 60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. The table below shows the melting point and boiling points of 4 substances E, F, G and H.

Substances	Melting Point (°C)	Boiling Point (°C)
E	70	99
F	23	67
G	47	120
H	15	36

At which temperature, will **only two** substances be found in the liquid state?

(1) 22°C

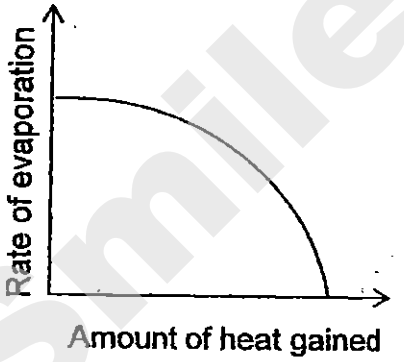
(2) 45°C

(3) 78°C

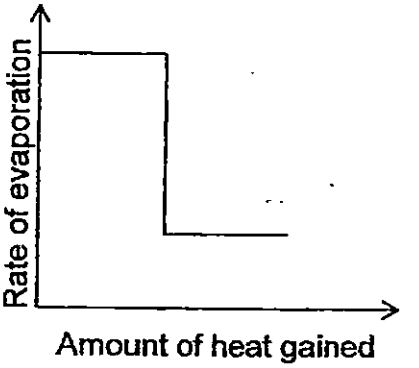
(4) 100°C

2. Which one of the following graphs correctly represents the relationship between the rate of evaporation of a liquid and the amount of heat gained?

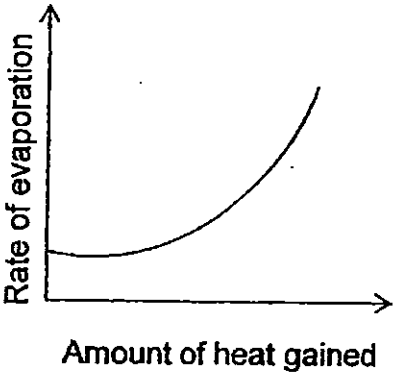
(1)



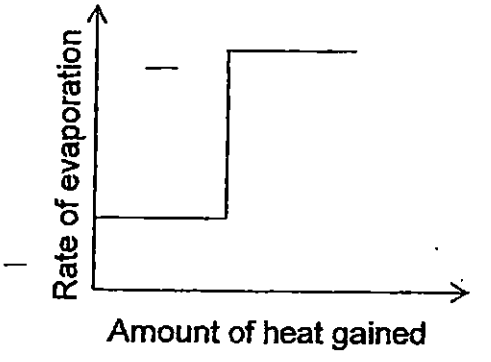
(2)



(3)



(4)



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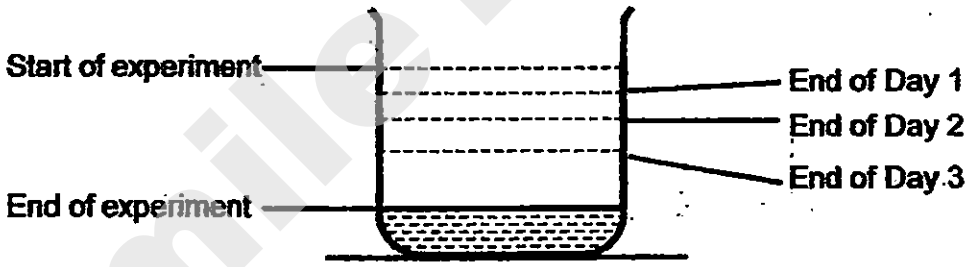
3. Mary wanted to conduct an experiment to find out if pesticide has an effect on the growth of duckweeds. She collected some water from ponds R and S and prepared 4 different set-ups A, B, C and D as shown below.

Set-ups	Water from Pond	Number of duckweeds	Amount of water (ml)	Amount of pesticides added (ml)
A	S	20	150	40
B	S	15	100	0
C	R	15	100	0
D	R	15	100	40

Which of these set-ups should Mary use to conduct a fair test for her experiment?

(1) A and B
(2) A and C
(3) B and D
(4) C and D

4. A beaker of water was left in the open for 4 days. There was no rainfall over the 4 days. The beaker was filled with water to the level indicated at the start of the experiment.



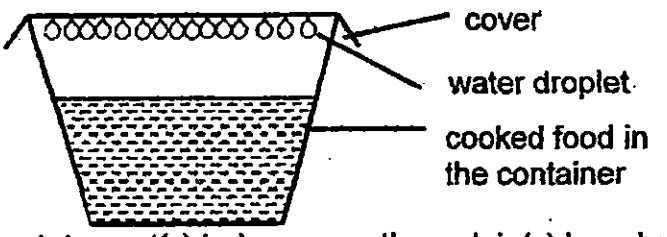
A line was drawn on the beaker to indicate the water level at the end of each day.

On which day was the rate of evaporation the highest?

(1) Day 1
(3) Day 2
(2) Day 3
(4) Day 4

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5. Mrs Song packed a container of cooked food for her lunch break. Before she left for work, she observed that water droplets were formed under the cover in the enclosed container.



Which of the statement(s) below correctly explain(s) her observations?

A The hot water vapour from the cooked food lost heat to the cooler cover and condensed to form water droplets.

B The water vapour from the cooked food gained heat from the cover and condensed to form water droplets.

C The cover gained heat from surrounding air to form water vapour, then it lost heat to the container and formed water droplets.

D The hot water vapour outside the container lost heat to the cover and condensed to form water droplets.

(1) A only
(3) C only
(2) A and D only
(4) B and C only

6. The diagram below represents the processes that cause the changes in the state of water.



Which of the following is **true** about processes X and Y?

A Heat is gained during both processes X and Y.

B Heat is gained during process X but heat is lost during process Y.

C The temperature of water remains the same during process Y while the temperature of ice increases during process X.

D The temperature of the ice remains the same during process X and temperature of the water also remains the same during process Y.

(1) B only
(2) C only
(3) A and C
(4) A and D

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7. Yen used a magnifying glass to observe a plant. It does not produce flowers at all but she noticed some brownish-black dots on the underside of the leaves. She also saw some of the same spots on the cracks of the wall beside the plant. After a few months, plants of the same species were seen growing from the cracks on the wall.

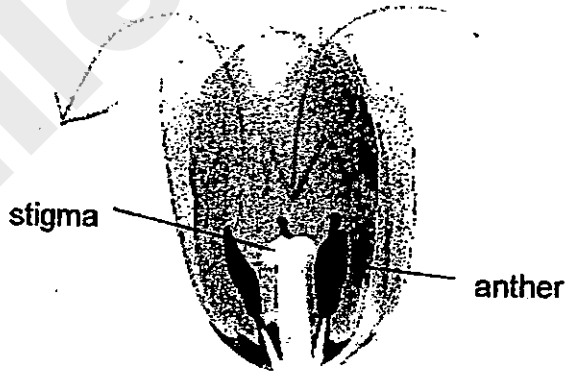
What could the brownish-black dots most likely be?

(1) seeds
(2) spores
(3) ovules
(4) pollen grains

8. Plant W has fruits which are sweet, juicy and have many small seeds. Why is it useful for the plant to produce fruits with many seeds?

(1) Many seeds make the fruits sweeter.
(2) Many seeds are needed to produce one new plant.
(3) Many seeds are needed during fertilisation to produce more fruits.
(4) Many seeds increase the chances that they may grow into new plants when dispersed.

9. The diagram below shows the flower of plant X. The petals are brightly-coloured and nectar can also be found in the flower.



Based on the diagram and description above, how is this flower most likely pollinated?

(1) wind and birds only
(2) wind and insects only
(3) birds and insects only
(4) wind, birds and insects

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10. Rene wanted to find out if insects are attracted to certain colours of flowers. She decided to conduct her own experiment using 10 paper flowers.
Which of the following steps should she take to prepare her paper flowers to ensure a fair test?

A Cut all the flowers to the same size

B Add scent to all her flowers

C Add scent to only 5 flowers

D Cut 5 big flowers and 5 small flowers

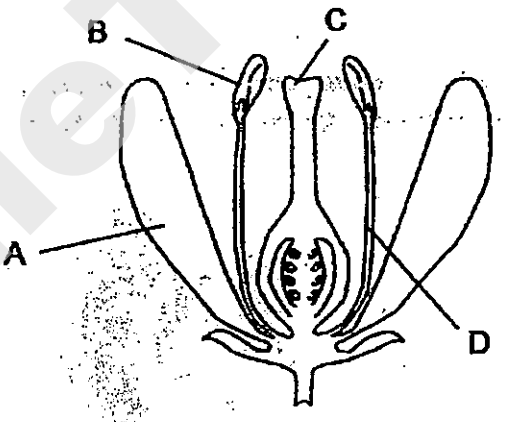
E Use 5 red flowers and 5 yellow flowers

F Use 10 red flowers

(1) B and F only (2) D and E only

(3) A, B and E only (4) C, D and F only

11. The diagram below shows different parts of a flower.



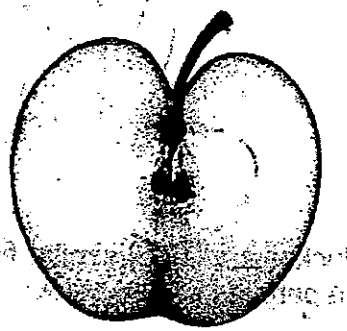
Which part is not necessary during wind-pollination?

(1) A (2) B

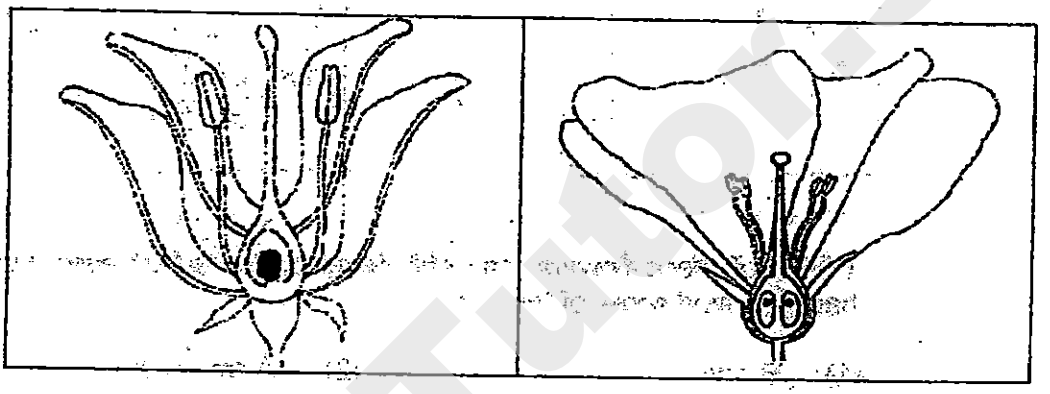
(3) C (4) D

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12. Study the diagrams of the cross-section of fruit M and the cross-sections of the ovaries for flowers A, B, C and D below.

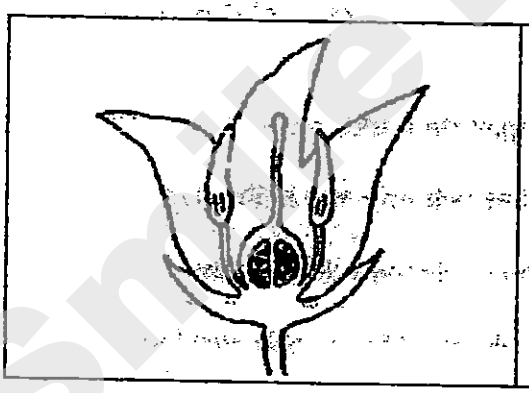


Fruit M

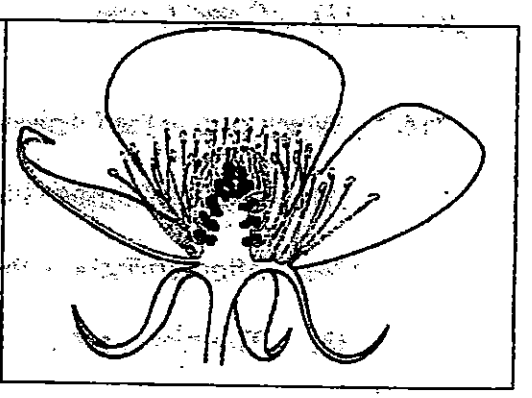


A

B



C



D

Based on the above diagrams, which flower(s) could most likely produce fruit M after pollination and fertilisation?

(1) B only

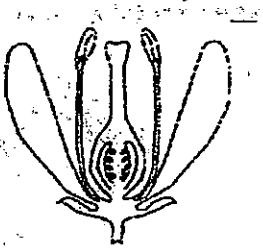
(2) C only

(3) A and C only

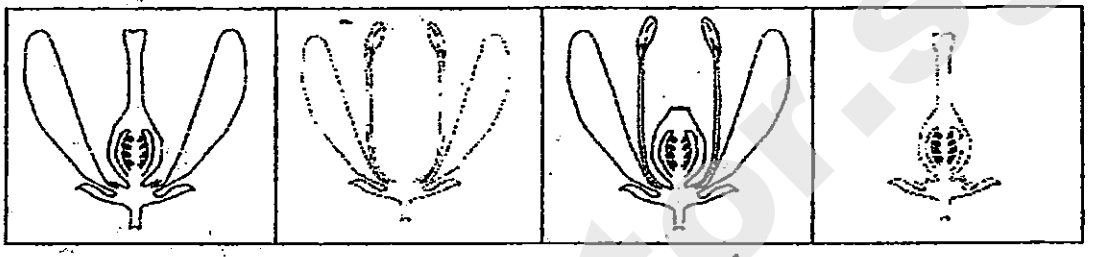
(4) B and D only

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13. Jen found a flower as shown below.



She then plucked another 4 similar flowers from the same plant and removed the parts as shown below.



A B C D

Which of these flowers may still develop into a fruit even though she had removed some of their parts?

(1) B only
(2) A and B only
(3) C and D only
(4) A, C and D only

14. Which one of the following statements is **true**?

(1) The pollen grain fuses with the egg in the ovary.

(2) After fertilisation, the ovules will develop into seeds.

(3) The fusion of the male and female cells will form an egg.

(4) Fertilisation occurs when the pollen grain is transferred to the stigma.

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15. It is observed that some birds feed on the fruits of plant X. The fruits contain many seeds and the birds pass out the undigested seeds in their droppings far away from the parent plant. How does this help plant X?

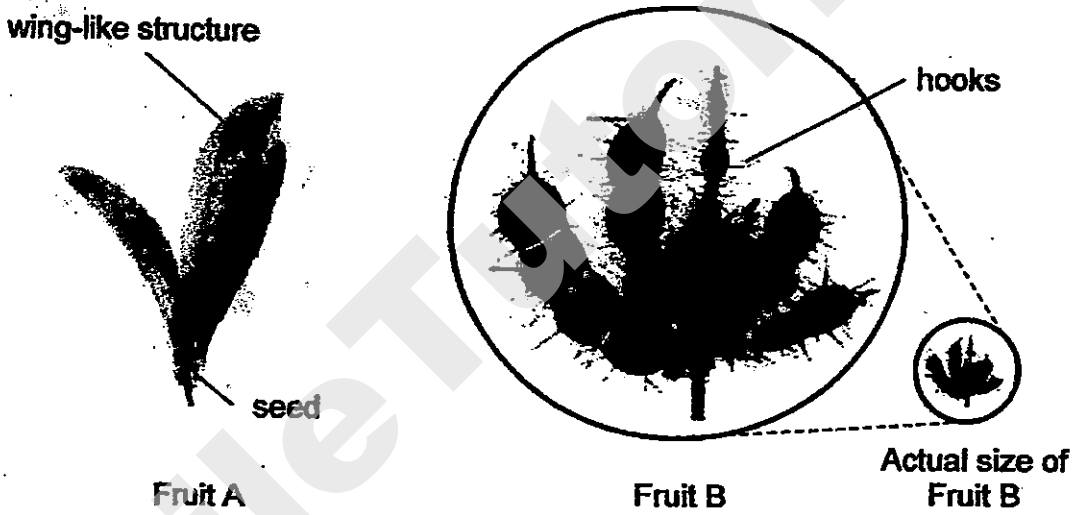
(1) The plant will be able to produce more seeds.

(2) The birds help to germinate the seeds before passing them out.

(3) The birds will help to prevent the plant from reproducing when they swallow the seeds.

(4) Young plants will not need to compete for space, sunlight, mineral salts and water with the adult plant.

16. Study the characteristics of the fruits shown below.



Fruit A Fruit B

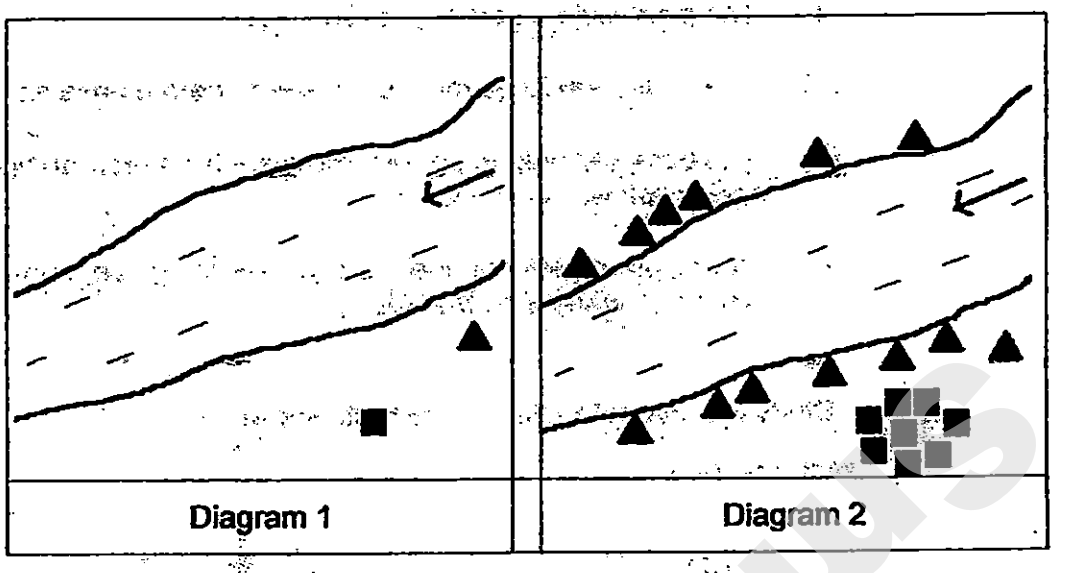
How are the seeds of fruits A and B most likely dispersed?

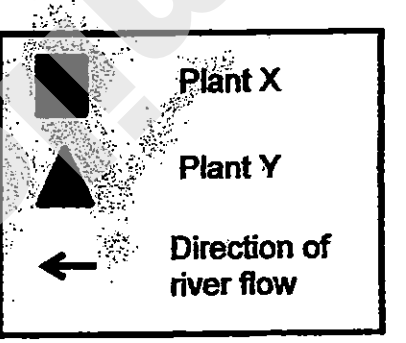
	A	B
1)	wind	water
2)	water	wind
3)	wind	animals
4)	animals	splitting

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17. The diagrams below show part of a river where two types of plants are growing. Diagram 1 shows the location of the parent plants and Diagram 2 shows where their offsprings had been dispersed a few years later.

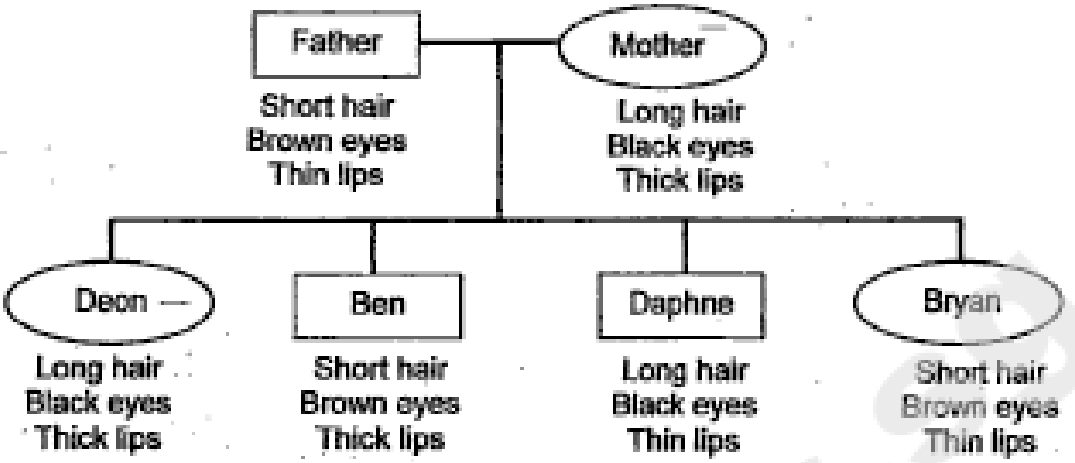




How had the fruits of each type of plant most likely been dispersed?

	Plant X	Plant Y
1)	Splitting	Wind
2)	Wind	Water
3)	Splitting	Water
4)	Animals	Splitting

18. Study the family tree below. A brief physical description of each family member is stated below each family member.



Which of the following children inherited only one characteristics from each parent?

(1) Deon and Bryan only
(2) Ben and Daphne only
(3) Deon, Ben and Daphne only
(4) Ben, Bryan and Daphne only

19. The diagram below shows a developing baby in its mother's womb.

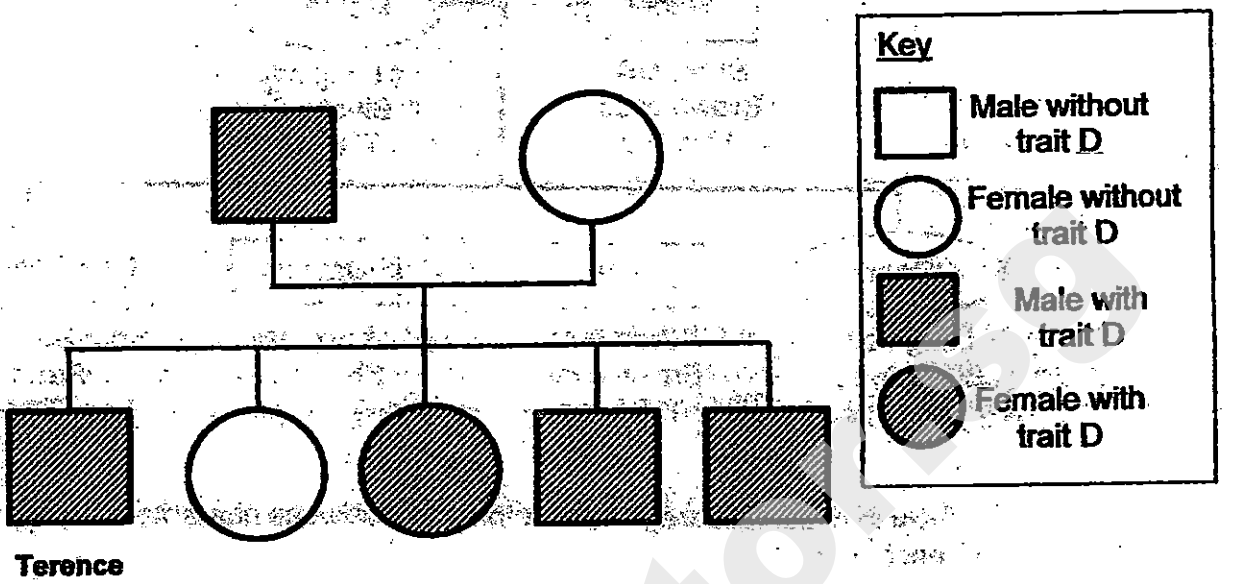


Which one of the following statements about the developing baby is wrong?

(1) The baby is developed from a fertilised ovary.
(2) The baby receives food through the umbilical cord.
(3) The baby is formed when the sperm fuses with an egg.
(4) The baby carries genetic information from both its parents.

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20. Trait *D* is passed down from the parents to their young. The diagram below shows Terence's family tree. Terence had been labelled in the family tree.



Which one of the statements about Terence's family is correct?

(1) Terence and his 3 siblings have trait D.

(2) Only the males in the family do not have trait D.

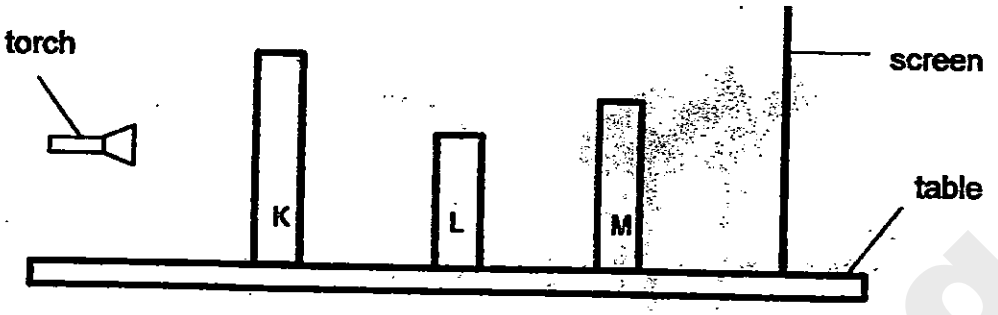
(3) Terence's mother has passed down trait D to him.

(4) Terence and one of his siblings do not have trait D.

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21. Three square objects at positions K, L and M were placed in a straight line on a table. Light was shone as shown below to obtain a shadow on the screen.



side view

The table below describes the objects.

Object	opaque	translucent	transparent	height (cm)
K			√	6
L	√			3
M		√		4

Which one of the following shadows is most likely to be the one seen on the screen?

Key

Light shadow

Dark shadow

(1) 

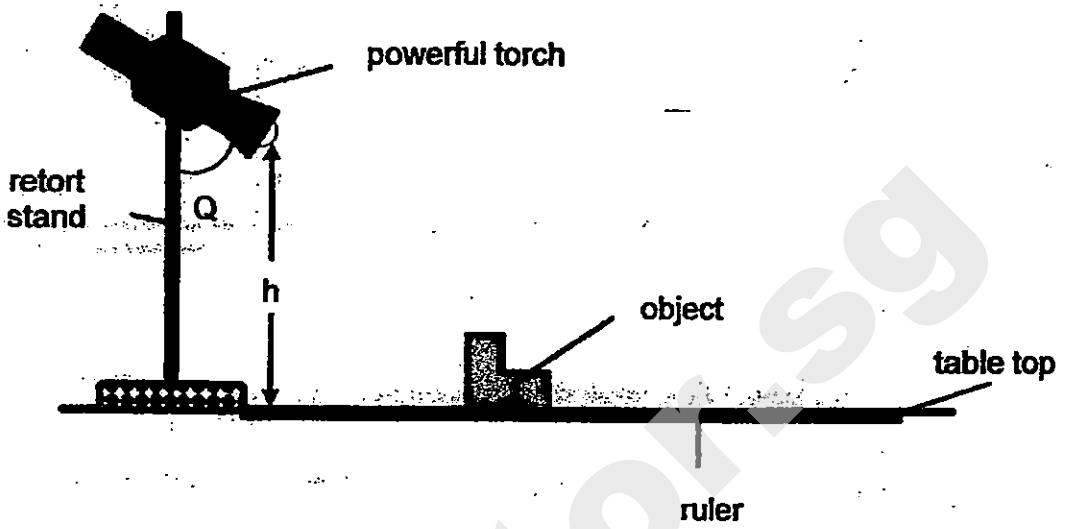
(2) 

(3) 

(4)

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22. David used a powerful torch to shine at an object as shown below. He measured the length of the object's shadow every time he changed the distance between the object and the retort stand.

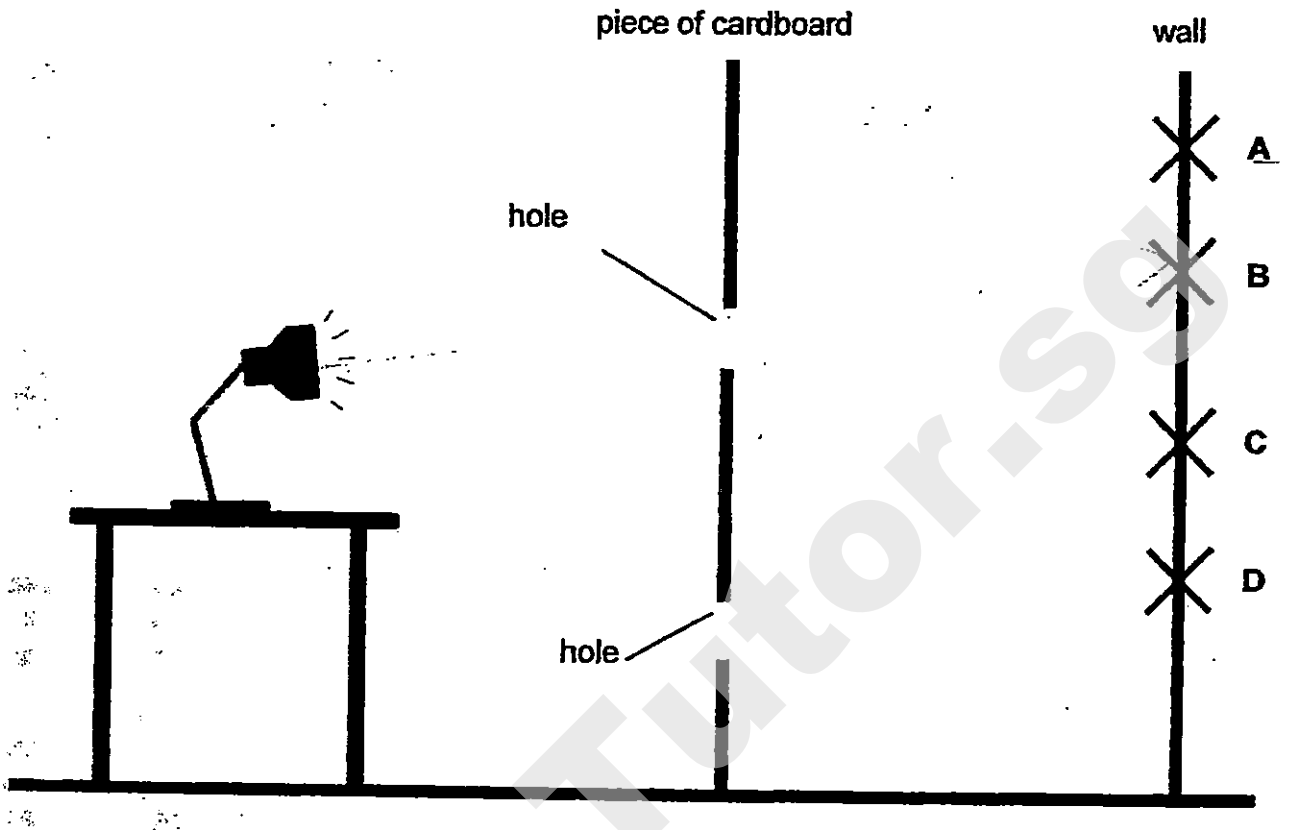


Which one of the following shows a possible aim of the experiment and the variables which should be kept constant?
A tick (√) indicates that the variable is kept constant.

	Aim of experiment	Height of torch (h)	Angle of torch at the retort stand (Q)	Distance between the object and light source
(1)	To show how the angle of the torch at the retort stand affects the size of the object's shadow		√	√
(2)	To show how the angle of the torch at the retort stand affects the height of the object's shadow	√		√
(3)	To show how the distance of the object from the retort stand affects the length of the object's shadow		√	√
(4)	To show how the distance of the object from the retort stand affects the length of the object's shadow	√	√	

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23. Siti sets up an experiment as shown below.



Light from the lamp passes through the holes in the cardboard and forms a bright spot on the wall.

Which point on the wall would most likely be lit up by the light source?

(1) A

(2) B

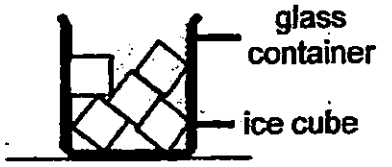
(3) C

(4) D

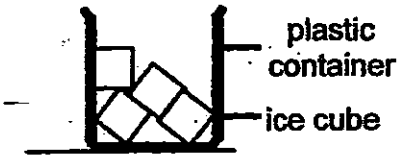
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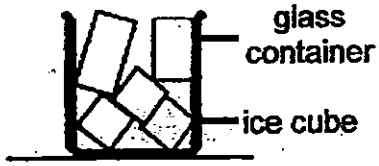
24. Kim and Parveen conducted an experiment to find out how the type of container would affect the rate of melting. They put their ice cubes in different containers of the same size before they started their experiment.



Set-up A



Set-up B



Set-up C



Set-up D

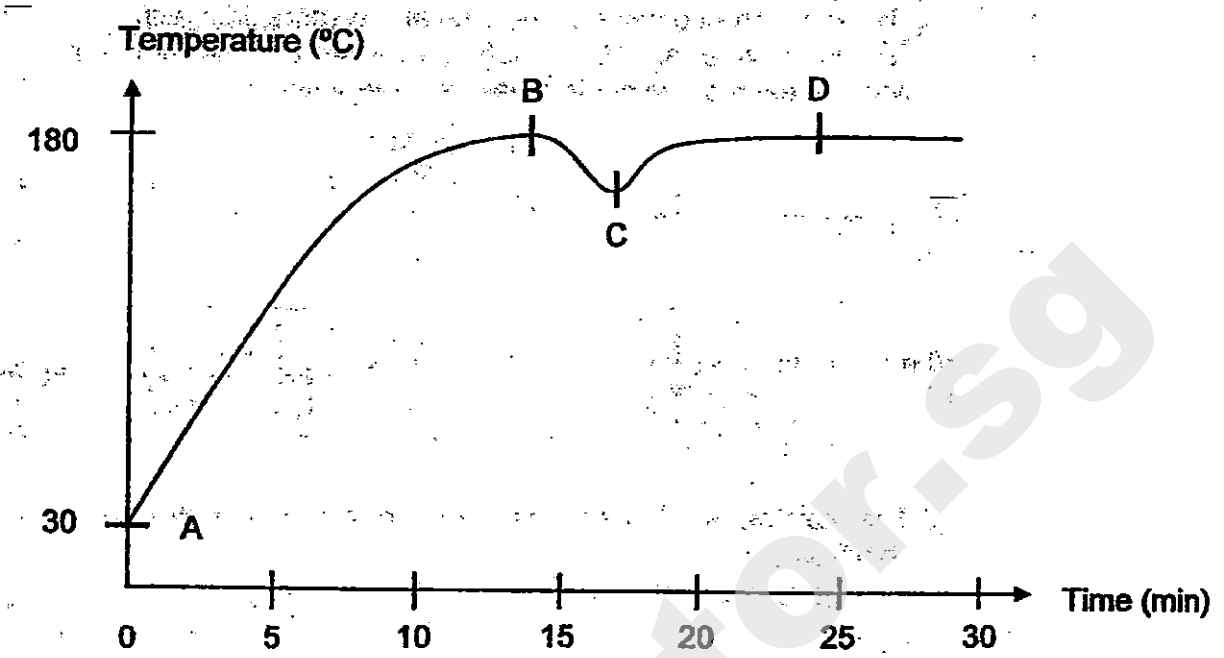
Which two set-ups should they choose for their experiment to be a fair one?

(1) A and B only
(2) A and D only
(3) B and C only
(4) C and D only

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25. The graph below shows the temperature change in an oven before and during the baking of a loaf of bread.



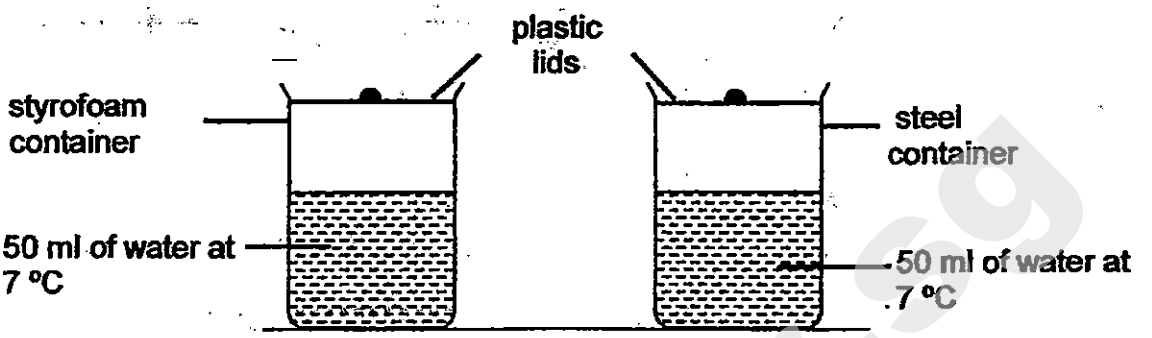
A bread recipe requires the baker to heat the oven to 180°C before baking the bread. Once the temperature reaches 180°C, the baker has to open the door and put the dough into the oven.
At which point on the graph was the oven door opened?

(1) A
(2) B
(3) C
(4) D

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26. The diagram below shows a styrofoam container and a steel container of the same shape and volume. Both containers are covered with a plastic lid. The containers are filled at the same time with the same amount of water at 7 °C and left in a classroom. The temperature of the water in each container is measured every five minutes.



The table below shows the temperature readings of the water in the styrofoam container.

Time (min)	0	5	10	15	20
Temperature of water (°C)	7	10	12	14	18

Which one of the following best represents the most likely changes in the temperature of water in the steel container over 20 minutes?

(1)

Time (min)	0	5	10	15	20
Temperature (°C)	7	10	12	14	18

(2)

Time (min)	0	5	10	15	20
Temperature (°C)	7	15	19	22	25

(3)

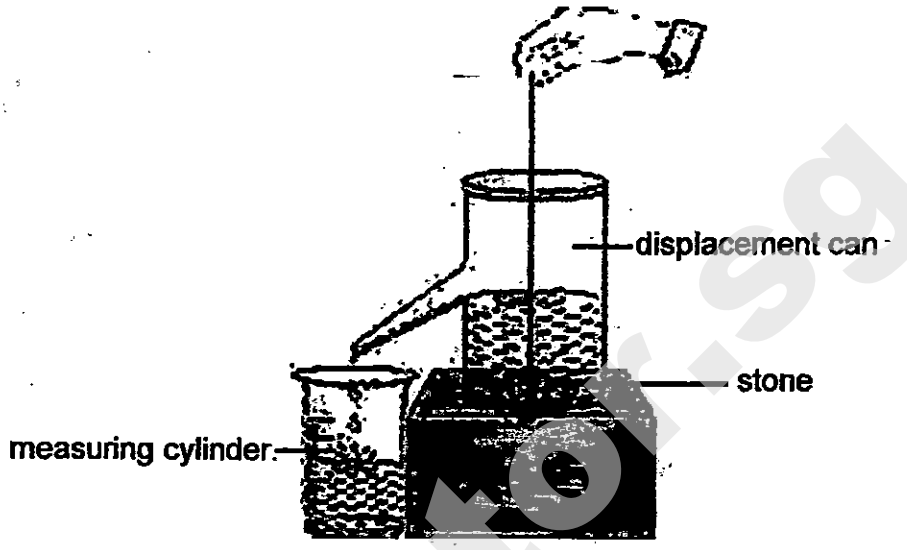
Time (min)	0	5	10	15	20
Temperature (°C)	7	5	4	3	2

(4)

Time (min)	0	5	10	15	20
Temperature (°C)	7	8	9	11	13

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27. Mrs Lim filled a displacement can with water. A stone was gently lowered into the can of water. Her pupils observed that some water had flowed into a measuring cylinder as shown in the diagram below. The amount of water collected in the cylinder was then measured.



Based on the results of the experiment, her pupils made the following conclusions:

A Both the water and the stone have mass.

B Water has a definite shape and volume.

C The stone occupies space and has a definite volume.

D Water has a definite volume and the stone occupies space.

Which properties of the water and stone stated above can be observed from her experiment?

(1) A and B only

(2) B and C only

(3) C and D only

(4) A, C and D only

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28. Alvin hung two similar iron balls, S and T, on a balanced rod. Ball S was heated as shown in Diagram 1 below. He made some observations after conducting the experiment. The result of the experiment is shown in Diagram 2.

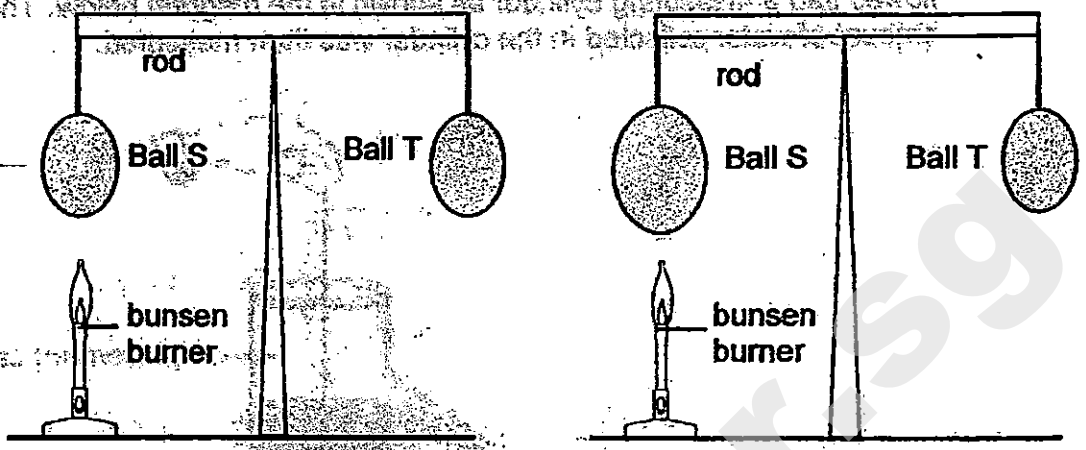


Diagram 1 Diagram 2

Based on the experiment, which one of the following statements is true?

(1) Ball S lost heat and increased in volume.

(2) Ball S gained heat and increased in mass.

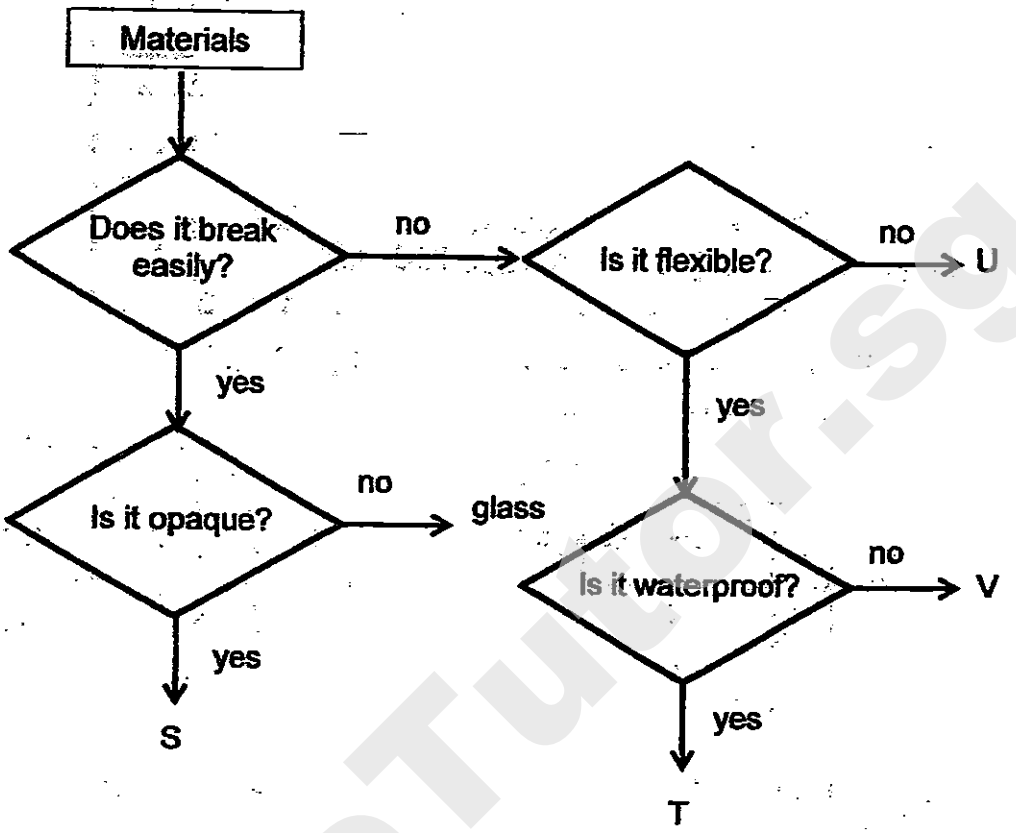
(3) Ball S and Ball T remained the same mass.

(4) Ball S gained heat and decreased in volume.

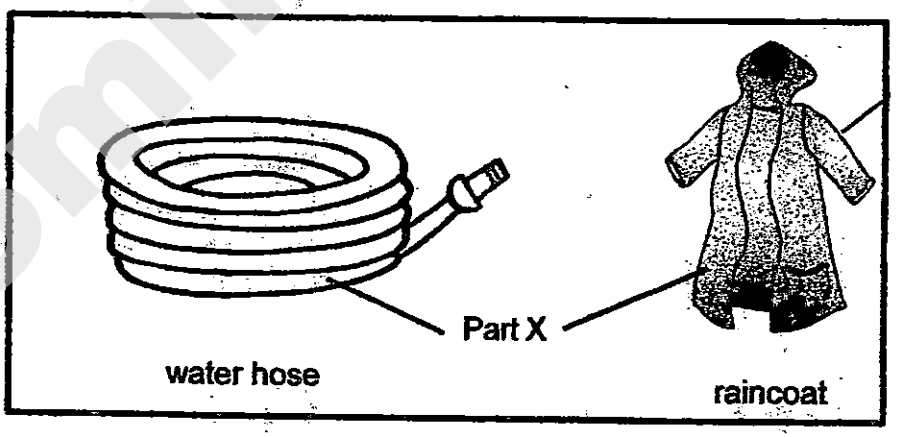
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29. The flow chart below shows the properties of different materials, S, T, U, V and glass.



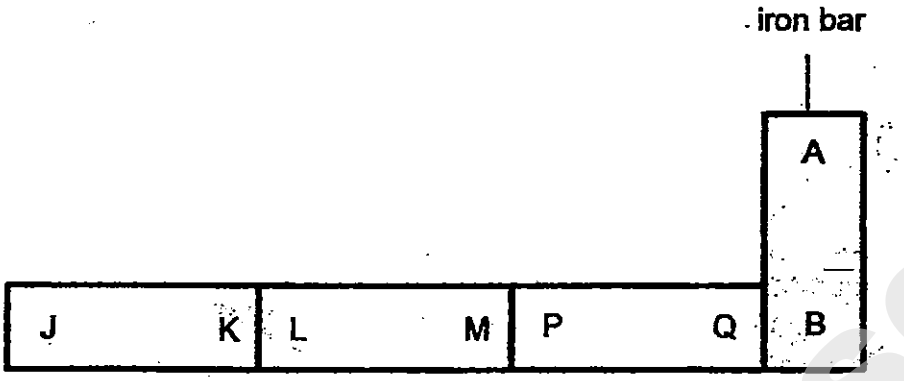
Based on the information above, which one of the materials should be used to make part X of the objects shown below?



(1) S
(2) T
(3) U
(4) V

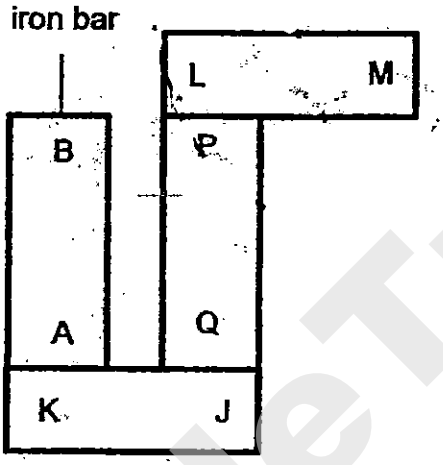
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30. Taro set up 3 magnets JK, LM and PQ and an iron bar AB as shown in the arrangement below.

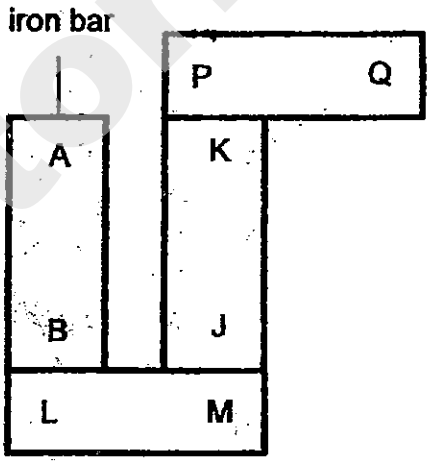


Which one of the following arrangements is possible?

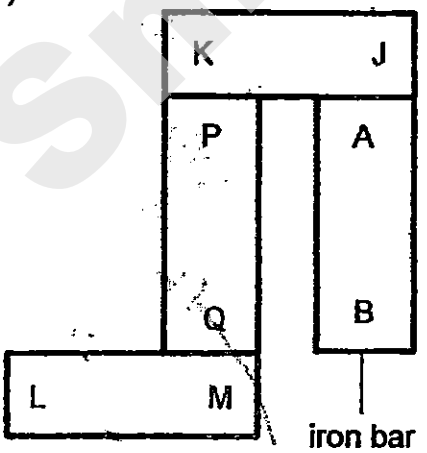
(1)



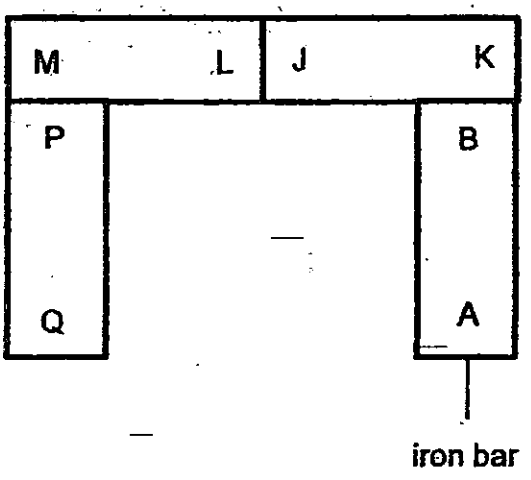
(2)



(3)



(4)



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NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 1
2015

BOOKLET B

Date : 12 May 2015

Duration : 1 h 45 min

Name : _____ ( )

Class: Primary 5 ( )

Marks Scored:

Booklet A:		**60**
Booklet B :		**40**
Total :		**100**

Any query on marks awarded should be raised by 21st May 2015. We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.

Parent's signature: .....

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

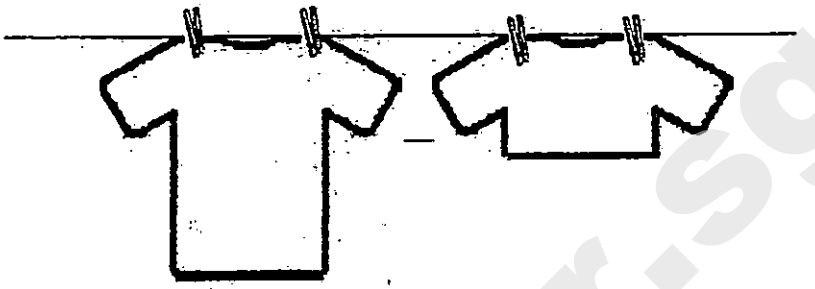
Booklet B consists of 16 printed pages including this cover page.

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Section B (40 marks)
Write your answers to questions 31 to 44 in the spaces provided.

31. Tammy washed T-shirts A and B and then hung them out to dry as shown below. Both T-shirts were identical in size and made of the same material. T-shirt B was folded in half before being hung.



T-shirt A T-shirt B

(a) Which T-shirt will most likely be dry first? Explain your answer. [1]

After hanging T-shirt A to dry, Tammy weighed the T-shirt every 15 minutes and recorded the results in the table below.

Time (min)	Mass of T-shirt A (g)
0	507
15	505
30	500
45	497
60	493
75	493
~~60~~ 90	493

(b) How long did the T-shirt take to dry? Explain your answer. [1]

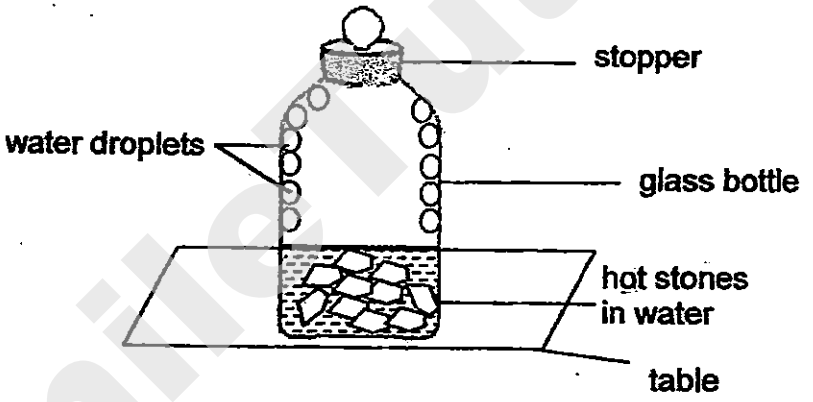
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(c) Tammy repeated the experiment the next day. She used the same method to wash and dry T-shirt A. However, the time taken for T-shirt A to dry was slower than the previous day.

Give **one** other factor that affected the rate of evaporation to explain why it took a **longer time** to dry than the previous day. [1]

32. George heated some stones to 200°C and placed them in the glass bottle as shown below. He then placed the whole set-up on a table in the Science laboratory. After some time, he observed that water droplets were formed in the glass bottle.

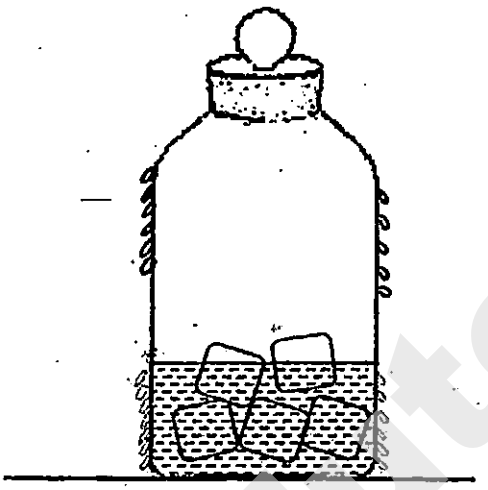


(a) Based on the above diagram, explain how the water droplets were formed in the bottle. [2]

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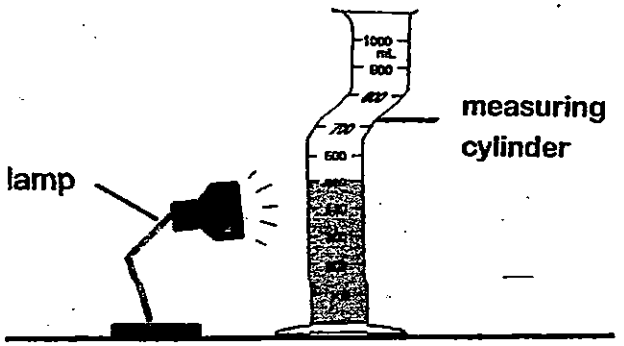
(b) In the diagram below, **draw** George's observation on the glass bottle if he replaced the hot stones with ice cubes. [1]



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33. Siva wanted to find out how the amount of light present would affect the amount of water evaporated. He prepared a set-up as shown below.



He then recorded the results in a table as shown below.

Intensity of light (lux)	Amount of water left in the measuring cylinder (ml)
100	450
120	440
140	430
160	420
180	410

(a) Based on the results above, what is the relationship between the intensity of light and rate of evaporation of water? [1]

(b) Name one variable that was changed in the experiment. [1]

(c) Siva repeated the expefiment using the same set-up above. However, he placed the set-up under a fan that was switched on. Explain why this is not a fair test. [1]

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34. The table below gives some information about plants A, B and C.

	Plants		
	A	B	C
Presence of ovules		✓	✓
Dispersed by wind	✓	✓	
Dispersed by splitting			✓

(a) Give an example of plant B and state its method of reproduction. [1]

(b) Fifi suggested a mushroom as an example of 'A'.
Explain why she is wrong. [1]

(c) Sam counted the number of young plants that was found a certain distance from the parent plants B and C.

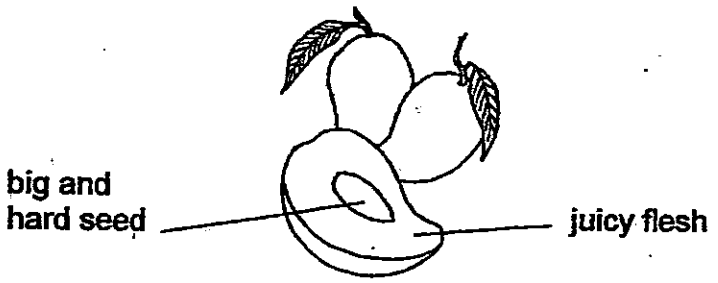
	Distance from parent plant				
	1m	2m	3m	4m	5m
No. of young plants B	4	6	5	3	2
No. of young plants C	8	2	0	0	0

Based on the information above, state one advantage of the method of dispersal for plant B as compared to plant C. [1]

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35. The fruit of plant Y is juicy and contains a seed that is big and hard.



Fruit of plant Y

(a) What is the most likely method of dispersal for the seeds of this fruit? [1]

_____

(b) Based on your answer in (a), describe how the seeds can be dispersed away from the parent plant. [1]

_____

_____

36. Study the diagram of fruit Z below.



Fruit Z

(a) Based only on the diagram, identify **two** characteristics that enable fruit Z to float on water. [1]

(i) _____

(ii) _____

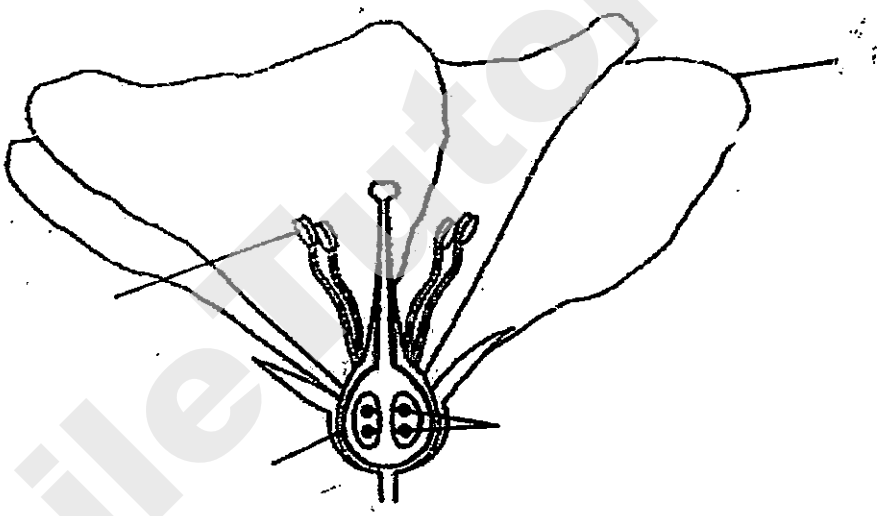
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The adult plants of fruit Z were grown along the roadside in a park. Young plants can be seen growing closely beside the parent plants.

(b) What would happen to the young plants after a few months? Give a reason for your answer. [1]

37. The diagram below shows the cross-section of a flower.



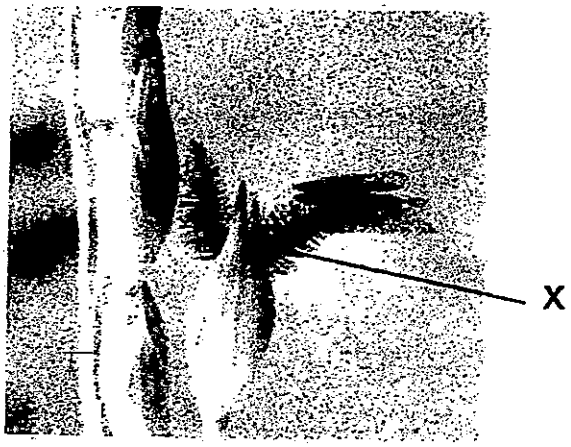
On the diagram above, **label** the parts with P, Q, R and S based on the functions below. [2]

P	attract pollinators
Q	grows into a fruit after fertilisation
R	become seeds in the developed fruit
S	structure that produces the pollen grains

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38. The diagram below shows Flower Q growing on a plant in Mr Tan's garden.



Flower Q

(a) Mr Tan saw Flower Q and touched part X. He found some powdery substances on his fingers after that. What are the powdery substances most likely to be?

[1]

(b) He put one pot of this plant in his well-lit and air-conditioned office. After a few months, there were fruits growing on the plants.

(i) How were the pollen grains transferred from the anther to the stigma of this flower?

[1]

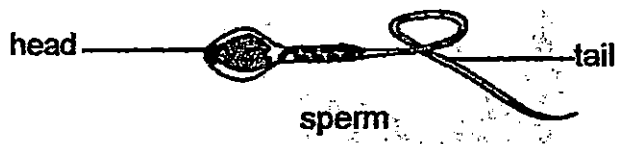
(ii) With reference to the characteristics of the flower shown above, describe how the flowers in his office could have been pollinated.

[2]

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39. The diagram below shows a human reproductive cell.



(a) Which part of the sperm helps it to reach the female egg? [1]

_____

_____

(b) Study the diagram of the female reproductive system below.



(i) Identify parts A and B. [1]

A : _____

B : _____

(ii) In which part, A or B, of the female reproductive system, is the female egg produced? [½]

_____

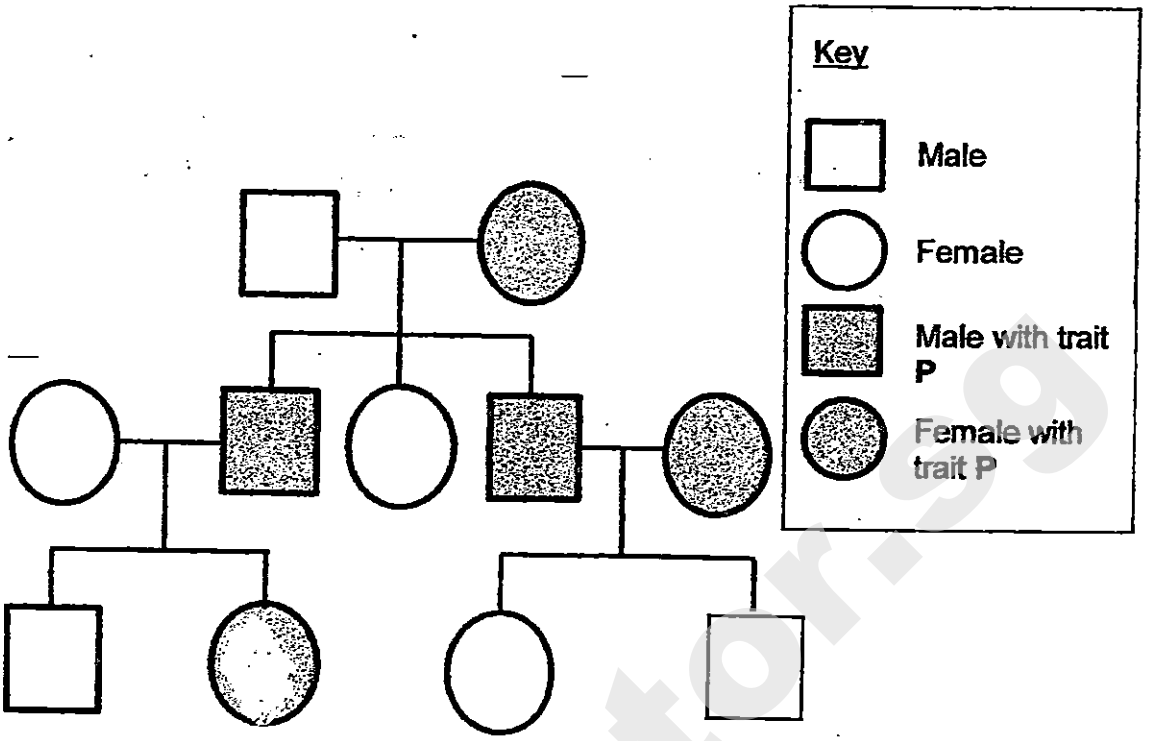
(iii) In which part, A or B of the female reproductive system, does the *fertilized egg develop?* [½]

_____

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(c) Study the family tree below.

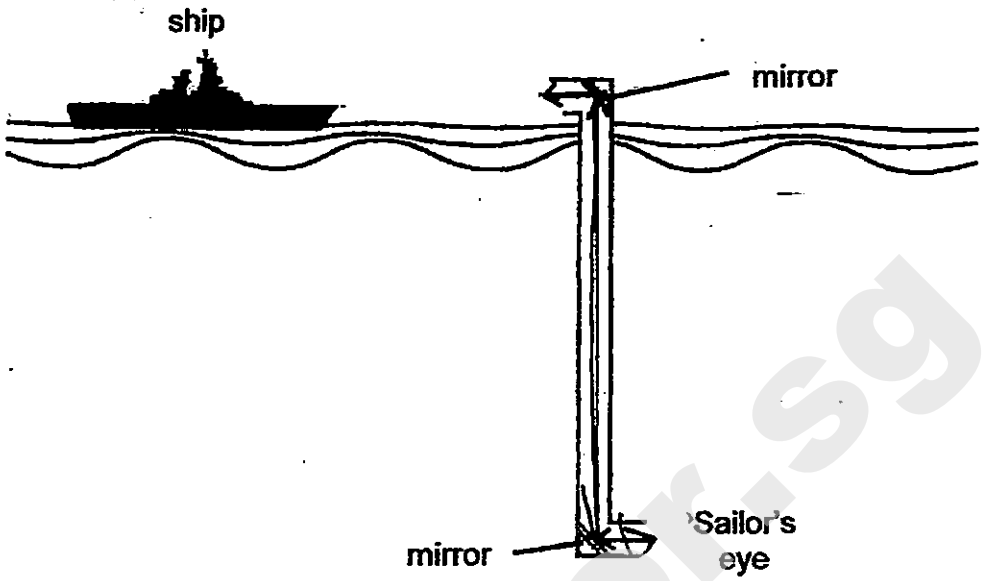


Mr and Mrs Mohan have trait *P* but their son does not.
Mark their son with a cross "**X**" on the family tree. [1]

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40. The diagram below shows how a sailor in a submarine made use of a periscope to detect the presence of a ship.



(a) In the diagram above, **draw the light ray** to show how the periscope allowed the sailor to see the ship. [1]

(b) Explain why the sailor was able to see the image of the ship more clearly during the day than at night.

_____

_____

(c) When two mirrors of the periscope were replaced with 2 pieces of thin clear glass, would the sailor still be able to see the ship clearly? Give a reason for your answer. [1]

_____

_____

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41. Ben carried out an experiment using four identical cups containing the same amount of liquid X at 60°C. He wrapped each cup with a different material, A, B, C and D, and recorded the temperature of the liquid X in each cup after 10 minutes. The results are shown in the table below.

Material used to wrap the cup	Temperature after 10 min (°C)
A	34
B	40
C	29
D	50

(a) Based on the results, which material is the best conductor of heat (A, B, C or D)? Give a reason for your answer. [1]

_____

_____

(b) Which material, A, B, C or D, would you choose to wrap a block of ice to prevent it from melting quickly? Explain your answer. [2]

_____

_____

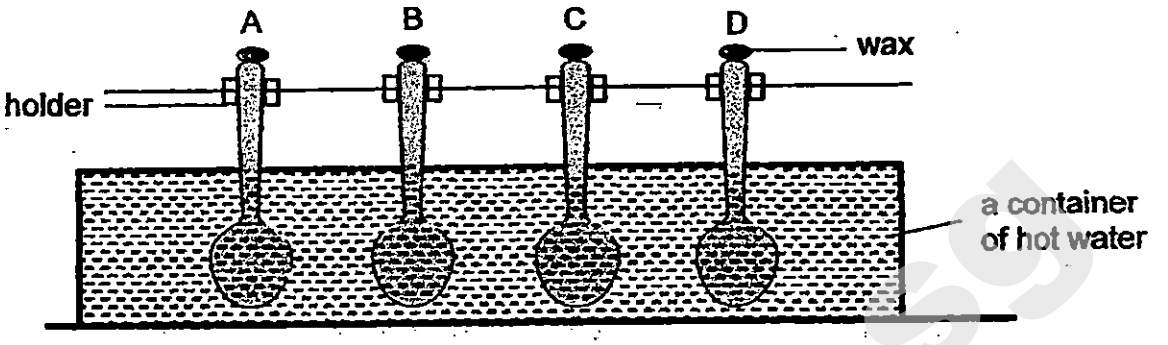
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_____

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42. Zon had 4 spoons made of materials A, B, C and D. He coated the ends of each spoon with the same amount of wax. Parts of the spoons were then placed in a container of hot water at the same time as shown below.



The time taken for the wax to melt was recorded in the table below.

Material	Time taken for the wax to melt (min)
A	5
B	10
C	6
D	14

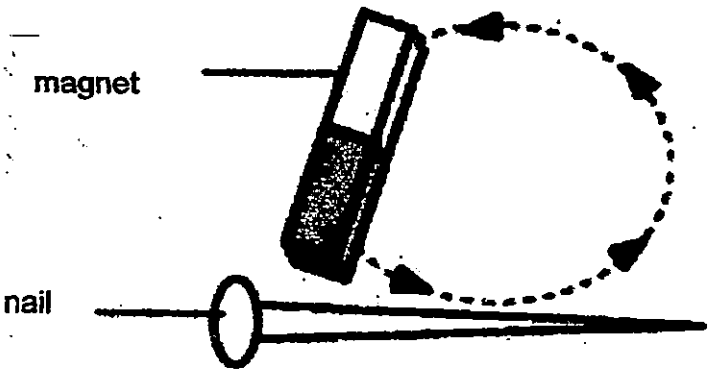
(a) Explain why the wax on the spoons melted after some time. [1]

(b) Which material, A, B, C or D, would be best for making the handle of a cooking pot? Explain your answer. [1]

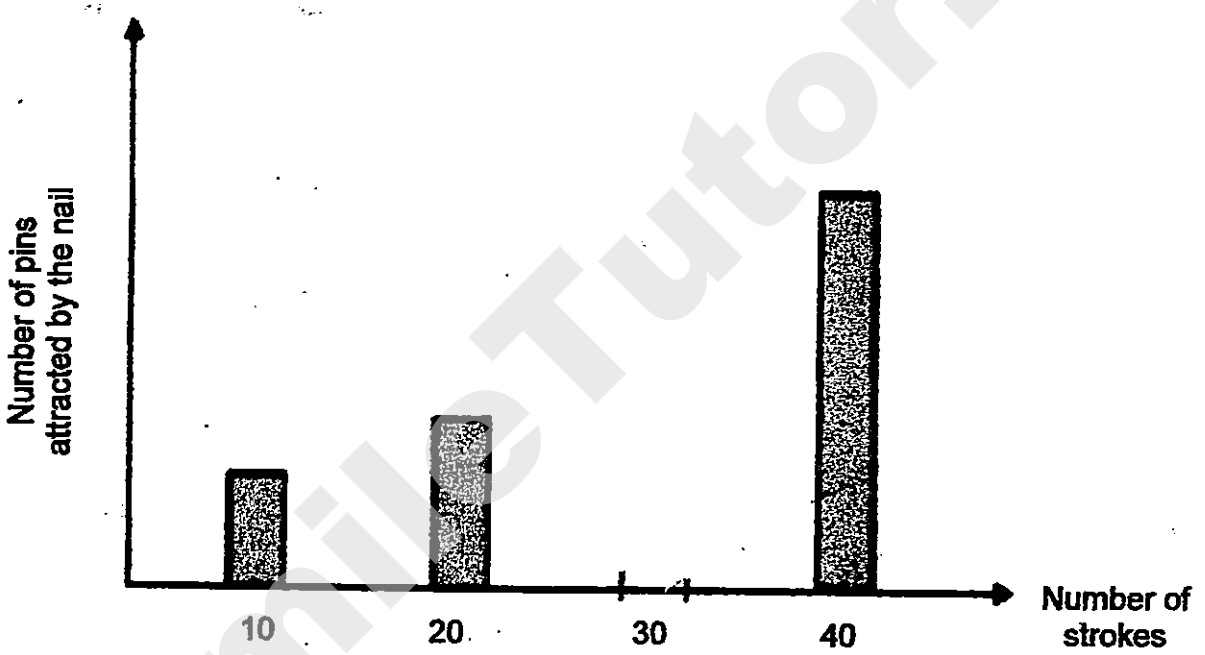
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43. Sam carried out an experiment to find out if the number of strokes a nail receives from a magnet affects the number of pins the nail is able to attract.

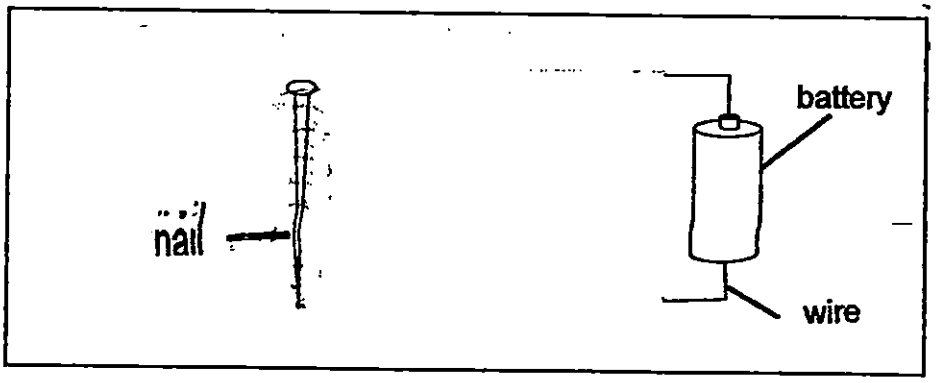


The graph below shows the results of Sam's experiment.



(a) **Complete the graph above** by drawing the estimated number of pins the nail would attract if Sam stroked it 30 times with a magnet. [1]

(b) A nail can be made into a temporary electromagnet by connecting it to a battery. Complete the drawing of the wires below to show how the nail can be magnetised. [1]



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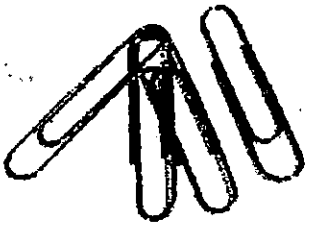
44. Shawn wanted to find out whether a bar magnet or a magnetised steel nail is a stronger magnet. He was given a bar magnet, a magnetised steel nail and some paper clips.



bar magnet



magnetised steel nail



paper clips

(a) Using only the materials provided, write down the steps that Shawn should take to conduct his experiment. [2]

Steps	Method
1	
2	
3	
4	
5	Repeat the experiment 3 times.

(b) Explain why Shawn has to repeat Step 5 three times for the above experiment. [1]

(c) If Shawn replaced the paper clips with some copper coins the whole experiment, what would he observe? Explain your answer. [1]

END

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LEVEL : PRIMARY 5
SCHOOL : NANYANG PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	3	4	4	1	4	2	4	3	3
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1	1	4	2	4	3	3	2	1	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	4	2	2	?3	2	3	3	2	2

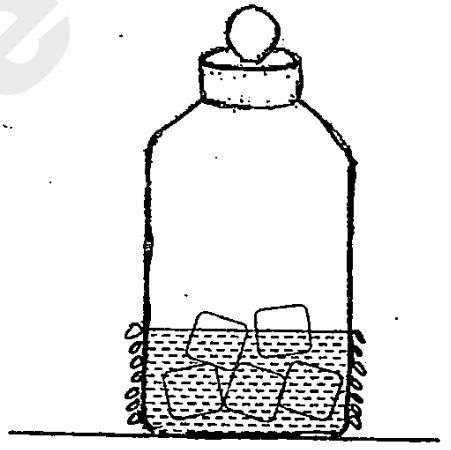
Q31a. T – shirt. It has a larger exposed surface area, higher rate of evaporation, evaporates faster.

Q31b. It took 60 minutes to dry. After 60 minutes, the mass of the T-shirt remained the same.

Q31C. There is no presence of wind as compared to yesterday.

Q32a. The hot water vapour from the stone lost heat and touched the cooler surface of the glass bottle, condensing water droplets in the bottle. Water was heated by the hot stones and evaporated.

Q32b. **SEE PICTURE**



Q33a. The higher the intensity of light, the faster the rate of evaporation of water.

Q33b. Light intensity

Q33c. The presence of the fan or wind affects the rate of evaporation.
It is not a fair test as there are more than one variable that are being tested.

Q34a. Angsana. It reproduced by seeds.

Q34b. Mushroom is a fungi an not a plant.

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Q34c. Plant C is not overcrowded as the distance from the parent plant is longer and they will not need to compete for water, air and space.

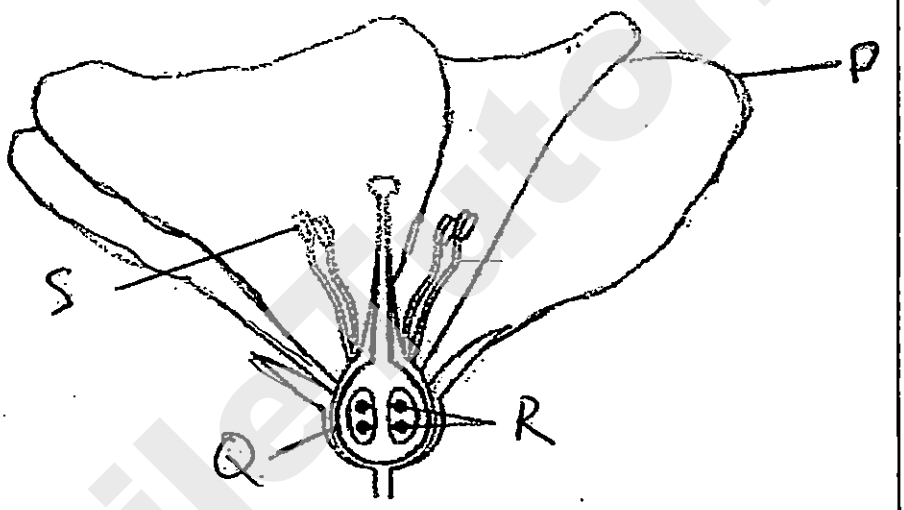
Q35a. Animals

Q35b. The animals will eat the fruit and spit out the big and hard seed away from the parent plant.

Q36ai) Fribrous husk Q36ii) waterproof covering

Q36b. Most of the young plants would die. They are overcrowded and have to compete for space, air and water.

Q37. **SEE PICTURE**



Q38a. Pollen grains

Q38bi) The wind from the air – conditioner helped dis perse its seeds.

Q38ii) Feathery stigma and anthers hanging out. As the anthers and stigmas were hanging outside the petals, the moving wind from the air – conditioner is able to help to carry the pollen grains front the anthers to the stigma of the flowers.

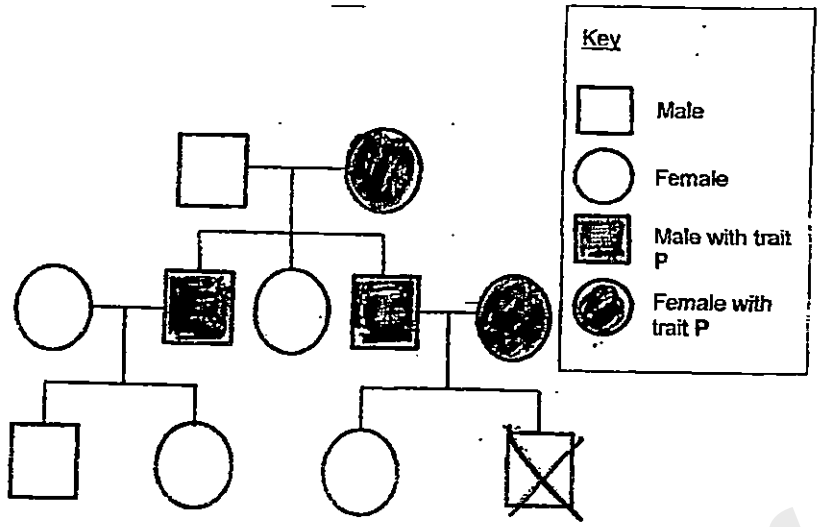
Q39a. Tail

Q39b. i) A : Ovary B: Womb

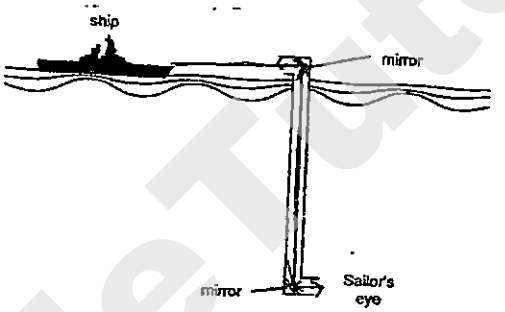
Q39b ii) A Q39b iii) B

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Q39c. **SEE PICTURE**



Q40a. **SEE PICTURE**



Q40b. In the day , there is the sun (light source), it shines on the ship , reflects on the mirrors then into the sailor's eyes.

Q40c. No, he will not be able to see the ship clearly , thin clear glass is transparent and allows all light to pass through it.

Q41a. C. It lost heat the fastest.

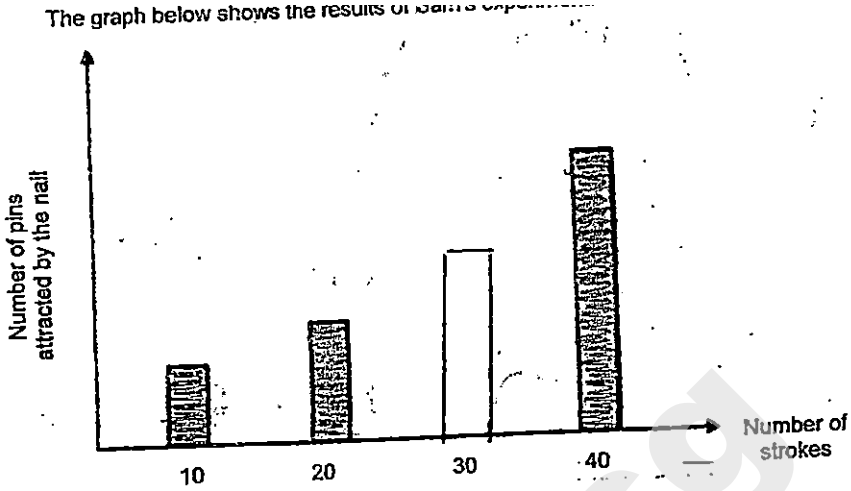
Q41b. D. D is the poorest conductor of heat among A,B,C and D. It loses heat the slowest, and will prevent the block of ice to melt quickly.

Q42a. The spoons gained heat from the hot water and the wax started melting by the heat gained from the water to the spoon .

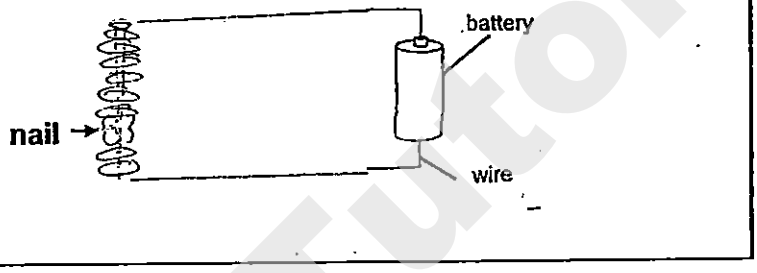
Q42b. D. It is the poorest conductor of heat and loses heat the slowest.

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Q43a. **SEE PICTURE**



Q43b. **SEE PICTURE**



Q44a. Step 1 – Place the bar magnet near the paper clips until the bar magnet attract it.

Q44a. Step 2 – Do the same thing for the magnetized steel nail.

Q44a. Step 3 – Write down the distance both took before attracting the paper clips.

Q44a. Step 4 – No model answer.

Q44b. To make the experiment reliable.

Q44c. The copper coins would not get attracted by the bar magnet or magnetized steel nail. Copper is not a magnetic material.

THE END

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RAFFLES GIRLS' PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1
2015

Section A	60
Section B	40
Your score out of **100** marks	
Parent's signature	

Name : _____ Index No: ___ Class: P5____

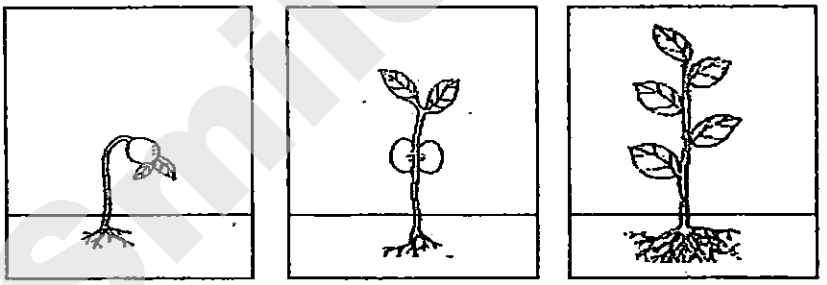
7 May 2015 **SCIENCE** Att: 1 h 45 min

SECTION A (30 x 2 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

1. Siti observed Plant Z over a period of 15 days.

The diagrams below show how plant Z looked like on Day 5, 10 and 15.



Day 5 **Day 10** **Day 15**

Based on the information above, which one of the following statements describes the characteristic of living things shown by plant Z?

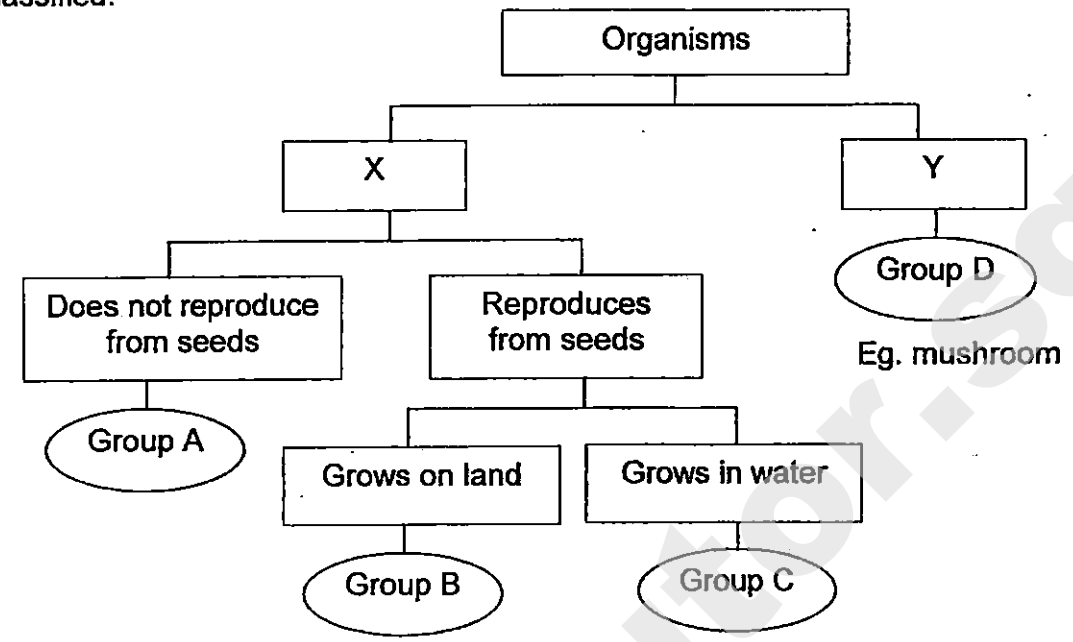
(1) They die.
(2) They grow.
(3) They reproduce.
(4) They are able to move by themselves.

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Answer questions 2 and 3 based on the information below.

The flow chart below shows how four groups of organisms, A, B, C and D are classified.



2. Which one of the following correctly describes characteristics X and Y?

	X	Y
(1)	Grows on land	Grows in water
(2)	Does not make its own food	Makes its own food
(3)	Produces flowers	Does not produce flowers
(4)	Has chlorophyll	Does not have chlorophyll

3. The table below shows some characteristics of plants P, Q and R.
A tick (✓) indicates the presence of the characteristic in the plant.

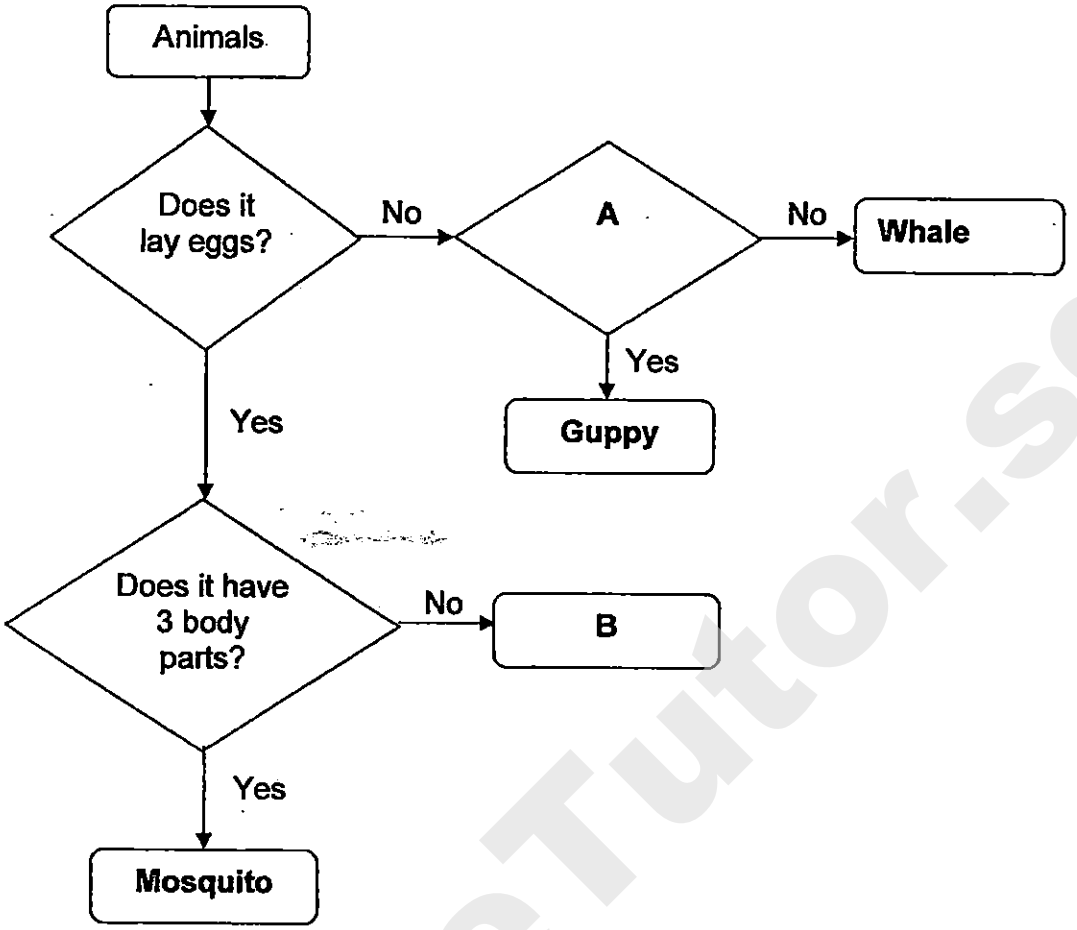
Characteristics	Plant P	Plant Q	Plant R
Grows on land	✓		✓
Has fruits	✓	✓	
Reproduces by spores			✓

Based on the information above, which of the following plants can be placed in Group B?

(1) P only
(2) P and Q only
(3) P and R only
(4) P, Q and R

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4. Study the flow chart below.



Which of the following correctly shows what Question A and Animal B could be?

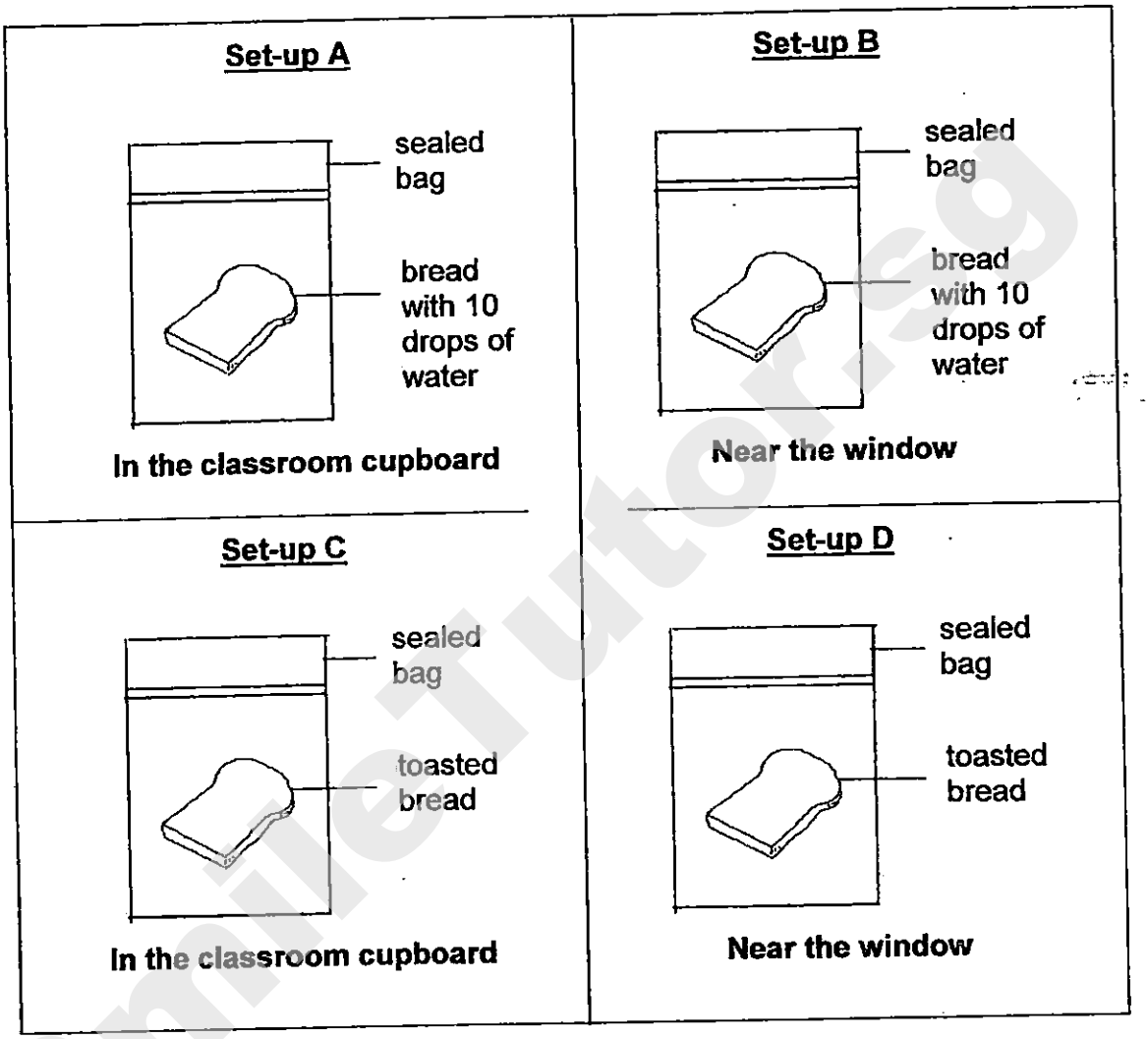
	A	B
(1)	Does it have hairs?	Ant
(2)	Does it breathe through lungs?	Chicken
(3)	Does it have scales?	Bat
(4)	Does it breathe through gills?	Spider

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5. John wanted to investigate the effect of light on the growth of bread mould.

He prepared four set-ups A, B, C and D and placed them in different locations as shown in the diagrams below.



Which of the following set-ups should he compare in order to draw a correct conclusion?

(1) A and B
(2) A and C
(3) B and D
(4) C and D

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6. Three pupils made a few statements about animals with 4-stage life cycle.

Abigail : The young does not look like the adult.

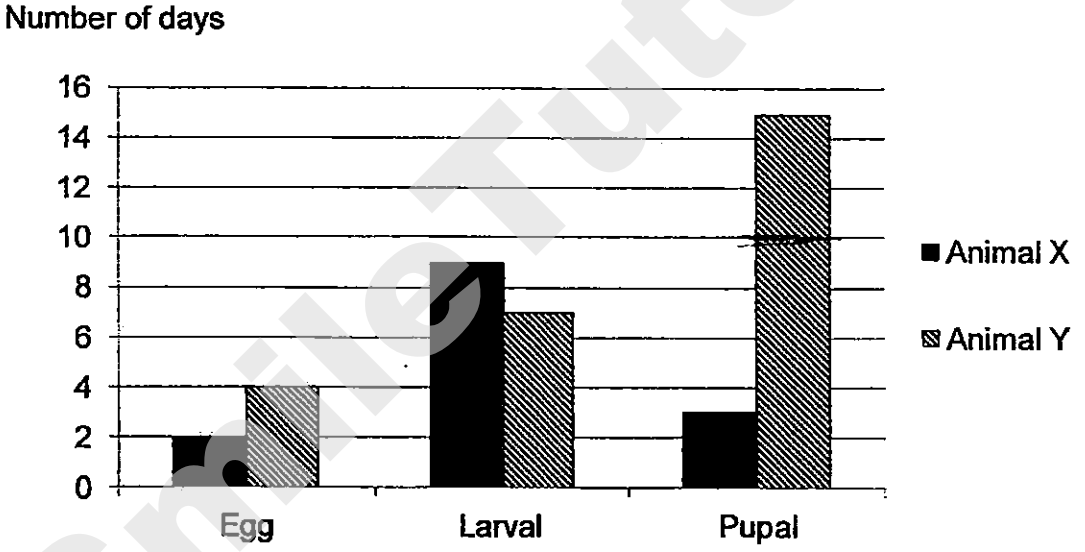
Bernard : During its larval stage, the organism does not feed at all.

Cindy : All insects have 4-stage life cycle.

Whose statement(s) is/are **incorrect**?

(1) Abigail only
(2) Bernard only
(3) Abigail and Cindy only
(4) Bernard and Cindy only

7. The graph below shows the number of days for each stage of life cycle of animals X and Y.



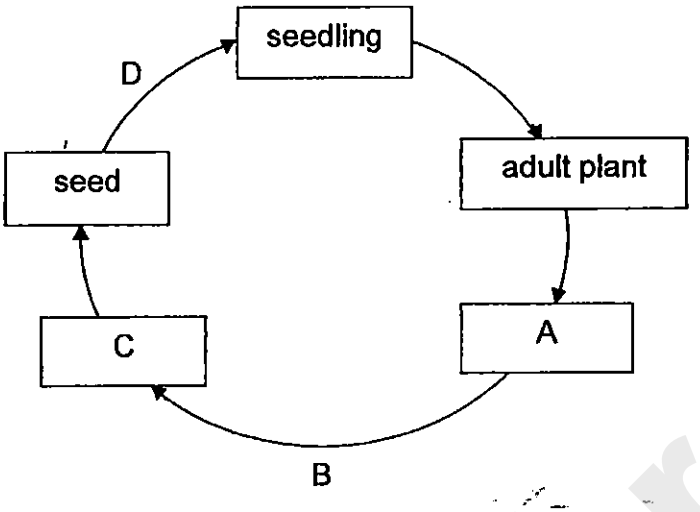
Based on the graph above, which stage would animals X and Y be on the 10th day after the egg was laid?

	Animal X	Animal Y
(1)	Larval	Larval
(2)	Larval	Pupal
(3)	Pupal	Larval
(4)	Pupal	Pupal

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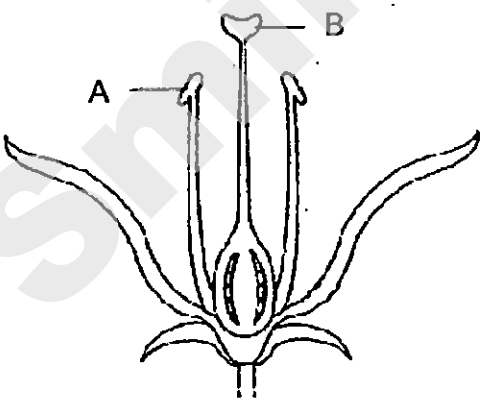
8. The diagram below shows the different stages in the life cycle of a flowering plant.

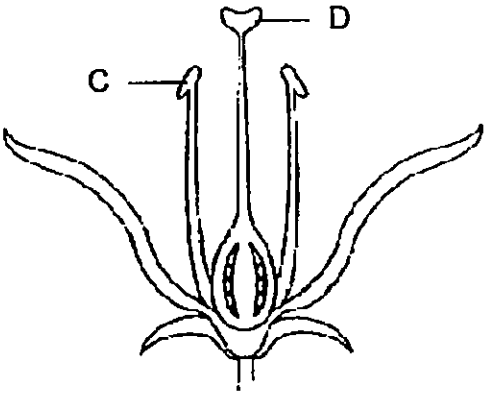


Which one of the following correctly identifies A, B, C and D?

	A	B	C	D
(1)	flower	pollination	fruit	fertilisation
(2)	flower	fertilisation	fruit	germination
(3)	fruit	dispersal	flower	pollination
(4)	fruit	germination	flower	dispersal

9. The diagrams below show two flowers of the same type.



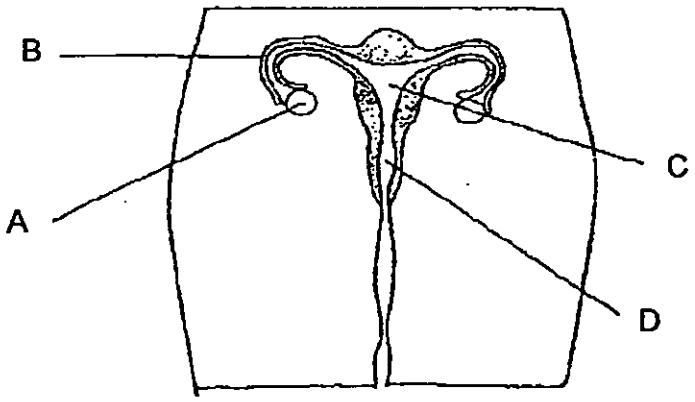


Which one of the following shows how pollen grain is transferred?

(1) A to C
(2) B to A
(3) C to B
(4) D to B

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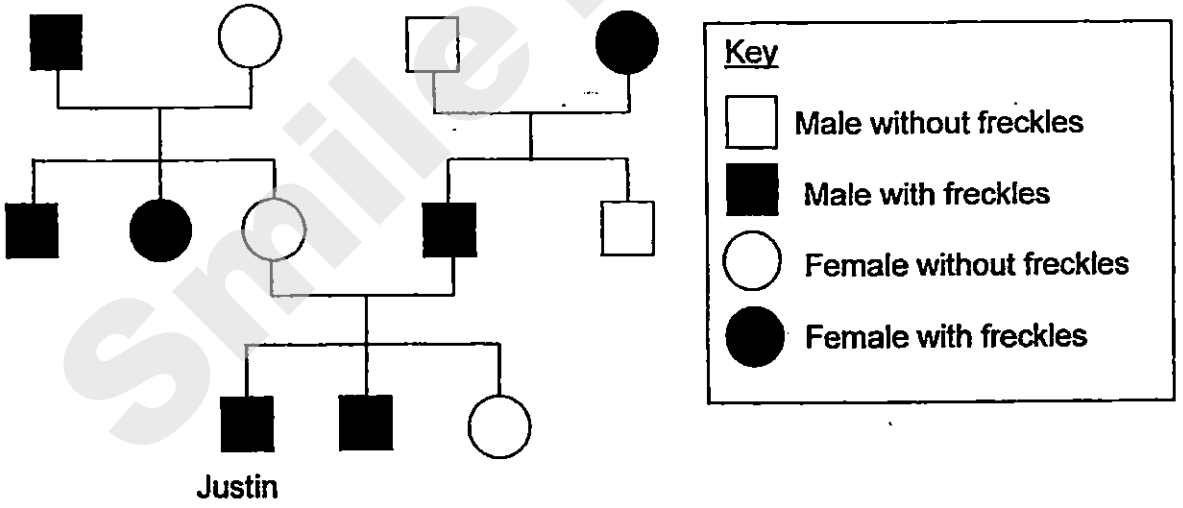
10. The diagram below shows the female reproductive system of a human.



Which of the following parts are the eggs stored?

(1) A
(2) B
(3) C
(4) D

11. The diagram below shows part of Justin's family tree.



Which one of the following statements about the family tree is correct?

(1) One of Justin's parents has freckles.
(2) Both Justin's grandmothers have freckles.
(3) Both Justin's brother and sister have freckles.
(4) Justin's father has a brother who has freckles.

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12. The table below shows the comparison between the male and female reproductive systems in a human.

	Reproductive organ	Reproductive cell
Female	Ovary	W
Male	X	Sperm

Which of the following correctly represents **W** and **X**?

	W	X
(1)	Testis	Womb
(2)	Sperm	Ovary
(3)	Egg	Testis
(4)	Womb	Egg

13. Melissa carried an experiment using four insect-pollinated flowers from the same plant. At the start of the experiment, different parts of the four flowers were removed as shown in the table below. The other flowers on the same plant were left intact.

Flowers	Anthers	Stigma	Ovary
W	Removed	Present	Present
X	Removed	Removed	Present
Y	Present	Present	Present
Z	Present	Removed	Removed

Melissa observed that insects visited the flowers over the following two weeks.

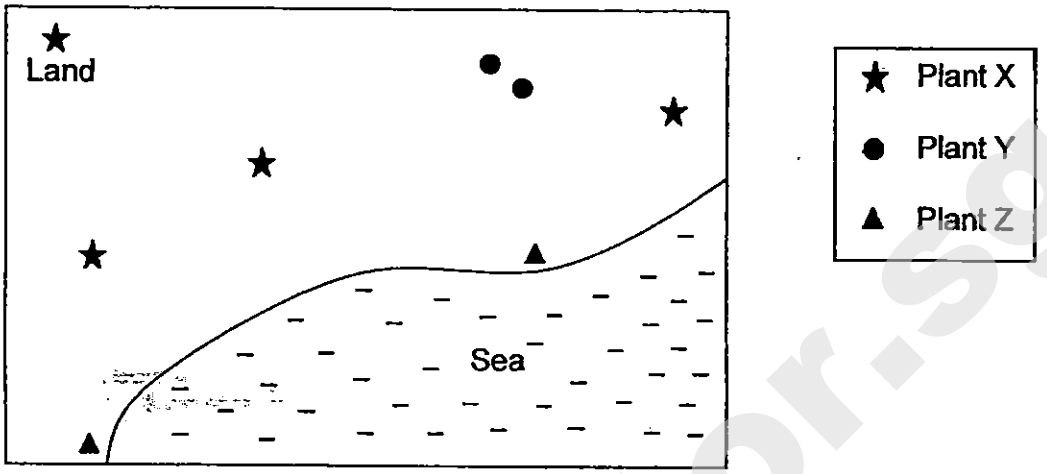
Which of the following flowers would most likely develop into fruits?

(1) W and Y only
(2) W and X only
(3) X and Z only
(4) Y and Z only

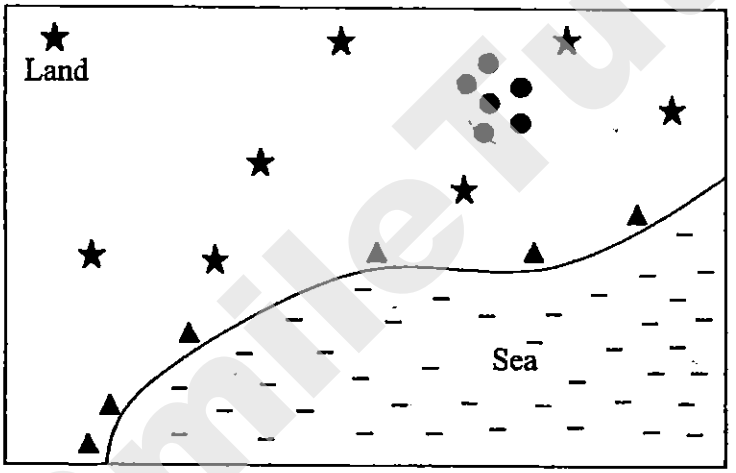
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14. Tracy counted the number of plants, X, Y and Z on a piece of land. One year later, she counted the plants on the same piece of land again. Her observations are shown below.

First observation



After one year



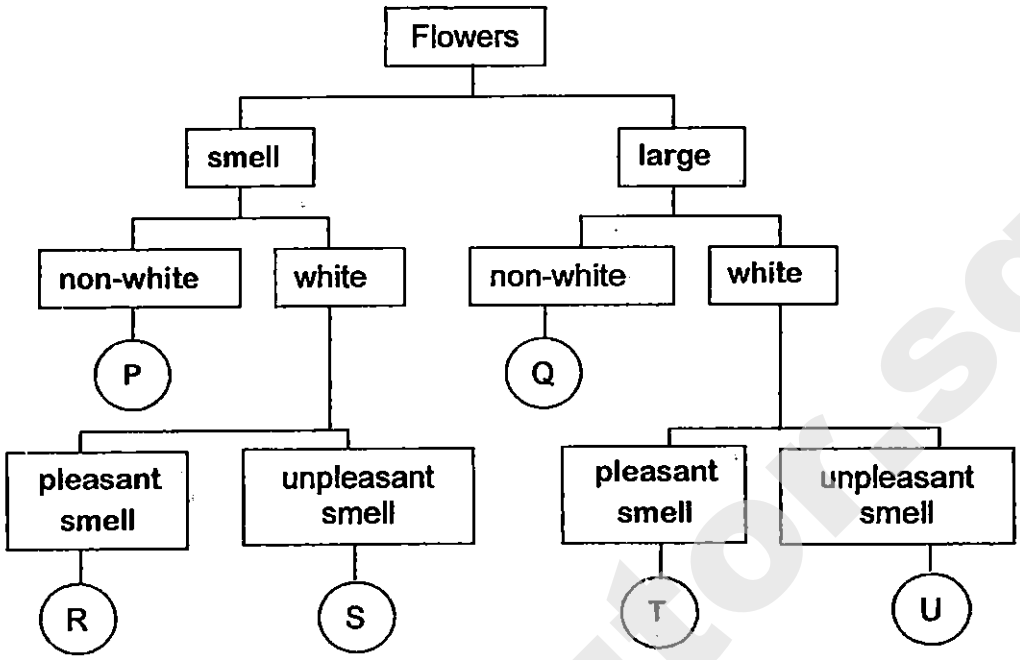
Which one of the following shows now the seeds of plants X, Y and Z are dispersed?

	Plant X	Plant Y	Plant Z
(1)	Splitting	Animals	Wind
(2)	Wind	Water	Animals
(3)	Animals	Splitting	Water
(4)	Water	Wind	Splitting

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15. Some flowers, P, Q, R, S, T and U, are classified as shown below.



Animals A and B are pollinators for certain flowers. The table below shows the characteristics of flowers that animals A and B are attracted to.

Animal	Characteristics of flower that attract the animal
A	small red has a pleasant smell
B	large ,white, has a pleasant smell

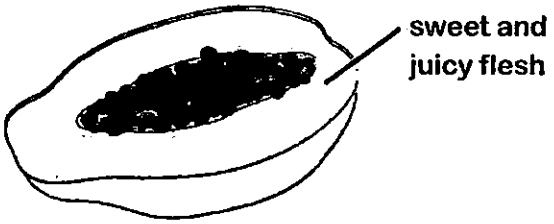
Which of the following flowers will attract animals A and B?

	Animal A	Animal B
(1)	P	T
(2)	Q	U
(3)	R	S
(4)	T	R

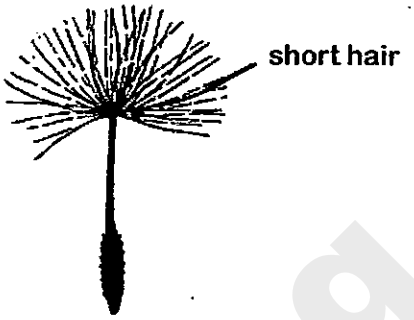
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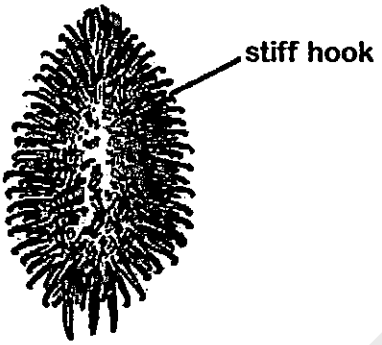
16. Cindy collected four samples, A, B, C and D, from different plants as shown below.



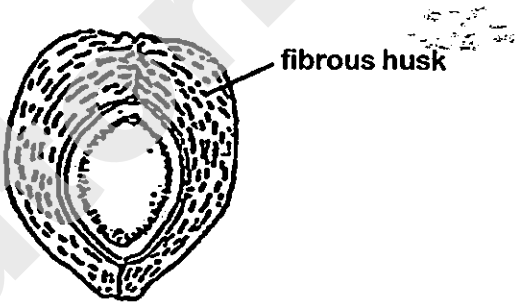
Sample A



Sample B



Sample C



Sample D

She dropped the samples, one at a time, from a fixed height of 2 metres on a windy day.

Which one of the following sample will travel the greatest distance before landing on the ground?

(1) A
(2) B
(3) C
(4) D

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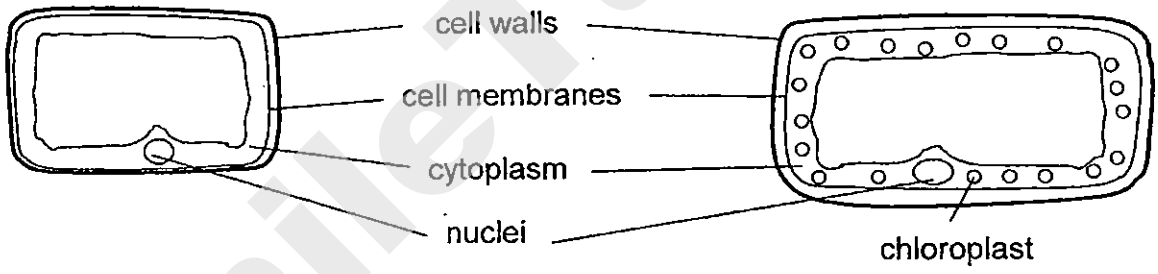
17. The table below provides some information **on four cells**, A, B, C and D. A tick (√) indicates **the presence of the part in the cell.**

Part	A	B	C	D
Nucleus	√	√	√	
Cytoplasm	√	√	√	√
Chloroplast	√			
Cell wall	√	√		
Cell membrane	√	√	√	√

Which one of the following are animal cells?

(1) A and B only
(2) A and C only
(3) C and D only
(4) B, C and D only

18. **The diagrams below show two different types of cells, X and Y, taken from the same plant.**



Cell X **Cell Y**

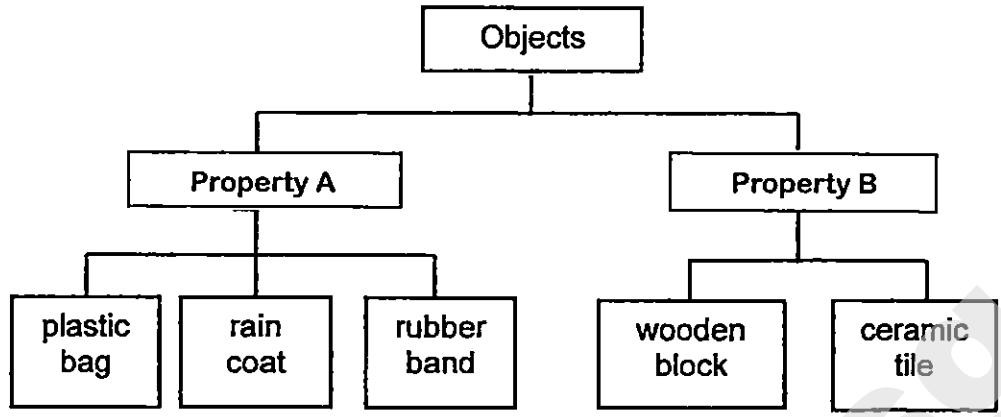
Which of the following correctly identifies the parts of the plant where cells X and Y, were most likely taken from?

	cell X	cell Y
(1)	leaf	root
(2)	root	leaf
(3)	fruit	root
(4)	leaf	fruit

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19. Cassandra classified five objects as shown in the table below.



Which one of the following correctly identifies properties A and B?

	Property A	Property B
(1)	Flexible	Not flexible
(2)	Opaque	Transparent
(3)	Magnetic	Non-magnetic
(4)	Waterproof	Not waterproof

20. John conducted an experiment to study the hardness of three materials, A, B and C. He used the material in column X to scratch the material in columm Y. He recorded his observations in the table below.

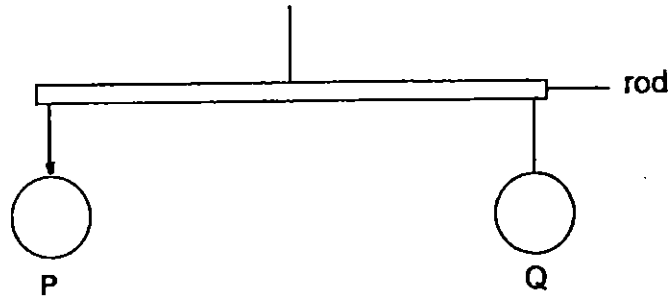
Column X	Column Y	Scratch marks observed on material in Column Y?
A	C	No
B	A	Yes
C	B	No
C	A	Yes

Which of the following correctly shows the three materials arranged in increasing order of hardness?

	Softest → Hardest		
(1)	A	C	B
(2)	B	C	A
(3)	B	A	C
(4)	C	A	B

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21. John hung two identical metal balls, P and Q, to a rod as shown in the diagram below.



John heated ball P over a flame for 5 minutes.

Which of the following statements correctly describe what happened after ball P was heated?

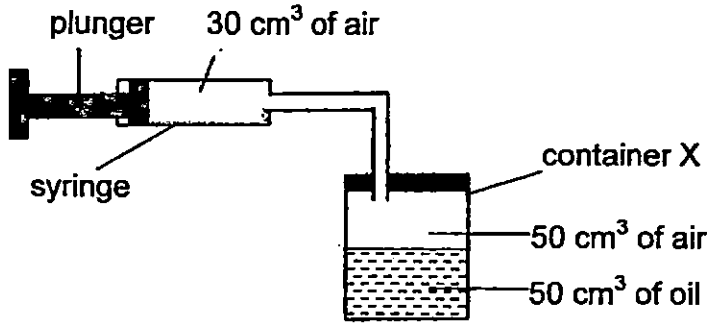
A Ball P will increase in mass.
B Ball P will have a bigger volume than ball Q.
C The rod will tilt downwards at the end where ball P is attached.

(1) B only
(2) A and C only
(3) B and C only
(4) A, B and C

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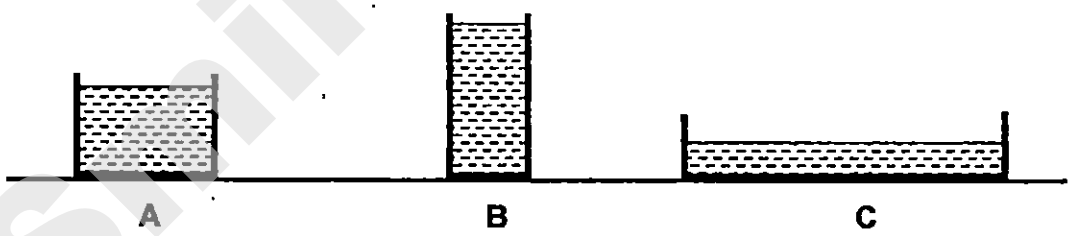
22. The diagram below shows a syringe attached to container X.



When the plunger was pushed into the syringe, 30cm³ of air was added to container X.
Which of the following shows the changes in the volume of air, volume of oil and the total volume of air and oil in container X?

	Volume of air in container X	Volume of oil in container X	Total volume of air and oil in the container X
(1)	increased	increased	increased
(2)	remained the same	remained the same	remained the same
(3)	remained the same	increased	remained the same
(4)	increased	remained the same	increased

23. Jeremy poured 500 ml of water of the same temperature into each of the three plastic containers, A, B and C, as shown in the diagrams below.



He placed the three containers at the same location and measured the amount of water left in each container after 6 hours.

Which one of the following would most likely be the amount of water left in each container?

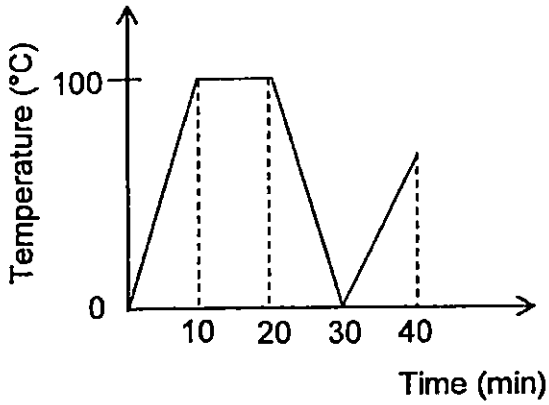
	Container A	Container B	Container C
(1)	350 ml	400 ml	450 ml
(2)	450 ml	400 ml	350 ml
(3)	400 ml	350 ml	450 ml
(4)	400 ml	450 ml	350 ml

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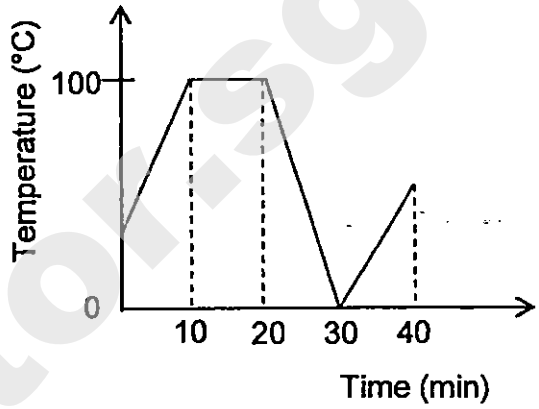
24. Amanda heated a kettle of water at 30°C over a stove. The water boiled after 10 minutes . It was left to boil for 10 minutes. She turned off the stove and left the water to cool in the room for 10 minutes. Then the water was further heated for another 10 minutes.

Which one of the following shows the changes in the temperature of the water in the kettle during the period of 40 minutes?

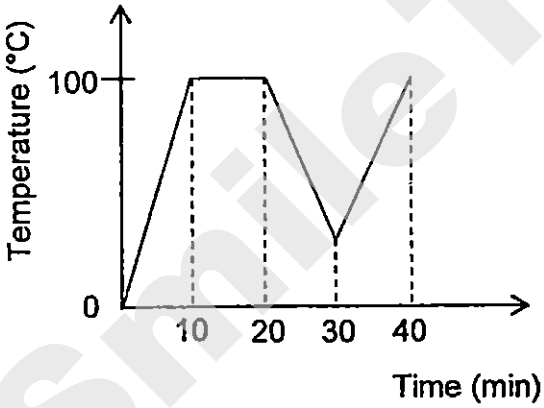
(1)



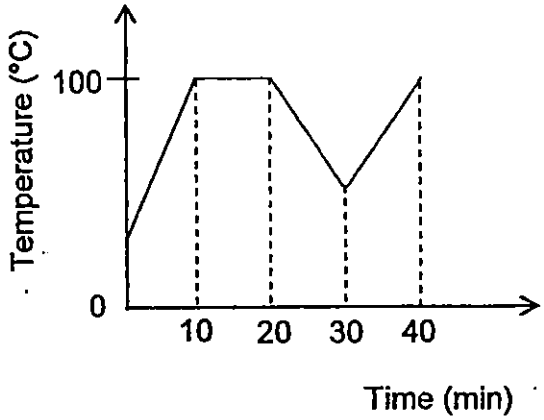
(2)



(3)



(4)



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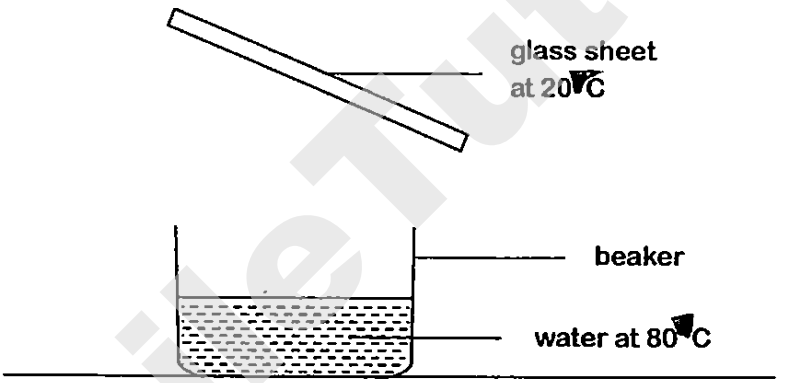
25. The following statements show the different phases in the water cycle that are not arranged in the correct sequence.

A Water vapour rises and cools.
B The clouds become heavier and heavier.
C Rain falls to the earth.
D Water evaporates from the seas, rivers and living things.
E Water vapour condenses to form small droplets of water.

Which one of the following shows the correct sequence of the water cycle?

(1) D, B, A, C, E
(2) D, A, B, E, C
(3) D, A, E, B, C.
(4) D, B, C, E, A

26. The diagram below shows a set-up in which water changes from one state to anoth



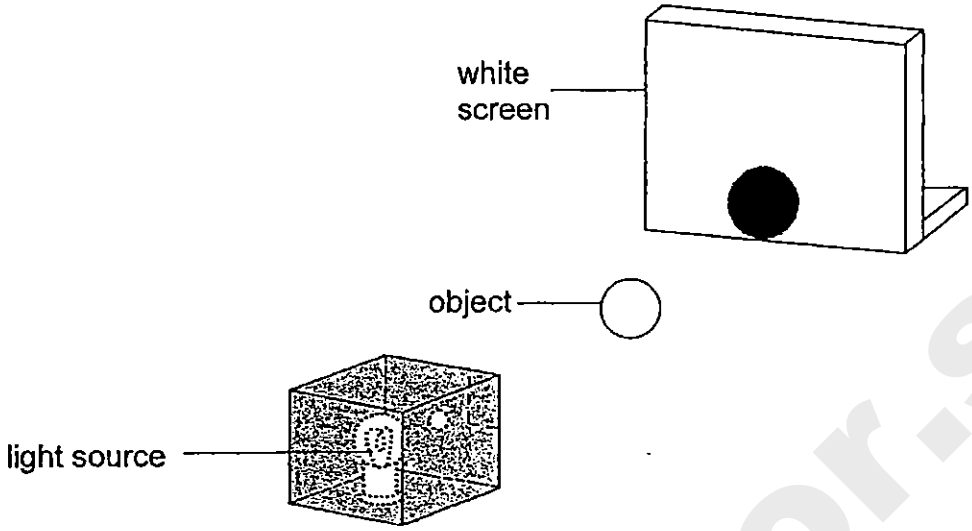
Which of the following will most likely result in an increase in the amount of water droplets formed on the glass sheet?

A Add ice cubes into the beaker
B Replace the glass sheet with a cooler glass sheet
C Decrease the temperature of the water in the beaker

(1) B only
(2) A and C only
(3) B and C only
(4) A, B and C

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27. When Jenny placed an object between the light source and the white screen, a shadow of the object was cast on the white screen as shown below.



Which of the following changes should Jenny make to the set-up such that she could observe a smaller shadow of the object?

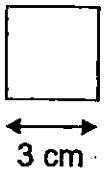
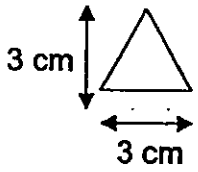
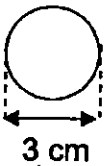
A Use a brighter light source.
B Move the screen nearer to the object.
C Move the light source nearer to the object.
D Move the light source further from the object.

(1) A and C only
(2) B and C only
(3) B and D only
(4) A, B and D only

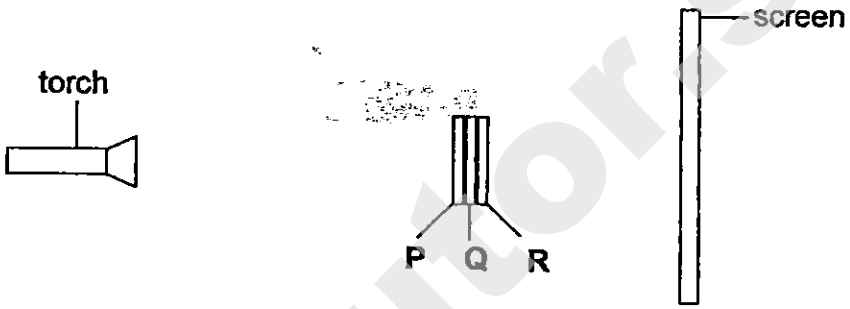
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28. The diagrams below show three different objects.

Object P	Object Q	Object R
		
Translucent	Opaqque	Transparent

Ali placed the 3 objects as shown below.



Which one of the following shadows will be cast on the screen when the torch is switched on?

(1) 

(2) 

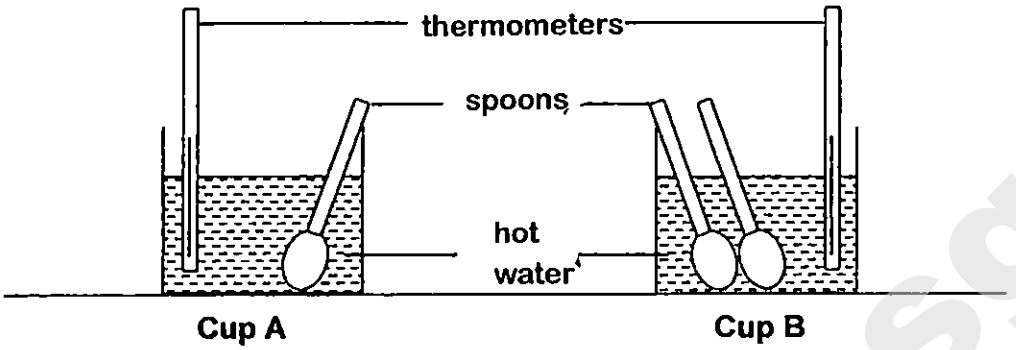
(3) 

(4) 

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29. Megan placed different number of identical spoons into cups A and B and then filled both cups with same amount of hot water at temperature 80 C as show below.



Megan observed that the temperature of water in one cup decreased more quickly than the other cup. Water in both cups eventually reach the same temperature after some time.

Which one of the following statements is correct?

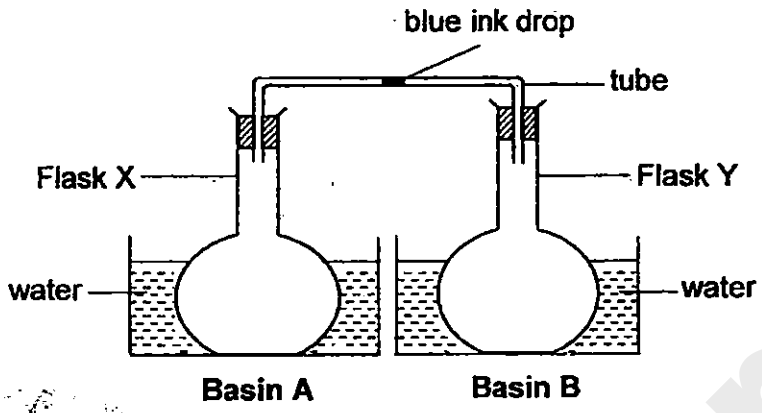
A The water in both cups gained heat from the surrounding air.
B Temperature of water in cup A decreased more quickly than in cup B.
C Two spoons conducted heat from the hot water to the surrounding air more quickly than one spoon.
D Water in cup B reached the same temperature as the surrounding in a shorter period of time than in cup A.

(1) A and B only
(2) B and C only
(3) C and D only
(4) A, C and D only

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30. Sara filled two identical basins, A and B, with water of different temperatures. She then placed two identical flasks, X and Y, into basins A and B as shown in the diagram below.



The set-up was left in a room of temperature 30°C.

After 10 minutes, Sara observed that the blue ink drop moved from the centre of the tube towards Flask Y. After another 10 minutes, the blue ink drop moved back to the centre of the tube.

Which of the following best represent the temperatures of water in basins A and B?

	Temperature of water in A (°C)		Temperature of water in B (°C)	
	at the start of the experiment	after 20 min	at the start of the experiment	after 20 min
(1)	70	30	50	30
(2)	50	30	70	30
(3)	50	30	70	50
(4)	70	50	50	30

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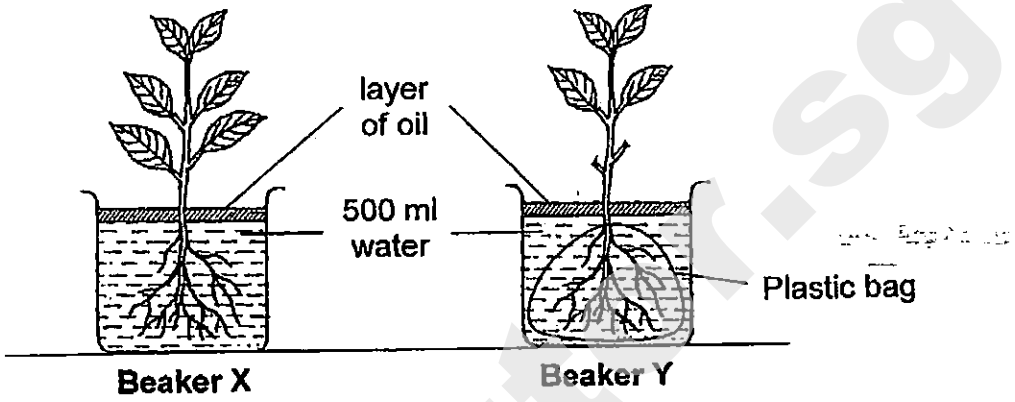
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Name : _____ Index No : _____ Class : P5 ___ 40

SECTION B (40 marks)

For questions 31 to 44, write your answers clearly in the spaces provided.
The number of marks available is shown in the brackets [ ] at the end of each question or part question.

31. Sherri wanted to find out if the roots of plants absorb water. She set up the experiment shown below, using the same type of plant.



Sherri left the two beakers, X and Y, near the window for one day.

(a) What observations should Sherri make in order to conclude that roots absorb water? [1]

_____

_____

(b) Sherri's friend commented that the test was not fair. What change should Sherri make in order to ensure a fair test? [1]

_____

_____

(c) Why did Sherri place a layer of oil on top of the water? [1]

_____

_____

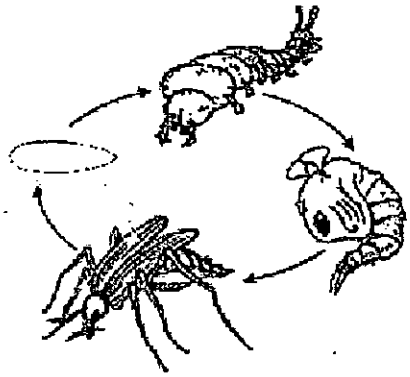
Score 3

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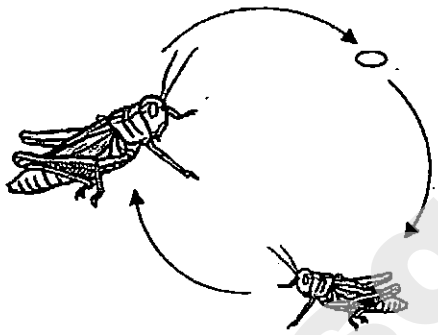
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32. The diagrams below show the life cycles of two animals.

Life cycle A



Life cycle B



(a) State one difference between the two life cycles. [1]

_____

_____

(b) State one similarity between the two life cycles. [1]

_____

_____

The table below shows how some animals are classified based on similarity in their life cycles.

Characteristic	
P	**Q**
Housefly Mealworm beetle	Chicken Cockroach

(c) Suggest a possible heading for Group P. [1]

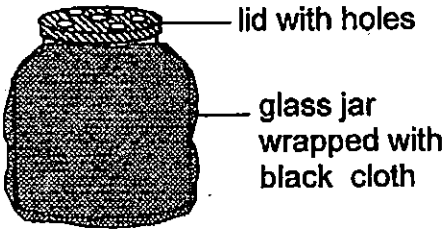
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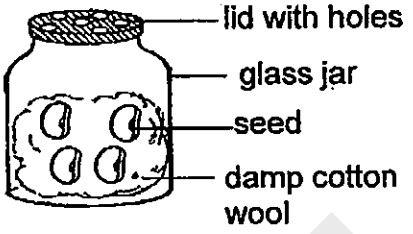
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33. Joe conducted an experiment on the germination of seeds as shown below.



Jar P



Jar Q

Joe placed the same number of seeds from the same plant in jars P and Q, lined with an equal amount of damp cotton wool. Only jar P was wrapped with a piece of black cloth. He left both jars near the window for a few days.

(a) What is the purpose of the holes on the lid of each jar? [1]

_____

_____

(b) Joe predicted that only the seeds in jar Q will germinate.
Do you agree? Explain your answer. [1]

_____

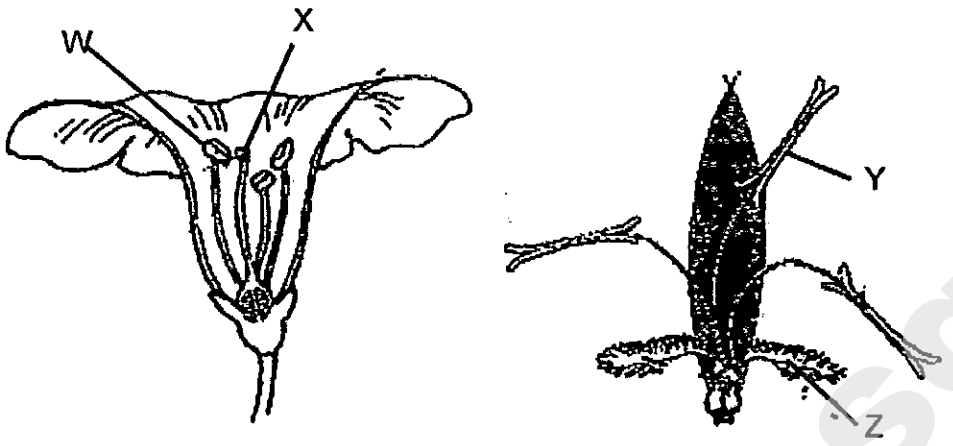
_____

Score	/ 2

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34. The diagram below shows a flower with both male and female reproductive parts.



Flower of plant P **Flower of plant Q**

(a) Name the process that takes place after pollination has occured. [1]

_____

(b) Flowers from plant P and plant Q have different agents of pollination. Based on your observation of the flowers above, name the agent of pollination for each flower. State one characteristic of the flower to support your answer. (Do not compare size of the parts of the flowers. [2]

(i) Agent of pollination for flower of plant P : _____

Characteristic: _____

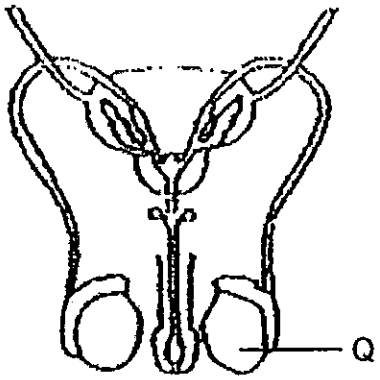
(ii) Agent of pollination for flower of plant Q : _____

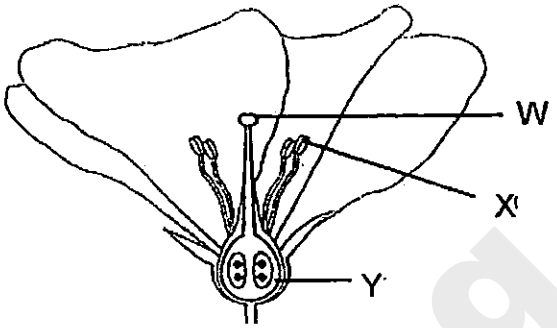
Characteristic: _____

Score	/ 3

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35. The diagrams below show the reproductive systems of a human and a plant.





(a) Which part of the flower, **W, X or Y**, performs the same function as part Q? [1]

_____

(b) The statements below describe the different stages leading to the development of a human foetus. [1]

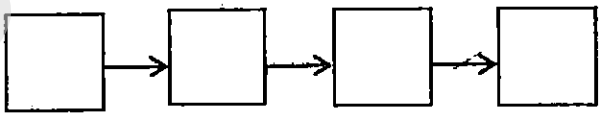
A The fertilised egg goes through cell division.

B One sperm enters the egg successfully.

C Many sperms are deposited in the vagina

D The nucleus of the sperm fuses with the nucleus of the egg.

Arrange the stages in the correct order by writing the letters in the boxes provided.



Score	/2

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36. Jenna collected four identical fruits, P, Q, R and S, from plant X. She heated the fruits to different temperatures to find out how the changes in temperature would affect the time taken for the fruit to split open and the distance the seeds are dispersed.

She recorded her results in the table below.

	P	Q	R	S
Temperature of fruit (°C)	30	35	40	45
Time taken for fruit to split open (h)	2.5	2.0	1.0	0.5
Average distance seeds were dispersed (m)	2.0	2.7	4.0	6.2

(a) At which temperature did the seeds travel the furthest when the fruit split open? [1]

_____

(b) Based on the data collected, what can Jenna conclude about the effect of temperature on the time taken for the fruit to split open? [1]

_____

_____

(c) Seed dispersal is necessary to prevent overcrowding. Explain why plants do not grow well when there is overcrowding. [1]

_____

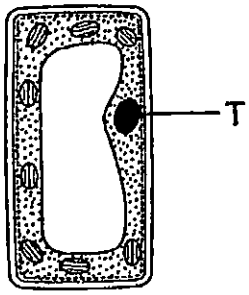
_____

Score	/ 3

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37. The diagrams below show two different types of cells, X and Y.



Cell X



Cell Y

(a) What is the function of part T? [1]

_____

(b) Which cell, X or Y, is able to carry out photosynthesis? Give a reason for your answer. [1]

_____

(c) Both cells, X and Y, were placed in a solution. After an hour, one of the cells swelled and burst but the other cell remain the same.
Which cell, X or Y, swelled and burst? Give a reason for your answer. [1]

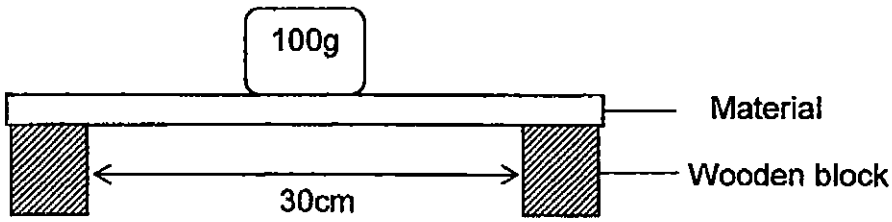
_____

Score	/ 3

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38. Paul conducted an experiment on four materials, W, X, Y and Z as shown below.



He placed each material on two wooden blocks and placed 100g weights, one at a time, on the centre of each material until the material break. He recorded his results in the table below.

Material	Number of 100g weights to cause the material to break
W	10
X	7
Y	6
Z	16

(a) Based on the results above, which property of material was Paul trying to investigate? [1]

_____

(b) Put a tick (√) in the appropriate box(es) to indicate the variables that Paul must keep the same to ensure a fair test. [1]

Variable	
Type of material	
Thickness of material	
Number of weights placed on the material	
Distance between the two wooden blocks	

(c) Paul wanted to use one of the materials, W, X, Y or Z, to make a shelf to hold his books. Based on the results of his experiment, which material is most suitable to hold a large number of books? Explain your choice. [2]

_____

_____

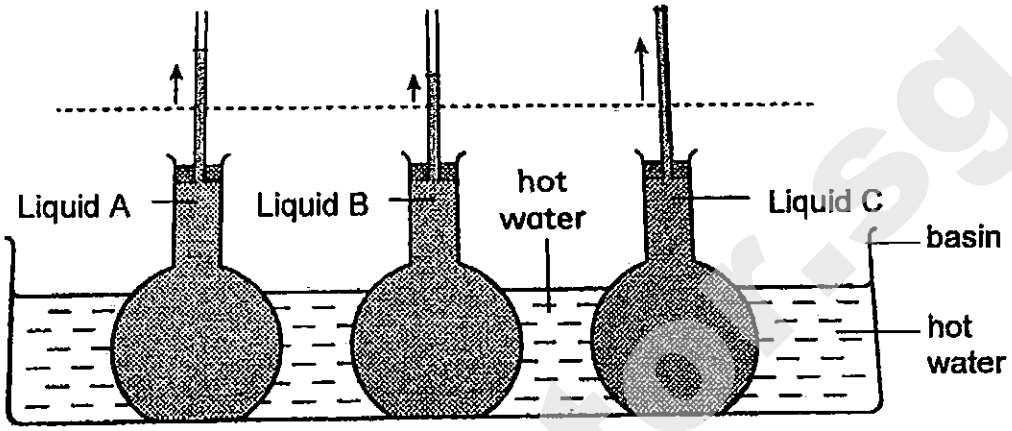
Score	4

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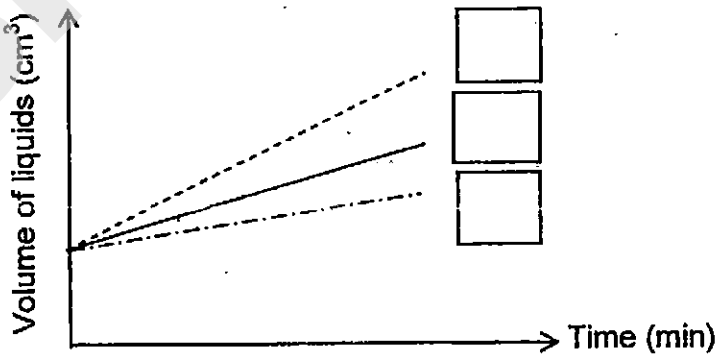
39. Ahmad set up an experiment as shown below. Three identical flasks were filled with the same amount of liquids A, B and C. The flasks were placed in a basin of hot water at the same time.

After 3 minutes, the levels of liquid C rose the most, followed by liquid A and then liquid B, as shown in the diagram below.



(a) Explain why the level of liquid in each flask rose. [2]

(b) The graph below shows the change in the volume of liquids A, B and C during the 3 minutes. Indicate the lines that represent the respective liquids by writing the letters A, B and C in the correct boxes. [1]

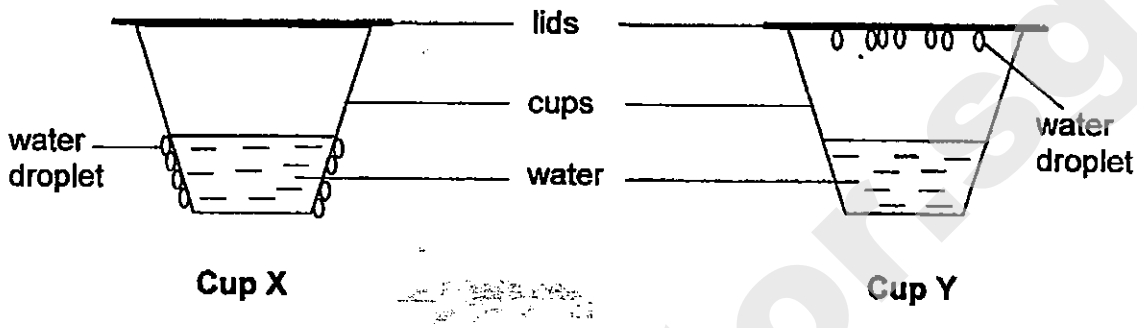


Score	/ 3

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40. Sophia had two identical cups, X and Y. She poured hot water into one cup and cold water into another cup. She covered each cup with a lid and left both cups on the table for a short while.

She observed water droplets formed on different parts of the cups as shown in the diagrams below.



(a) Which cup, X or Y, contained hot water? Explain your answer. [2]

(b) Sophia poured same amount of water of a higher temperature than in part (a) into another identical cup, Z, and then covered with a lid.

Compare the amount of water droplets formed in cup Z with the cup in part (a). [1]

Score 3

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41. The table below shows the freezing points and boiling points of substances P and Q.

Substance	Freezing point (°C)	Boiling point (°C)
P	110	180
Q	44	280

(a) What is the state of each of the substances, P and Q, at 200°C? [2]

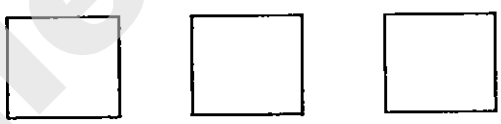
P : _____

Q : _____

(b) Another substance, R, exists in solid state at 50°C and in liquid state at 90°C.

Arrange substances, P, Q and R, according to their melting points in ascending order. [1]

Lowest melting point → Highest melting point

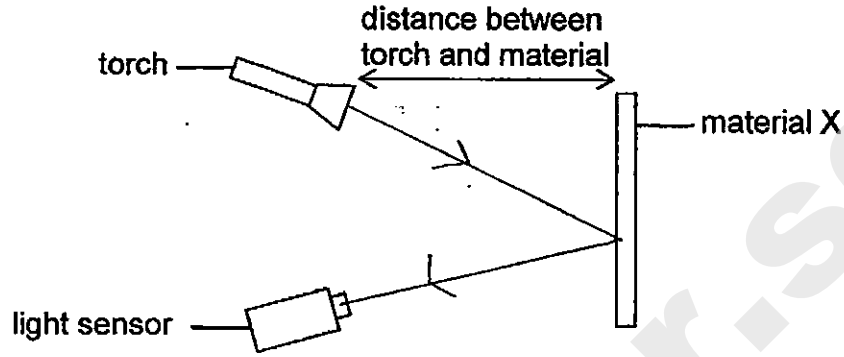


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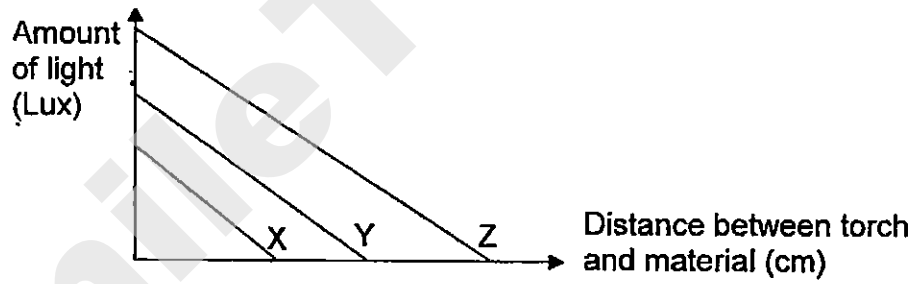
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42. Sally wanted to find out how the amount of light reflected by each of the three materials, X, Y and Z is affected by the distance between the torch and the material. She carried out the experiment in a completely dark room using the set-up shown below.



(a) Draw light rays in the above diagram to show how the light sensor detects light reflected by material X when the torch is switched on. [1]

Sally recorded the amount of light reflected by material X using a light sensor. Then she repeated the experiment with materials Y and Z, one at a time. The graph below shows the results of Sally's experiment.



(b) What is the relationship between the amount of light reflected by the materials and the distance between the torch and thematerial? [1]

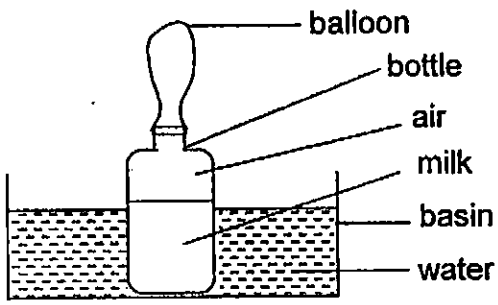
(c) Based on Sally's results, which material, X, Y or Z should she used to make safety jackets for cyclists to wear at night? Give a reason for your answer. [1]

Score	/3

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43. Jenny prepared the set-up as shown below.



Jenny observed that the balloon became bigger in size after 5 minutes.

(a) What happened to the temperature of water in the basin after 5 minutes? [1]

_____

_____

(b) Fill in the blanks with "heat gain" or "heat loss" for the milk in the bottle and the water in the basin during the 5 minutes. [1]

Milk : _____

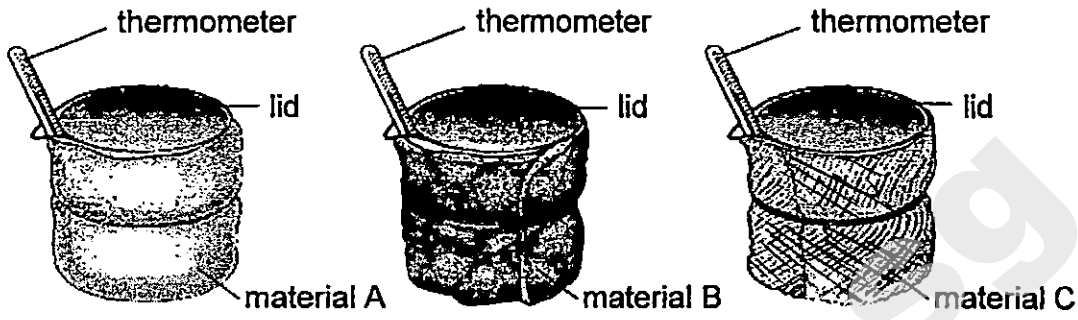
Water : _____

Score	/ 2

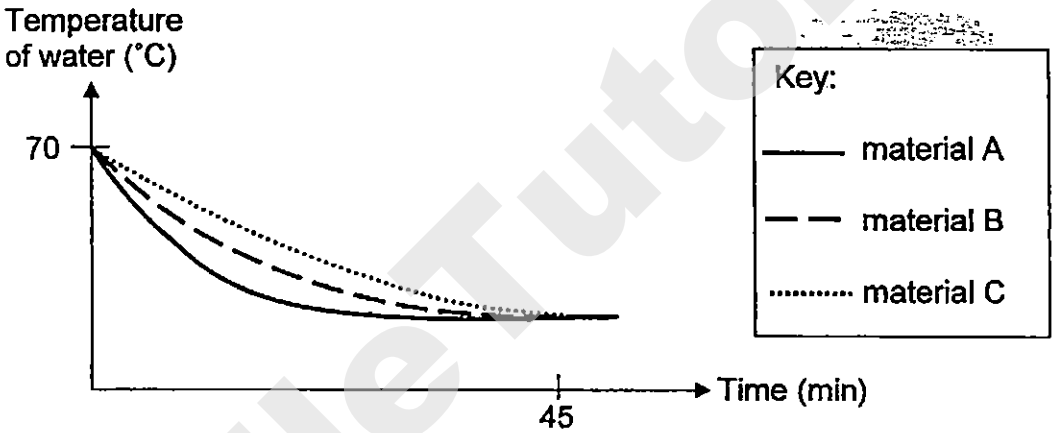
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44. Ravi wrapped 3 identical beakers with different materials, A, B and C. He then filled each beaker with 200 ml of water at 70°C and covered them with identical lids as shown in the diagram below



Ravi recorded the temperature of the thermometer over a period of time. His results are shown in the graph below.



(a) Based on Ravi's results, which material, A, B or C, should he use to make a blanket to keep himself warm? Give a reason for your answer. [2]

(b) Ravi observed that the water in all the three beakers reached the same temperature after 45 minutes. Explain his observation. [1]

- END OF PAPER -

Score 3

Setters: Miss Lee Suan Khim
Miss [redacted] Zhiqing
Mdm Rozi

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : SA1

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
2	4	1	4	1	4	1	2	3	1
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
1	3	1	3	1	2	3	2	1	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	2	4	4	3	1	3	3	3	1

Q31a. Water level in beaker X decreased but water level in beaker Y remained the same.

Q31b. Make both plants have the same number of leaves.

Q31c. To ensure that no water would evaporate and all the water that is last is because of the roots taking in water.

Q32a. Life cycle A has 4 stages while life cycle B has 3 stages.

Q32b. Both life cycles have an egg stage.

Q32c. Young does not look like the adult.

Q33a. All seeds need oxygen from the air for germination so the holes is to let air enter the jar.

Q33b. No. Both Jars P and Q had all the needs for seeds to germinate. Both jars had oxygen, water and warmth all need for germination.

Q34a. Fertilsiation

Q34bi) Agent of pollination for flower of plant P: Insect
Q34bi) Characteristic: The stigma's of the flower are all inside the plant, so when an insect goes to the plant, the pollen grains will land on the stigma.

Q34bii) Agent of pollination of flower of plant Q: Wind
Q34bii) Characteristic : The stigma's of the flower are sticking out, so when the wind blows, the pollen grains will land on the stigma.

Q35a. X

Q35b. C → B → D → A

Q36a. 45°C

Q36b. The higher the temperature, the lesser the time is taken for the fruit to split open.

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Q36c. Overcrowding causes the plants to compete for space, water, mineral salts and sunlight.

Q37a. To control all cellular activities done by each cell.

Q37b. Cell X. It has chloroplast which has chlorophyll which traps sunlight for photosynthesis.

Q37c. Cell Y. It does not has a cell wall.

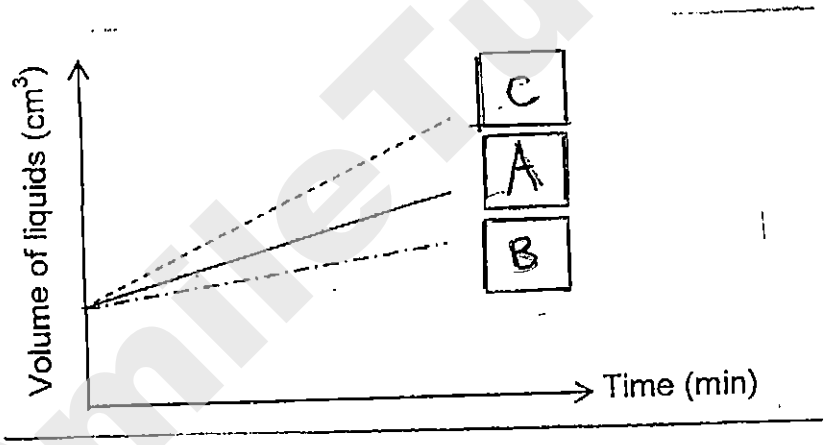
Q38a. Strength

Q38b. Variable : - Thickness of material, Distance between the two wooden blocks.

Q38c. Z It managed to take the most amount of weights before it broke, which means it has to be the strongest material out of the rest.

Q39a. The hot water lost heat to the liquids and when things get hot and expand. Hence when the liquids expand the level of the liquid in each flask rose.

Q39b. **SEE PICTURE**



Q40a. Cup Y contained hot water. Water droplets are found on the inner side of cup Y. The hot water in cup Y evaporated to form water vapour which then condenses on the cooler lid to form water droplets.

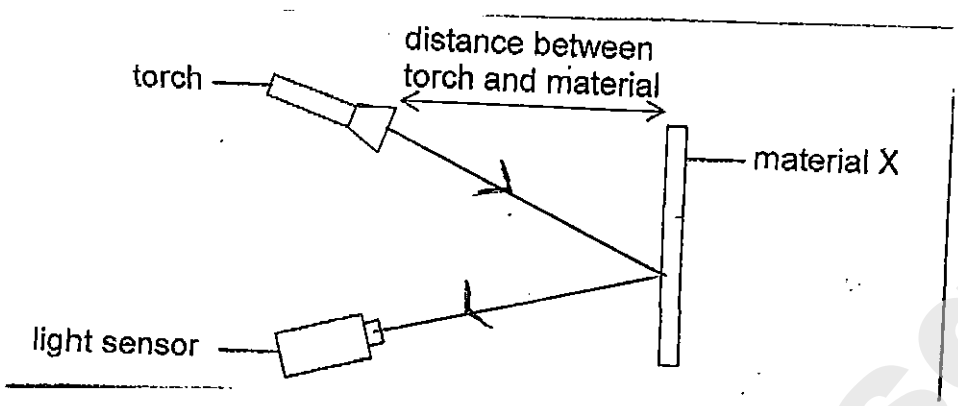
Q40b. There will be more water droplets found on the lid of Z than Y.

Q 41a. P: Gas Q: Liquid

Q41b. Q R P

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Q42a. **SEE PICTURE**



Q42b. The shorter the distance between the torch and the material the more the amount of light reflected by the material.

Q42c. Z. It reflects light from the greatest distance.

Q43a. The temperature of the water in the basin will decrease.

Q43b. Milk: heat gain
Q43b. Water : heat loss

Q44a. Temperature of water in beaker wrapped in C dropped the slowest. With blanket of C, Ravi will lose heat slowest, hence keeping him the warmest.

Q44b. There is no more heat transfer between the water in beakers and the surroundings.

THE END

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Rosyth School
First Semestral Examination for 2015
SCIENCE
Primary 5

Name: _____

Class: Pr 5 - _____ Register No. _____ Duration: 1 h 45 min

Date: 14th May 2015 Parent's Signature: _____

Booklet A

Instructions to Pupils:

1. Do not open the booklets until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, Booklet A and Booklet B.
4. For questions 1 to 30 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.

* This booklet consists of 18 pages.

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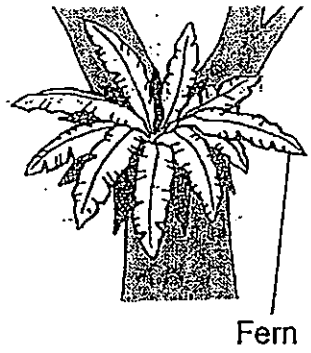
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Part I

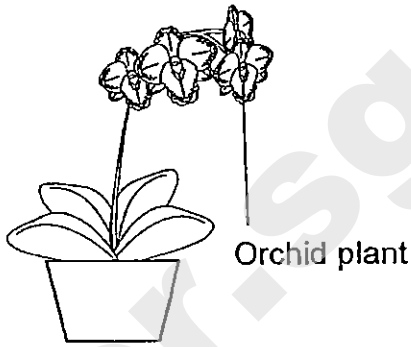
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.** (60 marks)

1. Which one of the following organisms does **not** reproduce by spores?

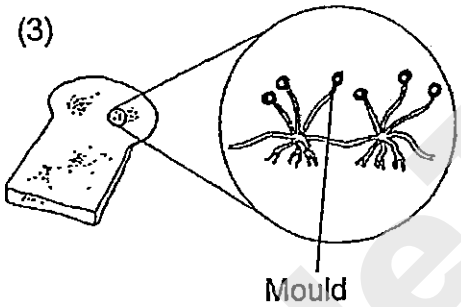
(1)



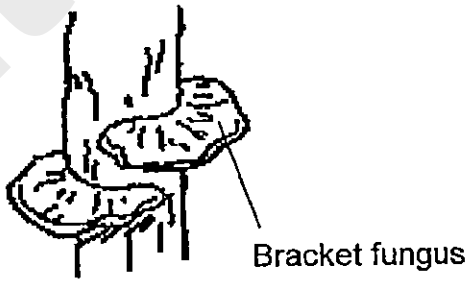
(2)



(3)



(4)



2. Which of the following statements about plants are correct?

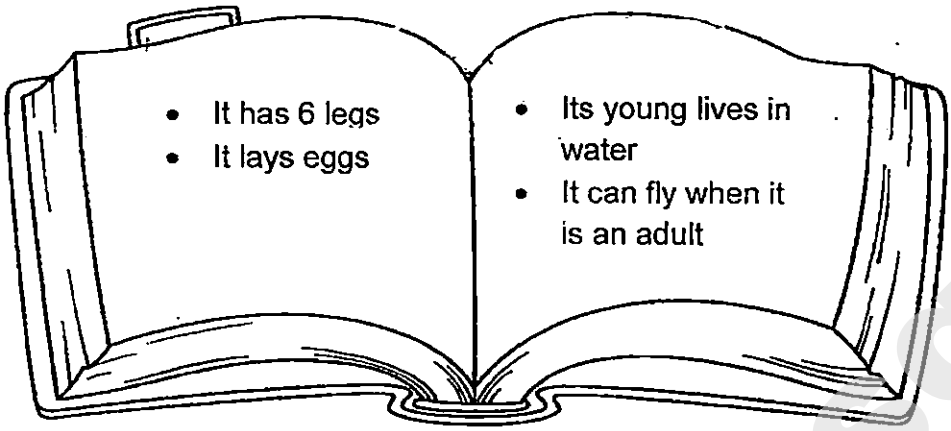
A	They make food in their leaves.
B	They are made up of only cells that have chloroplasts.
C	They cannot move from place to place.
D	They absorb water through their roots

(1) A and C only
(2) B and D only
(3) A, C and D only
(4) A, B, C and D

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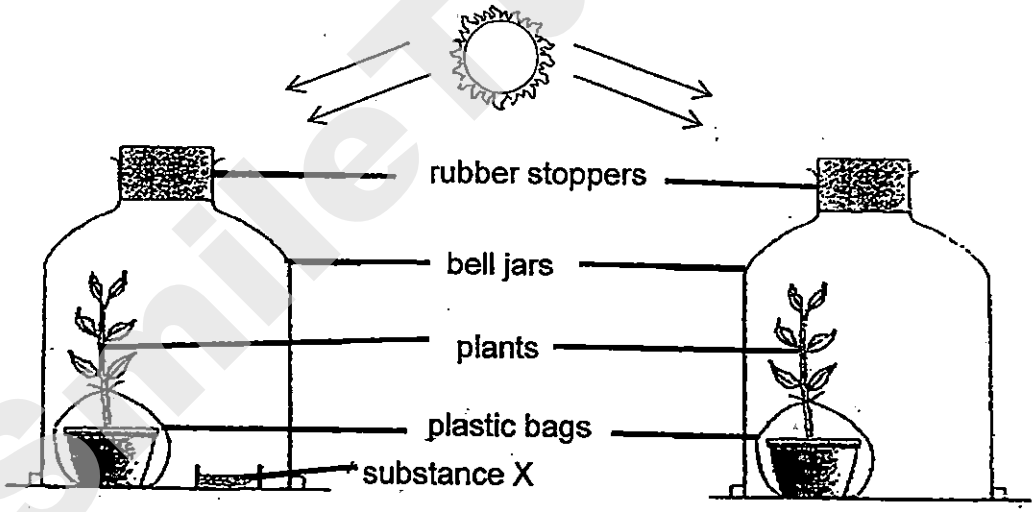
3. Robbie made a few observations of an animal over some time. He recorded his observations as shown below.



Which group does this animal belong to?

(1) Fish
(2) Birds
(3) Insects
(4) Mammals

4. Jane used the set-ups below to find out if plants need carbon dioxide to make food in the presence of sunlight.



What was the purpose of placing substance X in one of the set-ups?

1) To remove all gases in the jar
2) To remove carbon dioxide in the jar
3) To increase the amount of gases in the jar
4) To increase the amount of carbon dioxide in the jar

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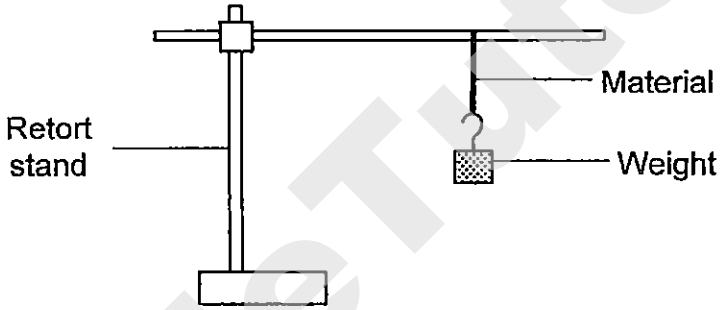
5. Min Er conducted several tests on materials A, B, C and D and recorded her results in the table below.

Description	A	B	C	D
Is it strong?	Yes	No	No	Yes
Does it break easily?	No	Yes	Yes	No
Does it allow light to pass through?	No	Yes	No	Yes

Which material is the most suitable for making a bathroom door?

(1) A
(2) B
(3) C
(4) D

6. An experiment was conducted to test the strength of four different materials P, Q, R and S. Weights of same mass were hung on the different materials until they snapped.



Results of the experiment were recorded in the table below.

Material	P	Q	R	S
Number of weights before material snapped	12	20	10	5

Which one of the following shows the correct order of increasing strength for materials P, Q, R and S?

	Weakest →			Strongest
1)	S	R	P	Q
2)	S	P	R	Q
3)	Q	R	P	S
4)	Q	P	R	S

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7. Why is it important for a unicellular organism to carry out cell division?

A: To increase in size
B: To replace old cells
C: To repair damaged cells
D: To ensure continuity of its own kind

Which of the above statement(s) is/are correct?

1) D only
2) B and C only
3) A, B and C only
4) A, B, C and D

8. Jack was given cells C, D, E and F from different parts of a plant and an animal. He observed the cells under the microscope and recorded his observations in the table below.

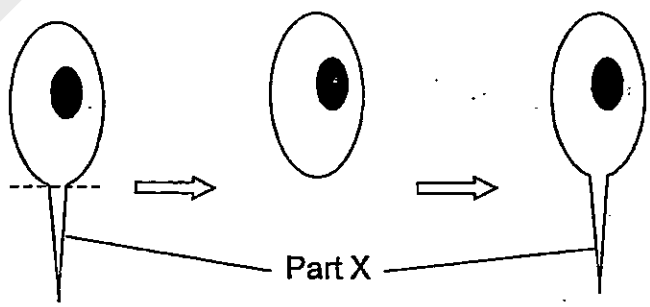
	Cell C	Cell D	Cell E	Cell F
Nucleus	×	✓	✓	✓
Cell wall	×	✓	×	✓
Cytoplasm	✓	✓	✓	✓
Chloroplast	×	×	×	✓
Cell membrane	✓	✓	✓	✓

Key
✓ : present
× : absent

Which of the cell(s) above is/are plant cell(s)?

1) F only
2) C and E only
3) D and F only
4) D, E and F only

9. Study the pictures below.



The animal cell shown above was used in an experiment. Part X was cut off. After some time, it was observed that part X that was cut off grew back.

Which of the following cell parts is needed for part X to grow back?

1) Nucleus
2) Cytoplasm
3) Cell wall
4) Cell membrane

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10. Paul placed 40 bacteria cells into each of the two set-ups containing the same amount of water. Salt was added to one of the set-ups only. He then counted the number of bacteria cells in each set-up after 30 minutes.

What was the aim of his experiment?

1) To find out if the presence of salt would affect the reproduction of bacteria cells.
2) To find out if the amount of salt would affect the size of bacteria cells.
3) To find out if the presence of salt would affect the time taken for bacteria cells to reproduce.
4) To find out if the amount of water would affect the number of bacteria cells reproduced.

11. Alvin set up an experiment to find out how different colours of light would affect the amount of water absorbed by plants.

The table below showed the information of the experimental set-ups.

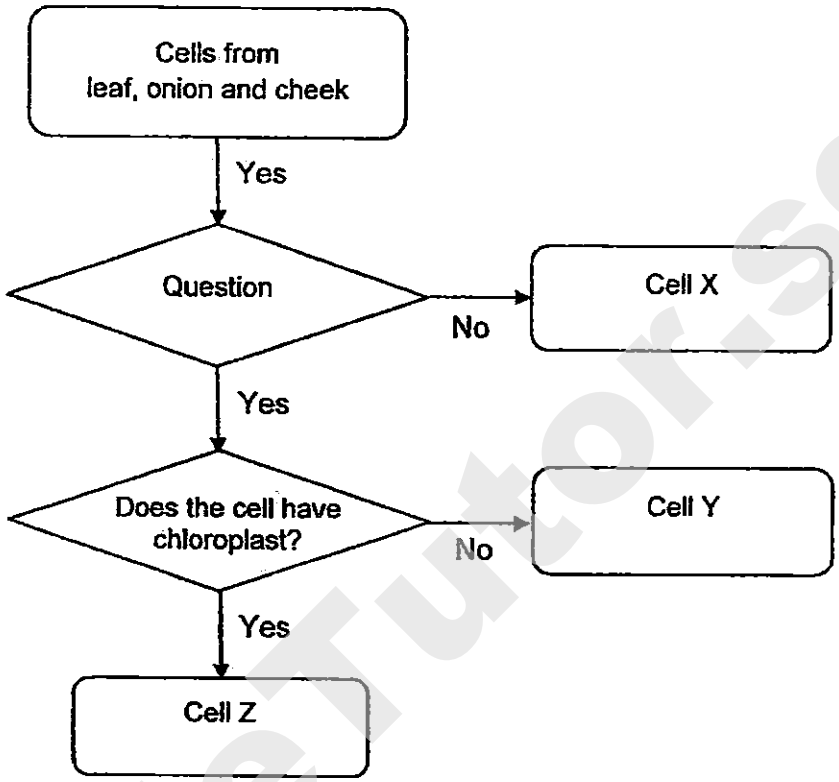
Plants	P	Q	R	S
Amount of water absorbed by plant (ml)	40	20	20	40
Number of leaves on the plant	20	15	20	20
Amount of light that shines on plant (lux)	1000	800	1000	800
Colour of the light	Blue	Green	Green	Blue

Which pair of plants should Alvin compare for his experiment?

(1) P and Q
(2) P and R
(3) Q and S
(4) R and S

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12. Weihan classified three types of cells as shown below. Using the flowchart below, he was able to classify the three cells as cells X, Y and Z.



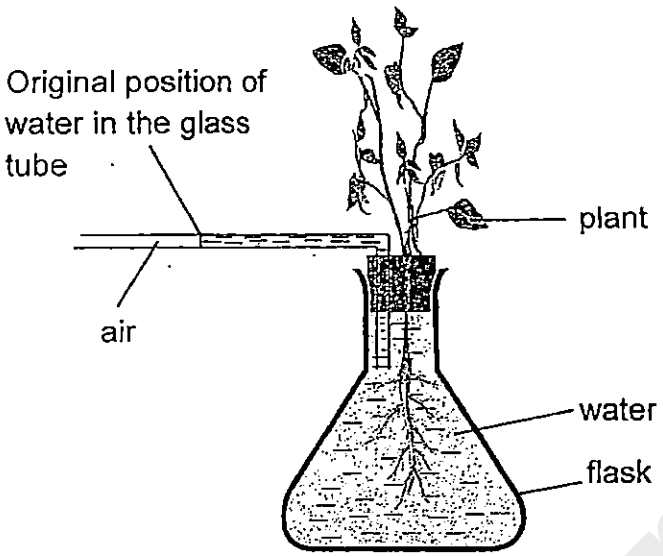
What is the question and Cell Y?

	Question	Cell Y
1)	Does the cell have a nucleus?	leaf
2)	Does the cell have cell membrane?	cheek
3)	Does the cell have a cytoplasm?	leaf
4)	Does the cell have a cell wall?	onion

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13. Joyce placed the set-up below in a bright place.



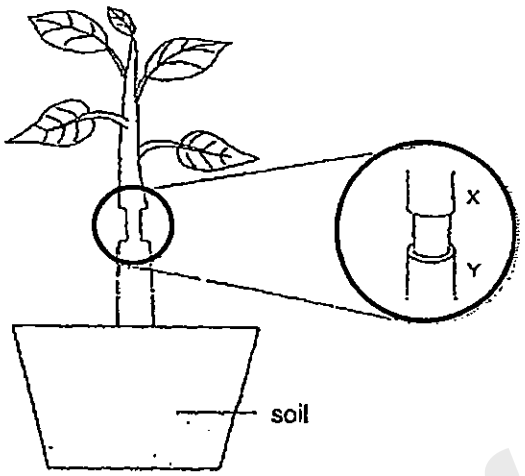
After some time, the water in the glass tube moved. Which direction did the water move and what was the reason for the movement?

	Direction in which the water in the glass tube moved	Reason
(1)	→	Carbon dioxide is given out by the plant
(2)	→	Water is taken in by the plant
(3)	←	Oxygen is given out by the plant
(4)	←	Water is given out by the plant

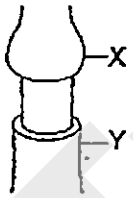
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14. Four students carried out a class experiment by removing an outer ring of the stem between positions X and Y of a plant as shown below.



They left the plant under the sun and watered it regularly.



After a few days, they noticed the plant was alive and the part of the stem at X was swollen.

The four students, Paul, Quentin, Raine and Siti, explained the observation they had made.

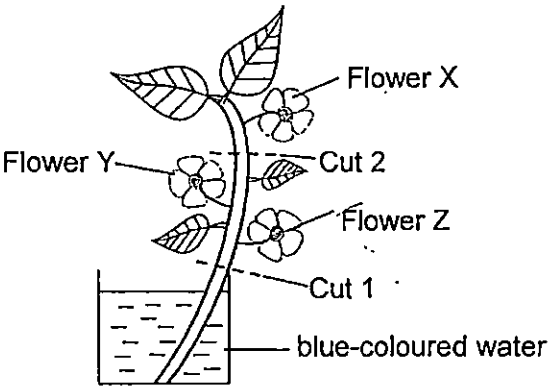
Paul	:	Food is being stored at position X.
Quentin	:	Only the water carrying tubes between positions X and Y are removed.
Raine	:	The water-carrying tubes are still present between positions X and Y.
Siti	:	Both water-carrying and food-carrying tubes are removed.

Which of these pupils' explanation were most likely correct?

1) Paul and Quentin
2) Raine and Siti only
3) Paul and Raine only
4) Quentin, Raine and Siti only

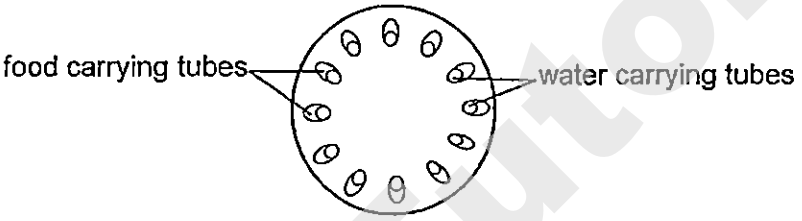
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15. Wendy placed a plant with three white flowers X, Y and Z in a beaker containing blue-coloured water. After 40 minutes, flower Z turned blue while flowers X and Y remained white.

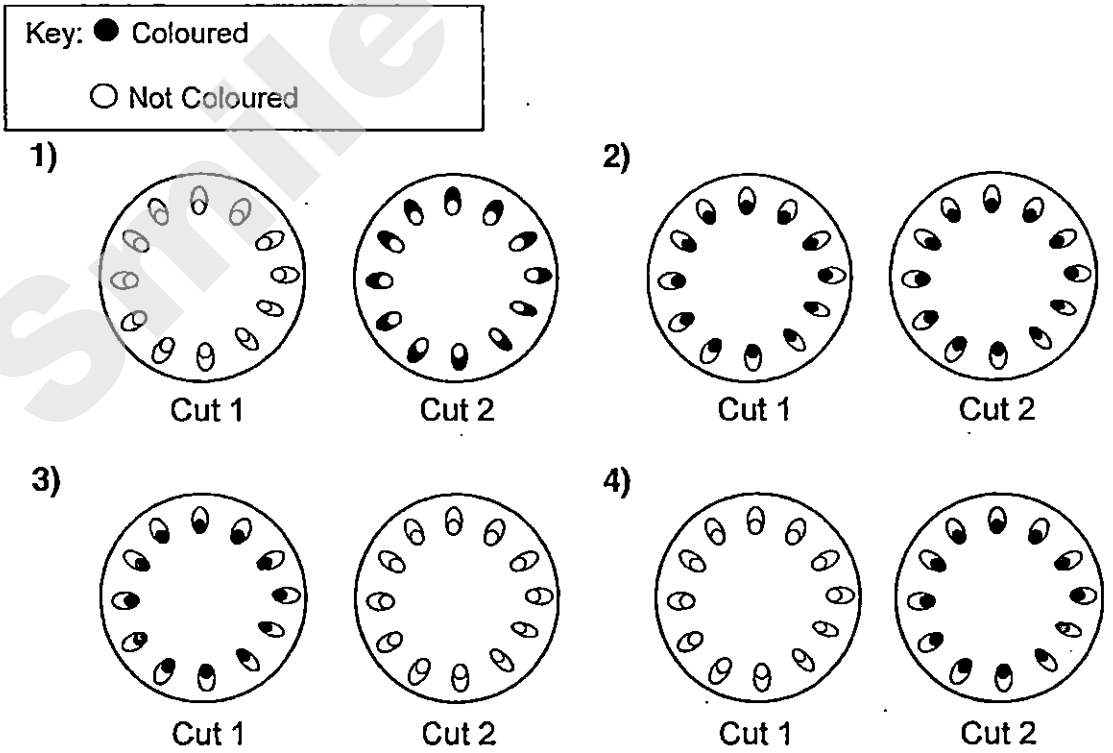


She made 2 cuts as shown in the diagram above.

This is the cross-sectional view of the stem she had cut.

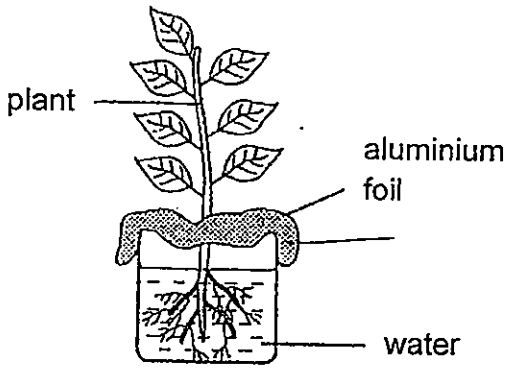


Which one of the following shows the cross sections of the stems at cuts 1 and 2 respectively?



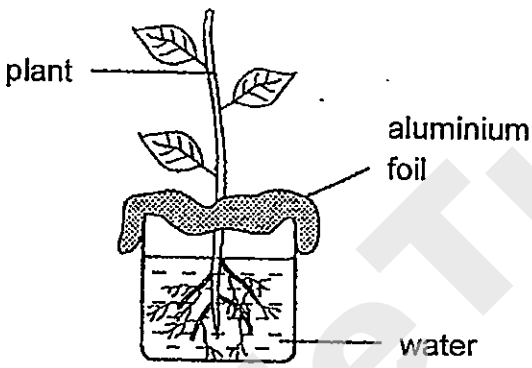
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16. Dennis wanted to find out if plants take in water through their roots. He has prepared the set-up below.

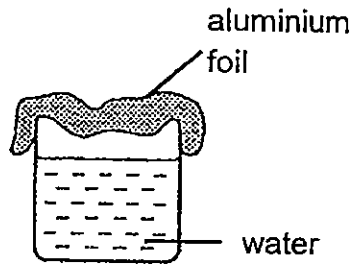


Which one of the following should Dennis use as a control for his experiment?

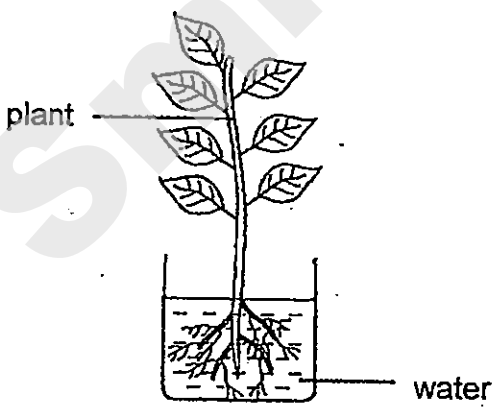
(1)



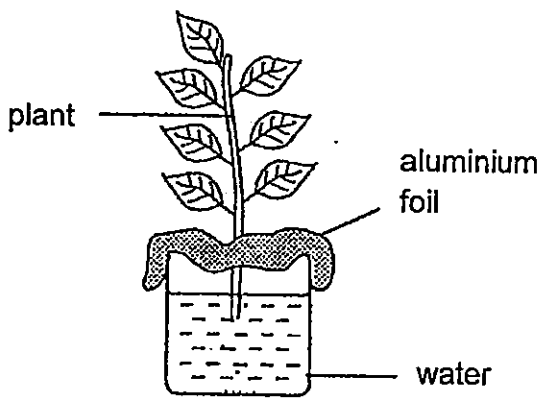
(2)



(3)



(4)

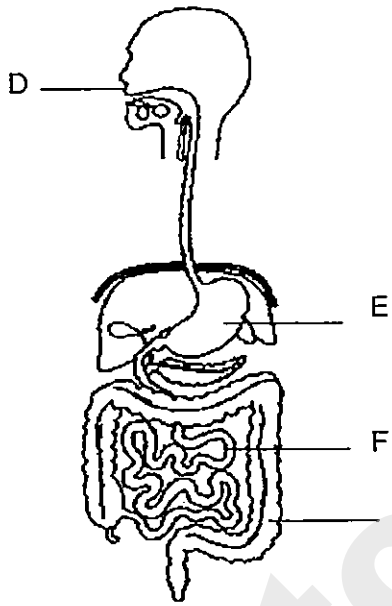


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17. Which one of the following describes the function of each part in the digestive system correctly?



	Digestion takes place here	Most water is absorbed into the bloodstream	Food is absorbed into the bloodstream
1)	D, E, F	G	F
2)	E, F	D	F
3)	D, F, G	G	E
4)	F, G	E	D

18. Which of the following statements about our body systems are true?

A : The digestive system breaks down food into simple substances.
B : The circulatory system transports nutrients around our body.
C : The rib, gullet and lungs are part of the respiratory system.
D : The respiratory system transports oxygen from the lungs to all parts of the body.

1) A and B only
2) C and D only
3) A, B and C only
4) A, B and D only

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19. A boy was running for his 1.6km test . Which of the following body systems interacted together to enable him to run?

A: Skeletal System
B: Muscular System
C: Digestive System
D: Circulatory System
E: Respiratory System

(1) A and B only
(2) C, D and E only
(3) B, C, D and E only
(4) A, B, C, D and E

20. Which of the following substances are transported by the blood?

A : water
B : oxygen
C : digested food
D : carbon dioxide
E : waste materials

(1) B and C only
(2) B, C and D only
(3) A, B, C and D only
(4) A, B, C, D and E

21. Susan went for a run. The table below shows the activity that took place in a period of time.

Time (minutes)	Activity
0 - 10	Running
11 - 20	Running
21 - 30	Running
31 - 40	Coming to a stop
41 - 50	Resting

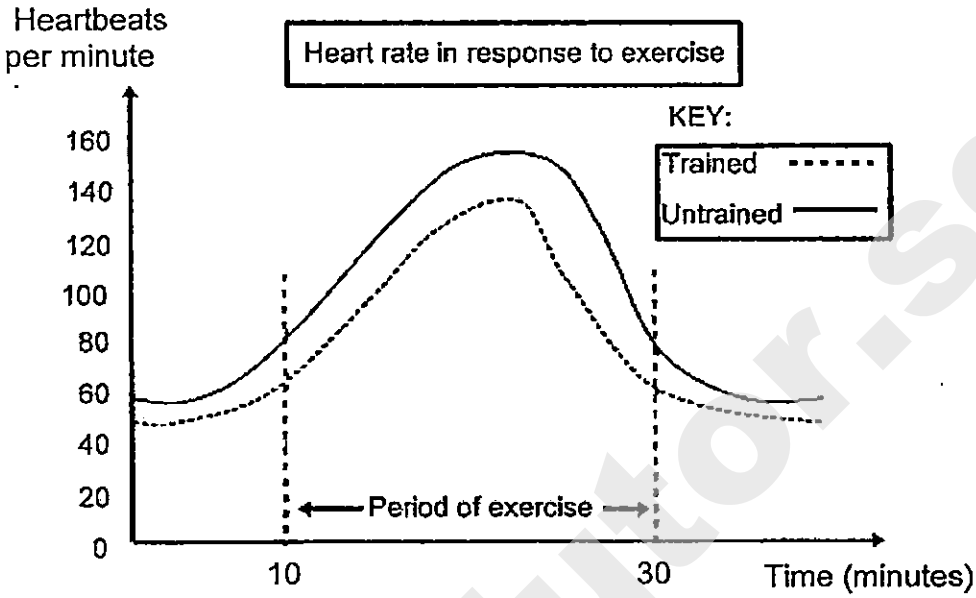
Which one of the following best represents what is happening in her body between the 11th to 30th minute?

	Rate of carbon dioxide released	Rate of blood flow	Rate of energy released from digested food
(1)	Increase	Decrease	Increase
(2)	Decrease	Increase	Decrease
(3)	Increase	Increase	Increase
(4)	Decrease	Decrease	Decrease

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22. The following graph shows the effect of the same intensity of exercise on the heart rate of a trained athlete and an untrained one. They stopped exercising after 30 minutes. A graph showing their rate of heartbeat is plotted below.



Based on the graph above, which one of the following statements is true?

1) Both athletes are using the same amount of oxygen.
2) The trained athlete is using more oxygen to complete the exercise.
3) The resting heart rate of an untrained athlete is lower than that of a trained athlete.
4) The resting heart rate of a trained athlete is lower than that of an untrained ~~ahlete~~.
athlete

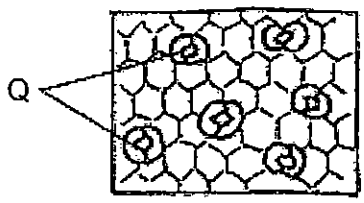
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23. Benny did a cross-section of the Leaf P and observed it under a microscope. He observed structure Q as shown below.



Leaf P



Which of the following statements are true about structure Q? stomata

A: They allow the exchange of gases to take place. T
B: They trap sunlight needed to make food for the plant. F
C: They are usually found on the underside of leaves away from sunlight. T
D: They can take in water found on the leaf to be transported to all parts of the plant. F

1) A and B only
2) A and C only
3) A, B and C only
4) A, B, C and D

24. Martin was making comparisons between how a man and a fish breathe.

	Man	Fish
A	Air containing oxygen enters through the nose and gets into the lungs.	Water containing dissolved oxygen enters through the mouth and passes over the gills.
B	Oxygen from the air gets into the lungs.	Oxygen from the air gets into the gills.
C	Carbon dioxide passes into the lungs and is removed when breathe out.	Carbon dioxide is carried away as water flows out from under the gill covers.

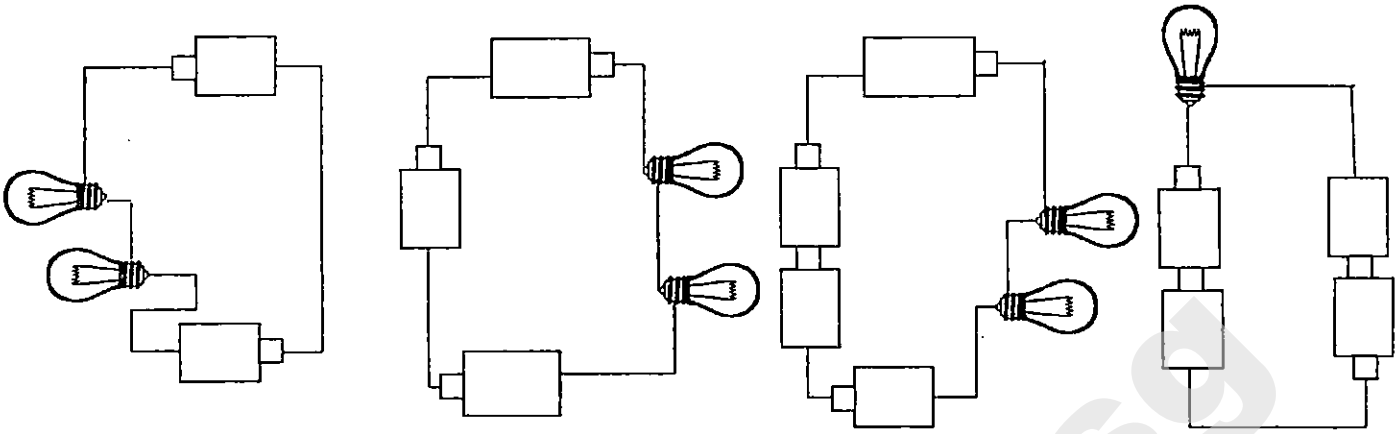
Which of the above comparisons are true?

1) A and B only
2) A and C only
3) B and C only
4) A, B and C

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25. All the batteries, wires and bulbs used in each of the four electrical circuits below are new and identical.



Circuit A Circuit B Circuit C Circuit D

Arrange the circuits from the brightest to the least bright.

(1) C, B, A, D
(2) D, A, B, C
(3) C, D, B, A
(4) D, C, B, A

26. Lily wanted to find out how the arrangement of bulbs in a circuit affects the brightness of the bulbs. Which variables should she keep the same for a fair experiment?

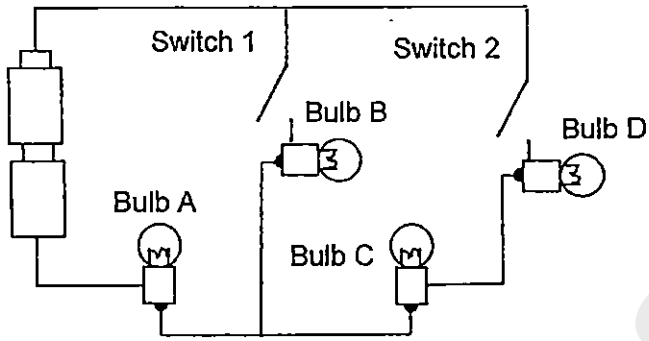
A: The length of wire
B: The number of bulbs
C: Brightness of the bulbs
D: The number of batteries

(1) A and B only
(2) B and D only
(3) A, C and D only
(4) A, B and D only

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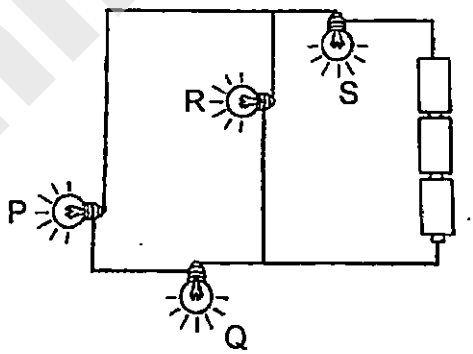
27. Study the electric circuit below.



Which one of the following correctly shows the bulbs that will light up when the switches are closed one at a time?

	Only when Switch 1 is closed	Only when Switch 2 is closed
(1)	Bulbs A and B	Bulbs C and D
(2)	Bulbs A and B	Bulbs A, C and D
(3)	Bulbs A and C	Bulbs A, C and D
(4)	Bulbs B,C and D	Bulbs B, C and D

28. The diagram below shows a closed electric circuit connecting four identical Bulbs P, Q, R and S. All the bulbs light up.



Which of the following statement(s) about the circuit is/are true?
A: Bulbs R and S are connected in series.
B: Bulbs P and R have the same brightness.
C: If Bulb P fuses, Bulbs R and S will still light up.

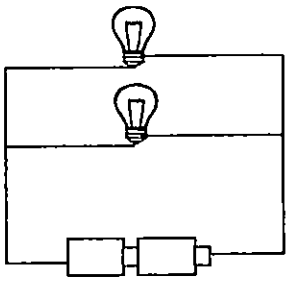
1) A only
2) A and C only
3) B and C only
4) A, B and C

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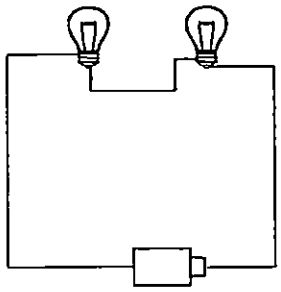
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29. Victor wanted to find out how the number of batteries will affect the brightness of the bulb(s) in a circuit.

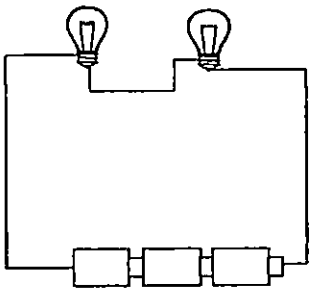
A:



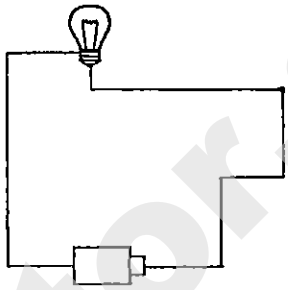
B:



C:



D:



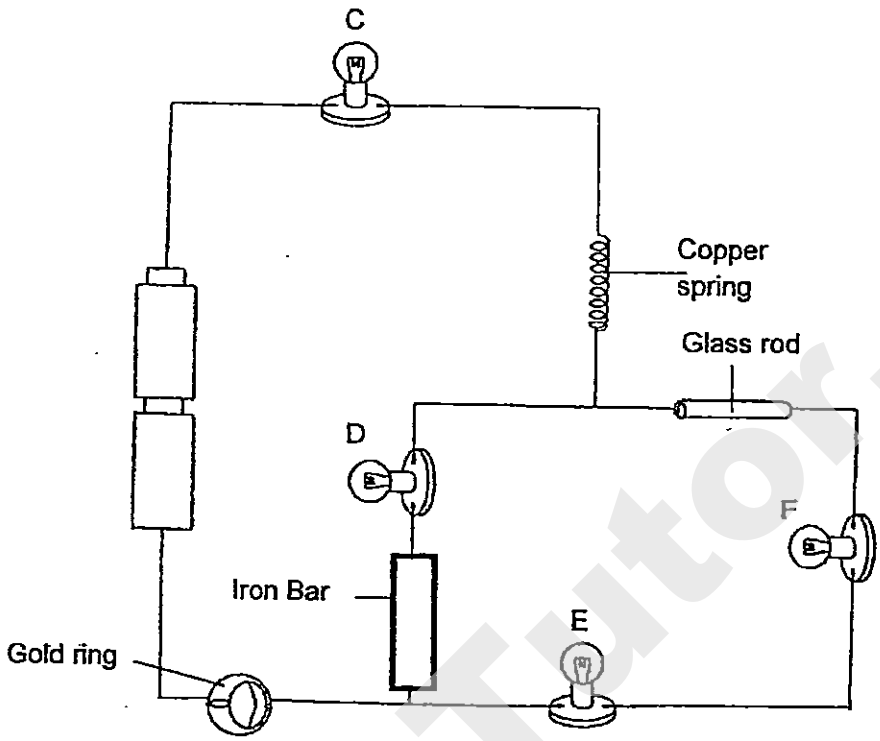
Which set-ups should he use for a fair experiment?

1) A and D only
2) A, B and C only
3) B and C only
4) A, B, C and D

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30. The diagram below shows 4 bulbs C, D, E and F in a circuit that are connected correctly.



Which of these bulbs will not light up?

1) C and D only
2) E and F only
3) C, E and F only
4) C, D, E and F

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Rosyth School
First Semestral Examination for 2015
SCIENCE
Primary 5

Total Marks: ____ / 100

Name: _____

Class: Pr 5 - _____ Register No. _____ Duration: 1 h 45 min

Date: 14th May 2015 Parent's Signature: _____

Booklet B

Instructions to Pupils:

1. For questions 31 to 44, write your answers in the spaces given in this booklet.

	Maximum	Marks Obtained
Booklet A	60 marks	
Booklet B	40 marks	
Total	100 marks	

* This booklet consists of 14 pages.

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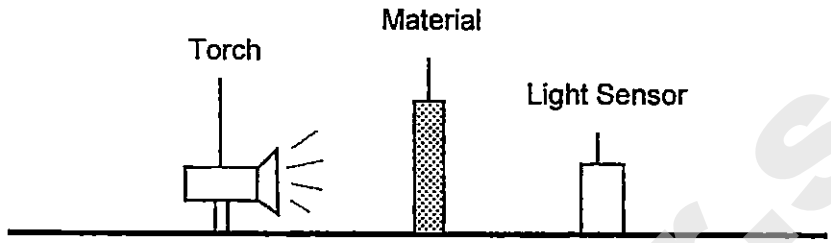
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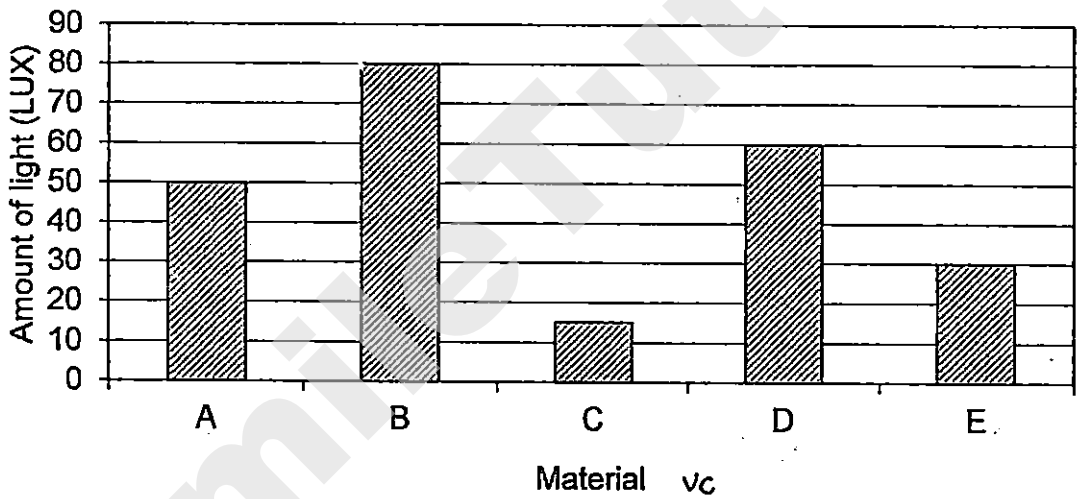
PART II

For questions 31 to 44, write your answers in this booklet. (40 marks)

31. Nathan conducted an experiment using five different materials A, B, C, D and E, a torch and a light sensor. He conducted the experiment in a dark room and set up the experiment as shown below.



He recorded his findings in the graph below.



(a) What was the aim of his experiment? (1m)

_____

_____

(b) Out of the five materials A, B, C, D and E, which material would be the most suitable to make the windscreen of a car? Explain your answer. (1m)

_____

_____

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32. Tim wanted to find out how the amount of water present would affect the growth of mould on bread. He set up an experiment with three similar pieces of bread A, B and C. He sprinkled different amount of water onto the pieces of bread and packed them into the sealed bag.

He measured the area of mould that grew on the different pieces of bread every two days and recorded the results in the table below.

Bread	Amount of water sprinkled on bread (ml)	Area of mould observed (cm^2)			
		Day 0	Day 2	Day 4	Day 6
A	5	0	0	2	3
B	10	0	3	5	8
C	20	0	5	7	12

(a) Based on the above results, state the relationship between the amount of water sprinkled on the bread and the growth of mould on bread. (1m)

_____

_____

(b) Put a tick (✓) on the variable(s) that Tim would need to keep constant to ensure his experiment is a fair test. (1m)

	size of sealed bag
	amount of water sprinkled on bread
	temperature of surrounding

(c) Tim repeated his experiment under a lighted lamp. He noticed that there was more mould growing on all the pieces of bread. How has the presence of the lighted lamp increase the growth of mould? (1m)

_____

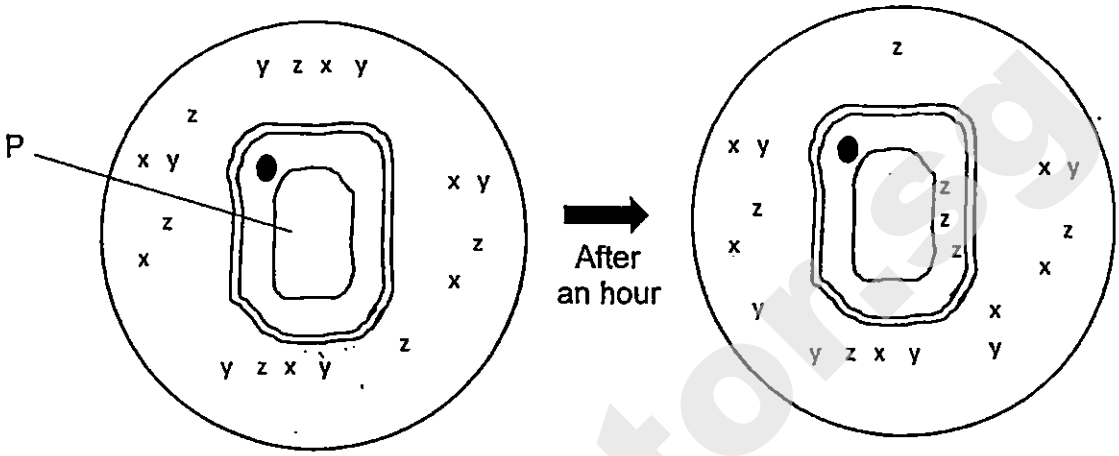
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33. Daphne took a cell from a plant for an experiment. She immersed the cell in a dish containing same amount of substances X, Y and Z.

The diagram below showed what happened an hour after the cell was placed in the dish containing the three substances.



(a) What observations did Daphne make with regard to the 3 substances X, Y and Z after an hour? (1m)

_____

_____

(b) Which part of the cell was responsible for the observations made in (a)? (1m)

_____

(c) It is observed that part P of the cell becomes bigger when the plant takes in water. Will the cell burst if the plant takes in more water? Explain your answer. (1m)

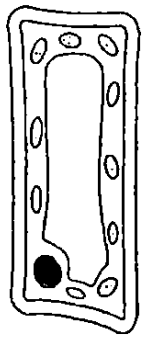
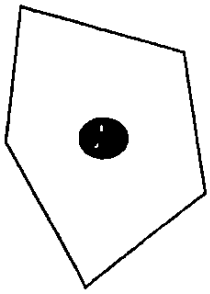
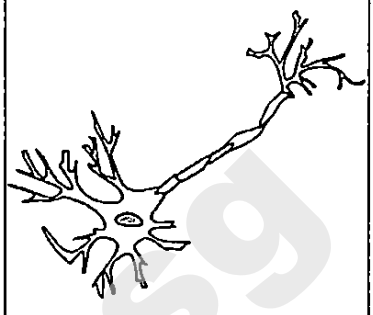
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34. Study the three different cells A, B and C as shown below.

		
Cell A	**Cell B**	**Cell C**

(a) Name a part of the cell that can be found in Cell A but not in Cell B and C. (1m)

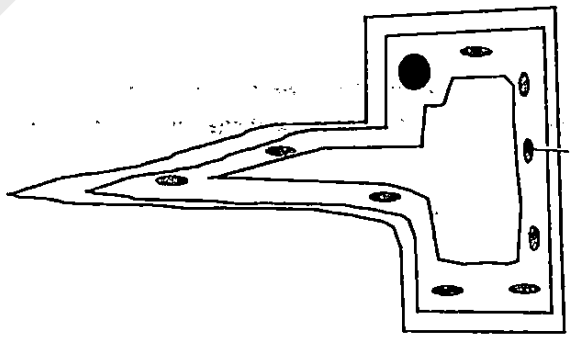
_____

(b) Why do these cells have different shapes? (1m)

_____

_____

Study the root cell drawn by Kendrick as shown below.



(c) In the drawing above, draw a line and label the part of the cell that should not be present. Explain why this part should not be found in a root cell. (2m)

_____

_____

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35. Mr Lim wanted to find out how the amount of sugar dissolved in water would affect the freshness of the flower. He carried out an experiment by placing a flower stalk into each of the containers A, B and C with different amount of sugar solutions. After some time, he then measured the number of days that the flowers remained fresh.

Container	Number of teaspoons of sugar dissolved in water	Amount of water (ml)
A	1	250
B	2	250
C	3	250
control set-up	(a)	(a)

(a) Mr Lim needed to have a control set-up. Complete the information in the table above. (1m)

(b) What is the purpose of the control set-up? (1m)

_____

_____

(c) Besides the flower stalk, name 2 other variables that need to remain unchanged for this experiment. (2m)

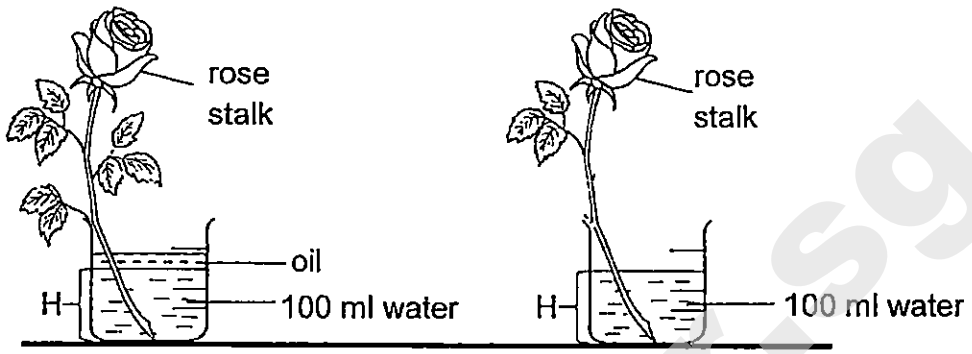
Variable 1: _____

Variable 2: _____

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36. Xiao Ping conducted an experiment in a classroom using set-ups A and B as shown. She removed most of the leaves from set-up B. She then recorded the water level, H, at regular time intervals.



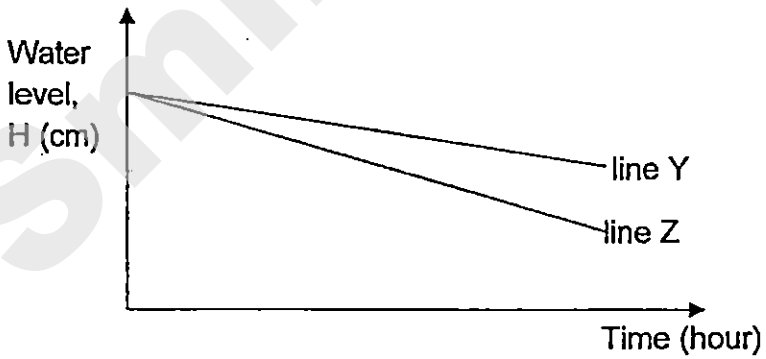
Set-up A Set-up B

(a) Explain why her experiment is not a fair one. (1m)

_____

_____

After ensuring that her experiment is fair, she obtained the results as shown in the graph below:



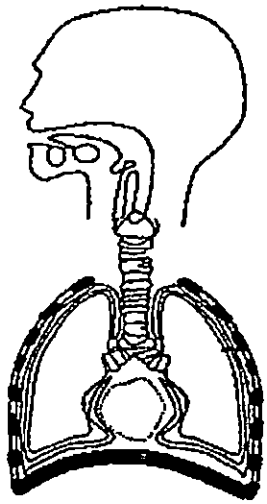
(b) Which line, Y or Z, represents the results obtained for the flower stalk with more leaves. Explain your answer. (1m)

_____

_____

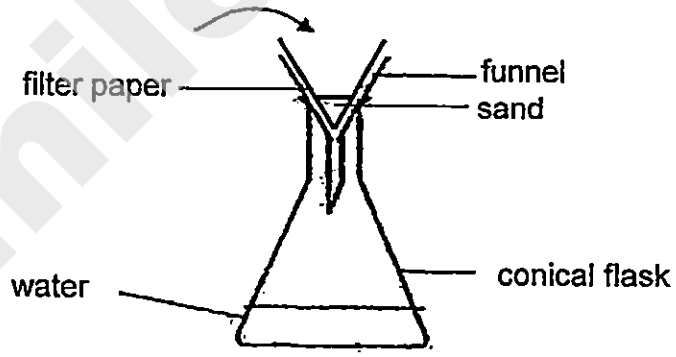
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37. The diagram below shows part of the human respiratory system.



(a) In the diagram, draw a line and name the part that allows air to flow from the nose to the lungs. (1m)

(b) The diagram below shows a filter paper placed in a funnel. It is used to filter the sand from the water.



How is the function of the filter paper similar to that of the fine hairs in the nose? (2m)

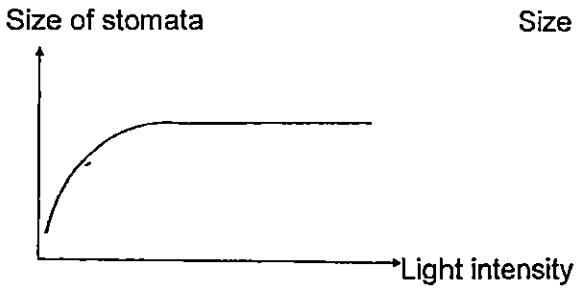
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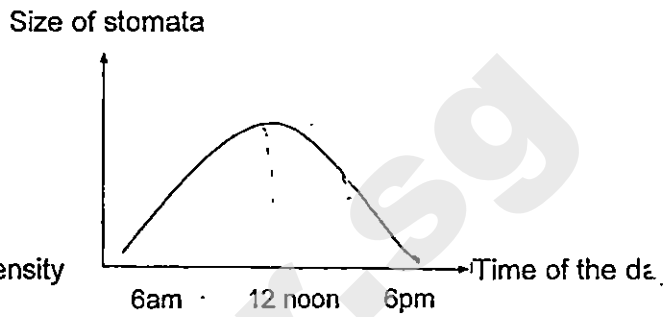
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38. Ali conducted an experiment to find out how the amount of light affects the size **of stomata** found on a leaf. He recorded his observation and sketched two graphs as shown below to provide information about the size of stomata found on a leaf.



Graph A



Graph B

Graph A shows how light intensity affects the size of stomata while graph B shows how the size of stomata changes with the time of the day.

(a) Ali concluded that as light intensity increases, the size of stomata increases. Is his conclusion accurate? (1m)

_____

_____

(b) Based on the graphs A and B above, explain why the size of stomata is the greatest at 12 noon? (1m)

_____

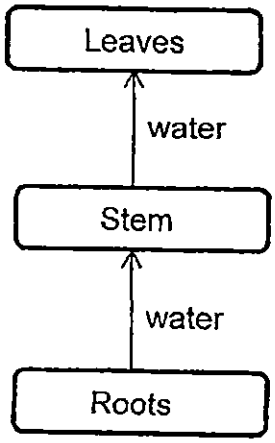
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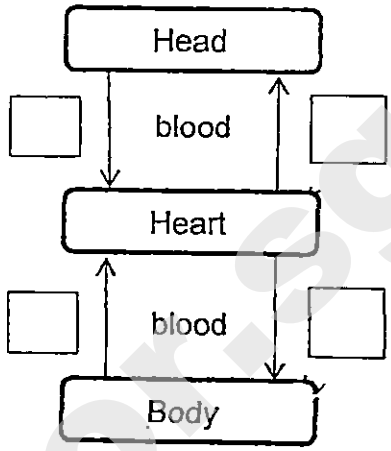
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39. Study the diagram below.

Plant Transport System



Human Transport System



(a) In the human transport system above, tick the box(es) which represent(s) blood rich in oxygen. (1m)

(b) Based on the diagram above, how is the directional flow of water in the plant transport system different from the directional flow of blood in the human transport system? (1m)

_____

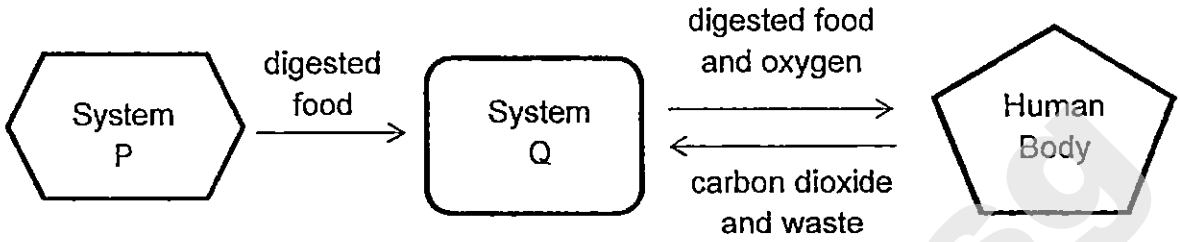
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40. The diagram below shows the different systems in the human body working together.



(a) Name Systems P and Q as shown in the diagram above. (1m)

i) System P: _____

ii) System Q: _____

(b) Describe how these two systems work together in the human body. (2m)

_____

_____

_____

_____

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41. Casper and Don recorded their heart rate immediately after carrying out 10 minutes of jogging. After two minutes of resting, they measured their heart rate and recorded them. ~~He~~ They also measured ~~his~~ their heart ~~rate~~ rates after fifteen minutes of rest

	Heart rate			
	2 minutes before jogging	Just after jogging	2 minutes after activity	15 minutes after jogging
Casper	72	120	105	71
Don	72	140	110	72

(a) Explain why their heart rate was higher when they were jogging. (2m)

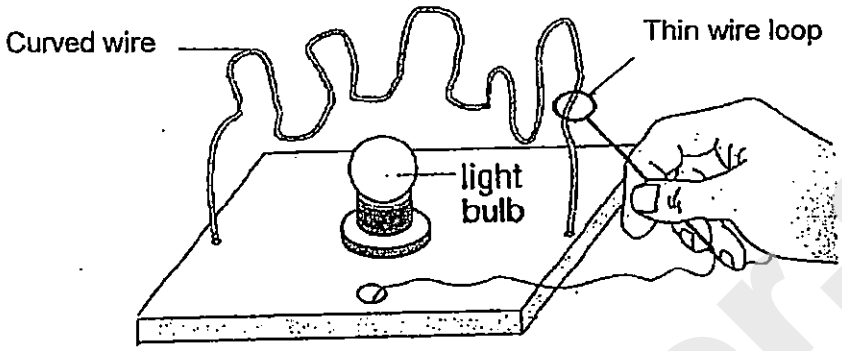
(b) State what happened to their heart rate 15 minutes after jogging. (1m)

(c) Give a possible reason why Don's heart rate is higher than Casper's heart rate just after jogging. (1m)

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42. The diagram below shows a game which requires one to move a metal loop through a length of curved wire. The game tests the steadiness of the player's hand. If the player's hand is not steady and the loop touches the curved wire, the bulb will light up.



(a) What property should the thin wire loop have in order for it to be used in this game? (1m)

_____

(b) Why does the bulb light up when the loop touches the curved wire? (1m)

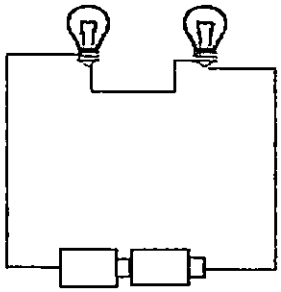
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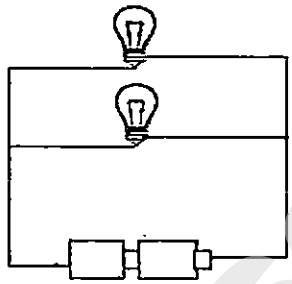
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43. Colin used four new and identical bulbs and four identical batteries to set up two electric circuits as shown below.



Circuit P



Circuit Q

(a) Which electric circuit P or Q, do the bulbs light up more brightly? (1m)

_____

(b) Besides changing the arrangement and number of bulbs, what can be done to the other circuit to cause the bulbs to light up brighter? (1m)

_____

_____

(c) Electric appliances in our homes are usually arranged similar to circuit Q. State a reason why. (1m)

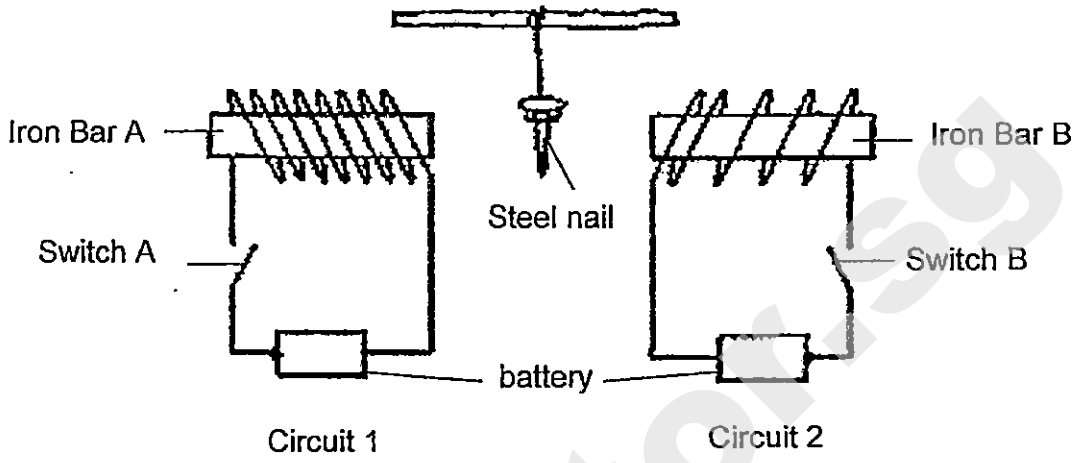
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44. An iron bar becomes a magnet when it is placed in a coil of wire connected to the battery. A steel nail was suspended freely between two iron bars A and B as shown below.



(a) Which variable was changed in the above experiment? (1m)

_____

(b) What will happen to the steel nail if only Switch B is closed? (1m)

_____

(c) What will happen to the steel nail if both Switch A and B are closed at the same time? (1m)

_____

_____

--- END OF PAPER ---

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : ROSYTH SCHOOL
SUBJECT : SCIENCE
TERM : SA1

BOOKLET A

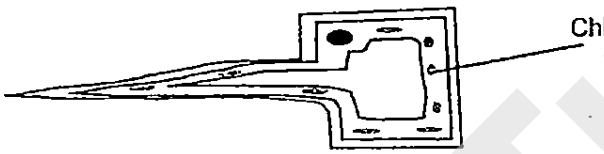
Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
2	**3**	**3**	**2**	**1**	**1**	**1**	**3**	**1**	**1**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
2	**4**	**2**	**3**	**3**	**4**	**1**	**1**	**4**	**4**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	**4**	**2**	**2**	**4**	**4**	**1**	2	3	**1**

BOOKLET B – REFER TO ATTACHED ANSWER KEY

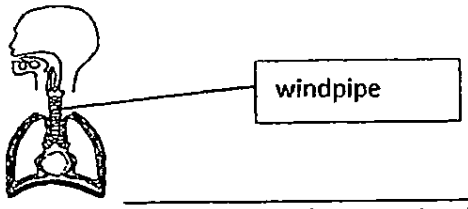
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31a	To find out if /how different materials affects the amount of light that passes through the material / To find out if/ how the degree of transparency of the materials would affect the amount of light that passes through the material. To find out which material allow the most light to pass through.
b	B. It allows the most amount of light to pass through. B allowed more light to pass through than the rest of the materials.
32a	As the amount of water sprinkled on bread increases, the growth of mould on bread increases/ The more the amount of water sprinkled on bread, the greater the growth of mould on bread. As the amount of water sprinkled on bread increases, the rate of growth of mould on bread increases/ the faster the growth of mould. As the amount of water sprinkled on bread increases, the *area of mould on bread increases* (1/2)
b	• Size of sealed bag • Temperature of surrounding
c	Lighted lamp → provides heat/warmth → promotes growth of mould (need warmth, moisture and air/oxygen) It causes an increase in temperature of the air in the plastic bag/ air in the plastic bag became warmer/ temperature of surrounding became warmer for the mould to grow faster.
33 a	Some substance Z have entered the cell and no substance X and Y have entered the cell .
b	Cell membrane
c	No. Cell has cell wall that supports and provides strength to the cell.
34a	Any one of the answers: Cell wall chloroplast central vacuole
b	Cells have different shapes to carry out different functions.
c	 Chloroplasts (must draw correct line and label) Root cell does not have chloroplast as it does not make food
35a	

control setup	(a)	0	(a)	250

b	To prove/confirm/ ensure that sugar / or the amount of sugar is the only variable that affects the freshness of the flowers. / the number of days that flowers remained fresh
c	• Temperature of the water • Amount of water • Amount of light/sunlight • Temperature of surrounding air • Type /size of sugar
36a	She did not put a layer of oil on top of the water in setup B
b	Line Z. As the flower stalk has more leaves, the amount of water taken in by the stalk is more.
37a	 windpipe
b	The filter paper filters/separates the sand from the water just like the hair in the nose that traps the dust and dirt from the air we breathe in / entering the body.
38a	No. As light intensity increases, the size of stomata increases and then remains the same/constant when maximum size is reached.
b	At 12 noon, the light intensity is the highest /brightest OR At 12 noon, the amount of light is the most.
39a	Tick the boxes from the heart to the head and from the heart to the body.

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b	Water is transported from the roots upwards towards the leaves in a single direction/unidirectionally but blood is transported / circulated from the heart to all parts of the body and then back to the heart again OR from the heart to the head and body and back to the heart again.
40a	P: Digestive System Q: Circulatory System
b	Food is digested by the digestive system and the digested food enters the blood/bloodstream/is absorbed into the blood. (1m) The digested food in the blood is then transported to all parts of the body by the circulatory system. The digestive system digests the food into simpler substances which is absorbed into the blood stream so that the circulatory system can transport the digested food to all parts of the body .
41a	The heart has to pump harder/faster to supply more oxygen (and digested food) to the body (and to remove carbon dioxide faster). When they were jogging, their bodies need more energy. So the heart pumped faster in order to provide the body with more oxygen and digested food to release more energy.
b	The heart rate returns to the resting heart rate/ back to normal heart rate. The heart rate decreases/slowed down to about the heart rate at 2 minutes before he started jogging .
c	Don may have jogged faster/jogged more vigorously/ Don's jogging intensity is higher →intensity Don may be younger so his heart rate is higher Casper may be more athletic/ is fitter Casper may exercise frequently/exercise regularly→frequency
42a	It is a conductor of electricity/ an electrical conductor
b	When the loop touches the curved wire, it forms a complete circuit. So, the current flows / passes though the circuit / bulb causing the bulb to light up.
43a	The bulbs in circuit Q will light up more brightly
b	Add more batteries or increase the voltage of the batteries
c	Bulbs/appliances arranged in Q allows/enables the other bulbs/ appliances to remain working if one bulb fuses /appliance is faulty (as there are more than 1 pathway/separate pathways for electricity to flow) OR It allows the other appliances to remain working if one appliance is turned off.
44a	The number of coils around the iron rod.
b	The steel nail will be attracted to iron rod B. The steel nail will move towards to iron rod B (1/2)
c	The steel nail will be attracted to iron rod A. The steel nail will move towards to iron rod A (1/2)

THE END

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卍慈学校

RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

SCIENCE
2015 SEMESTRAL EXAMINATION 1
PRIMARY 5

Name : _____ ( )

Class : Primary 5/ _____

Date : 12 May 2015

BOOKLET A

Total time for Booklets A & B: 1h 45 min

Booklet A: 30 questions (60 marks)

Note:

1. Do not open the booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the booklet.
3. Do not waste time. If the question is too difficult for you, go on to the next question.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
   a. Page 1 to Page 19
   b. Questions 1 to 30

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Section A

For Questions 1 to 30, choose the most suitable answer and shade its number in the OAS provided.

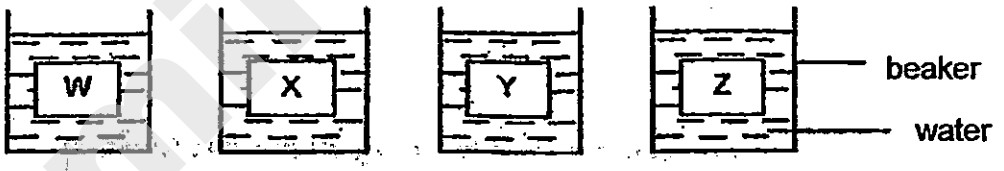
1. Lynette conducted an experiment on plants to find out if the amount of water will affect the growth of seedlings. She planted equal number of seedlings in 4 pots labelled L, M, N and O. She recorded their growth at the end of the experiment. The results are shown below.

Pot	L	M	N	O
Duration of experiment	1 week	2 weeks	1 week	3 weeks
Location	Next to the window	Next to the window	Next to the window	Next to the window
Amount of water given daily	20 ml	20 ml	0 ml	0 ml

Which two set-ups should she use to make sure her experiment is fair?

(1) L and M
(2) L and N
(3) M and N
(4) N and O

2. Gary weighed 4 sheets of different materials, W, X, Y and Z, of similar sizes and thickness, and put them into 4 beakers containing equal volumes of water as shown in the diagram below.



After 20 minutes, Gary weighed each sheet of material again. He recorded their masses before and after the experiment in the table below.

Material	Mass at the beginning (g)	Mass at the end (g)
W	8	17
X	12	16
Y	14	14
Z	16	19

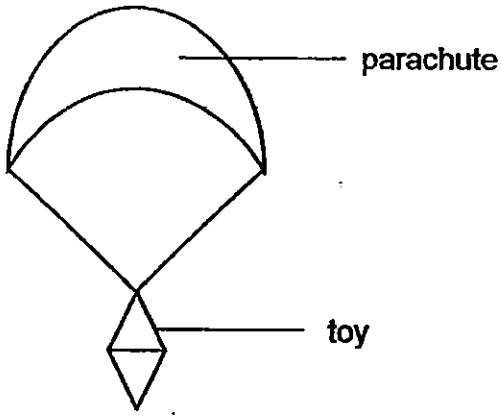
Gary wants to make a raincoat. Which is the most suitable material he should choose?

(1) W
(2) X
(3) Y
(4) Z

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3. Ranjeet wanted to find out whether paper or plastic used for a parachute would allow the toy attached to it to fall to the ground faster.



Ranjeet dropped the two parachutes from a certain height and recorded the time taken for the toy to land on the ground. The results of his experiment were shown in the table below.

Type of Parachute	Time taken for toy to reach the ground (s)
Paper	87
Plastic	115

Which of the following variables should Ranjeet keep the same in order to achieve the aim of his experiment?

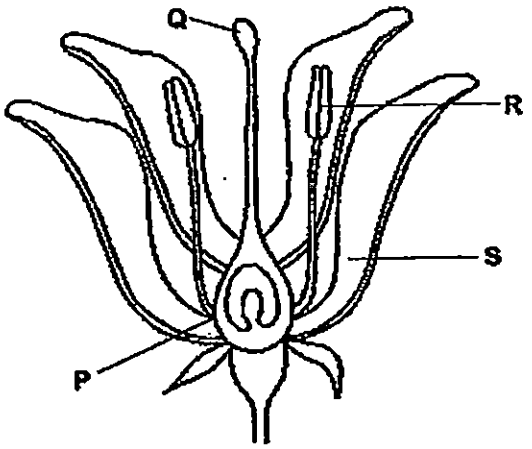
A: Mass of toy
B: Height of drop
C: Size of parachute
D: Material of parachute

(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, B, C and D

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4. The diagram below shows part of a flower.



Which part, P, Q, R or S, should the pollen grains land on for pollination to be completed?

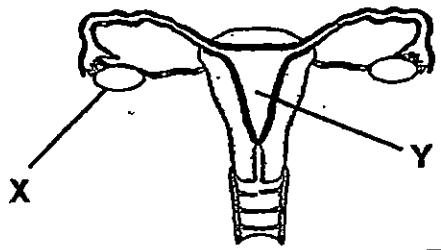
(1) P
(2) Q
(3) R
(4) S

5. Which of the following are parts of the male human reproductive system?

A: anther
B: penis
C: testis
D: filament

(1) A and D only
(2) B and C only
(3) A, B and C only
(4) B, C and D only

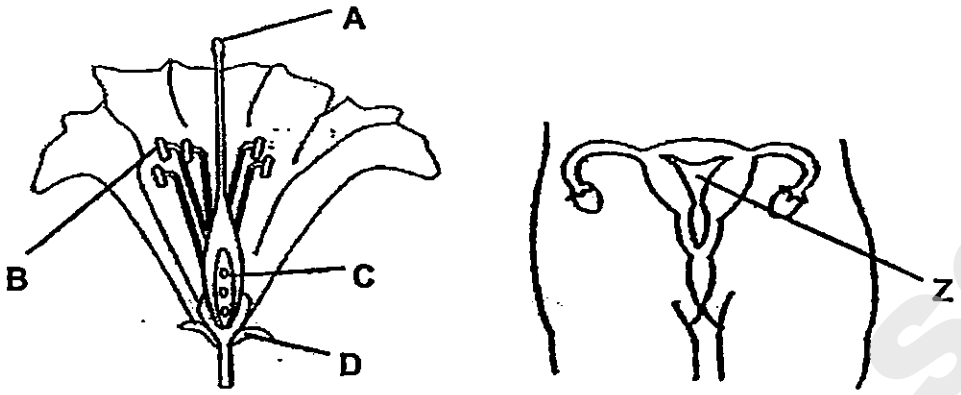
6. The diagram below shows the female human reproductive system. Identify parts X and Y.



	X	Y
(1)	egg	vagina
(2)	egg	womb
(3)	ovary	ovule
(4)	ovary	womb

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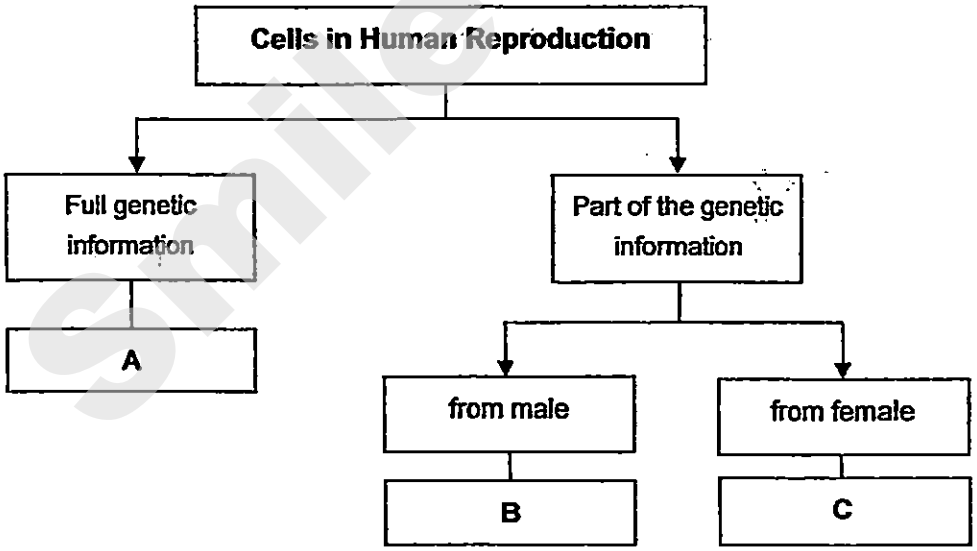
7. The diagrams below show the cross section of a flower and a human reproductive system.



Part _____ of the flower has the same function as part Z in the human reproductive system.

(1) A
(2) B
(3) C
(4) D

8. Study the following classification table carefully.

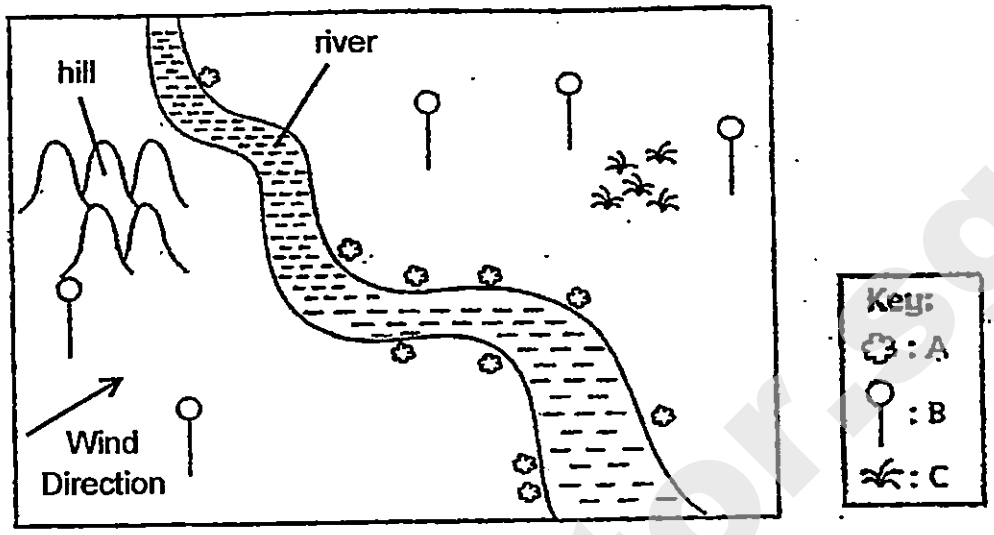


What could A, B and C be?

	A	B	C
(1)	egg	fertilised egg	sperm
(2)	egg	sperm	fertilised egg
(3)	fertilised egg	egg	sperm
(4)	fertilised egg	sperm	egg

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9. A group of scouts went jungle trekking. They collected data of the number and position of trees found in the jungle. They recorded this data in the map below.



The scouts then made the following statements about the fruits on the trees.

Alan	Fruits on Tree A have husks which trap air.
Bob	Fruits on Tree B have wing-like structure.
Calvin	Fruits on Tree C split open with an explosive force.

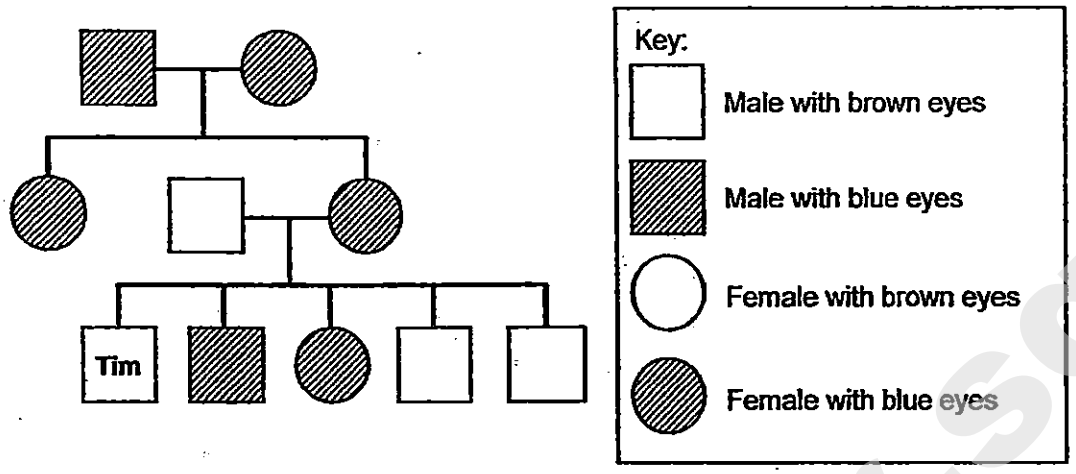
Which of the scout(s) made a correct statement?

(1) Bob only
(2) Alan and Bob only
(3) Bob and Calvin only
(4) Alan, Bob and Calvin

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10. Study the diagram given below carefully.



Which of the following information can be obtained from the diagram above?

A: Tim has brown eyes.

B: Tim's maternal grandparents have brown eyes.

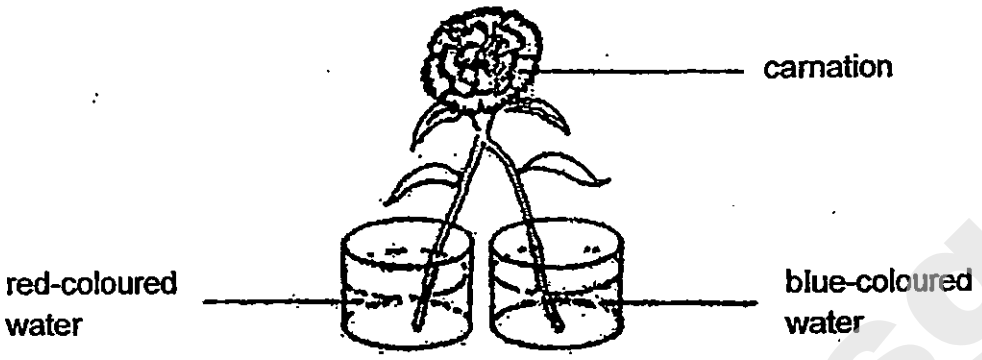
C: Tim inherited his eye colour from his father.

(1) C only
(2) A and B only
(3) A and C only
(4) A, B and C

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11. Study the diagram below carefully.



The stalk of a white-coloured carnation flower is split equally into two and dipped into two beakers, each containing red-coloured and blue-coloured water respectively. Which one of the following is most likely to be observed after 6 hours?

(1) The stem and the petals turn red.
(2) The stem and the petals turn blue and red.
(3) The stem turns blue and the petals turn red.
(4) The stem remains green and the petals remain white.

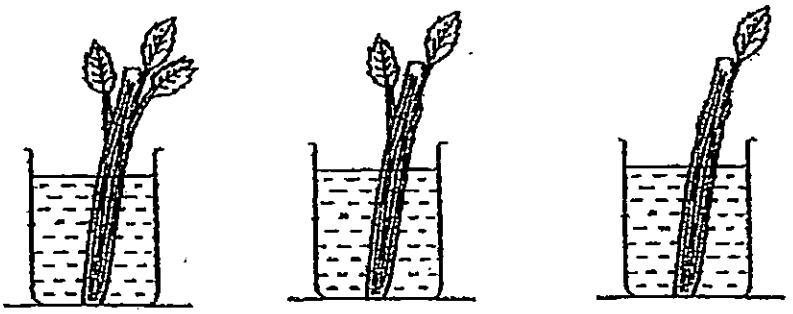
12. Which of the following statements are similarities between a human digestive system and a plant system?

A: Both systems make food.
B: Both systems have parts which perform different functions.
C: Both systems are made up of more than one part.

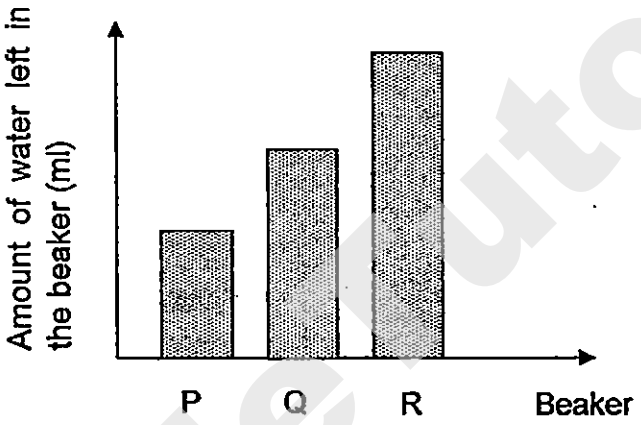
(1) B and C only
(2) A and B only
(3) A and C only
(4) A, B and C

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13. Donny set up 3 beakers, P, Q and R, as shown below. Each of the 3 beakers contained 25 ml of water and were placed at the same location for 12 hours.



Donny then presented his findings in the graph below.



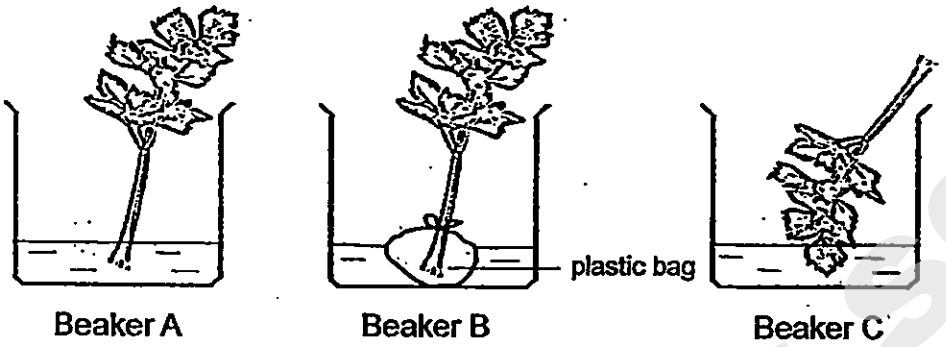
Which one of the following statements best describes the relationship between the variables of Donny's experiment?

(1) The fewer the number of leaves, the greater the amount of water lost.
(2) The greater the number of leaves, the greater the amount of water lost.
(3) The fewer the number of leaves, the greater the amount of water absorbed by the plant.
(4) The greater the number of leaves, the greater the amount of water left in the beaker.

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14. Meizhen conducted an experiment to find out how plants transport water. She placed a plant each into three separate beakers, each filled with 25 ml of water. The beakers were then kept in the Science room. The set-ups were shown below.



Beaker A Beaker B Beaker C

In which beaker(s) is/are the plant(s) likely to wilt first after a few days?

(1) A only
(2) A and B only
(3) A and C only
(4) B and C only

15. Which of the following statements about inhaled air and exhaled air are true?

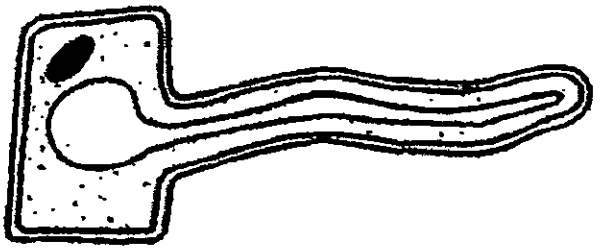
A	Inhaled air contains more carbon dioxide than exhaled air.
B	Inhaled air contains more oxygen than exhaled air.
C	Inhaled air contains more water vapour than exhaled air.
D	Inhaled air contains less water vapour than exhaled air.

(1) A and B only
(2) B and C only
(3) B and D only
(4) C and D only

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16. Study the root hair cell below carefully.



Which of the following statements is incorrect?

(1) The cell membrane allows water and mineral salts to pass through to enter the root hair cell.
(2) The root hair cell gives the root a large surface area for it to absorb water.
(3) There is no chloroplast in the root hair cell because it does not need to water to produce food.
(4) The cell wall prevents the root hair cell from bursting when it absorbs water.

17. Jan observed a cell through the microscope and wrote down her observations in the following table.

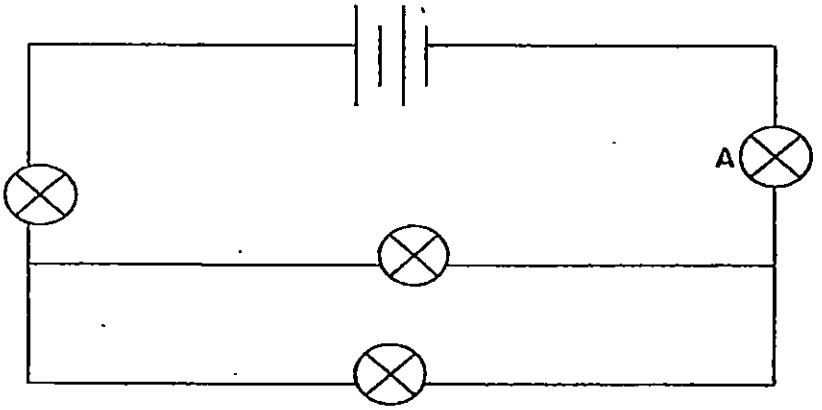
Observations
It has a nucleus.
It has a regular shape.
It has no chloroplast.

What could the cell be?

(1) hydrilla leaf cell
(2) onion cell
(3) elodea leaf cell
(4) human cheek cell

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18. Study the circuit diagram below carefully.

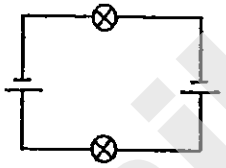


If Bulb A is faulty and the rest of the bulbs are in good working condition, how many bulbs will remain lit?

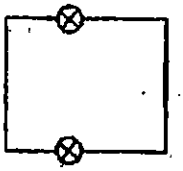
(1) 0
(2) 1
(3) 2
(4) 3

19. Which of the following set-ups will enable 2 bulbs to light up?

(1)



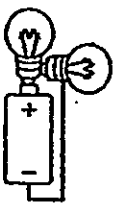
(2)



(3)



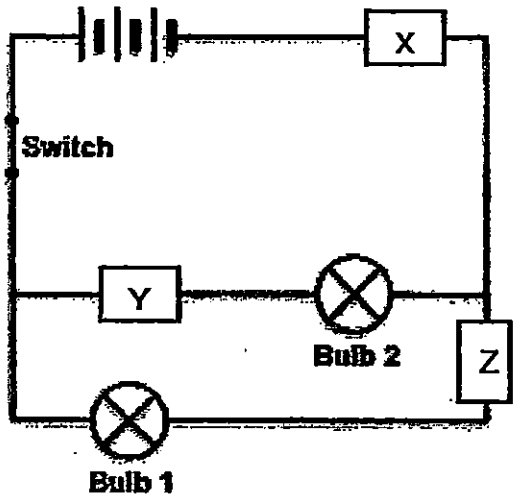
(4)



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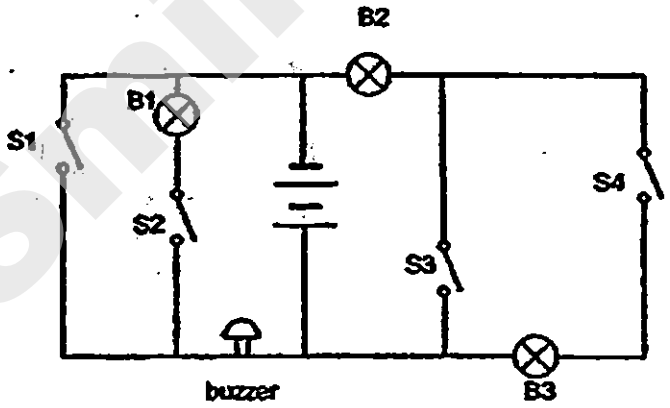
20. In the circuit below, X, Y and Z are unknown materials. Bulb 1 and Bulb 2 are in working condition. When the switch is closed, only Bulb 2 lights up.



Which of the following is true?

	Conductors of electricity	Insulators of electricity
(1)	X, Y and Z	none
(2)	X and Y	Z
(3)	X and Z	Y
(4)	none	X, Y and Z

21. In the circuit below, bulbs B2 and B3 are in working condition, but bulb B1 is fused.

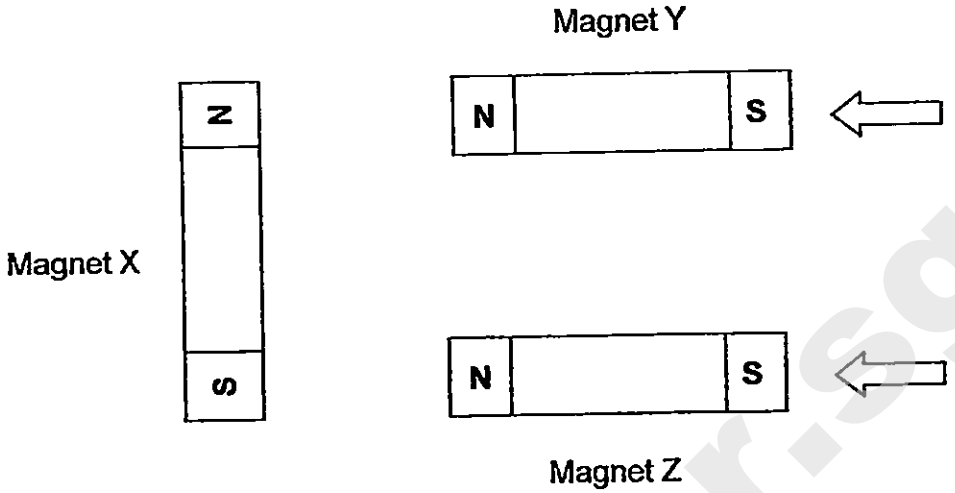


Which switch should be closed in order to sound the buzzer?

(1) S1
(2) S2
(3) S3
(4) S4

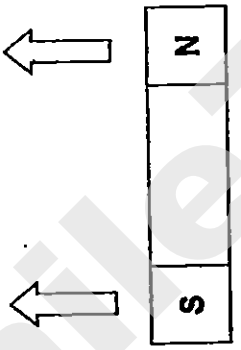
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22. Mindy moved 2 magnets, Y and Z, towards magnet X at the same time as shown in the diagram below.

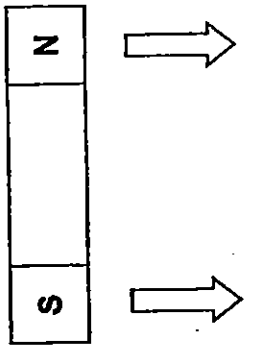


Mindy observed that magnet X moved. Which of the diagrams below best shows how magnet X moved in response to magnet Y and Z?

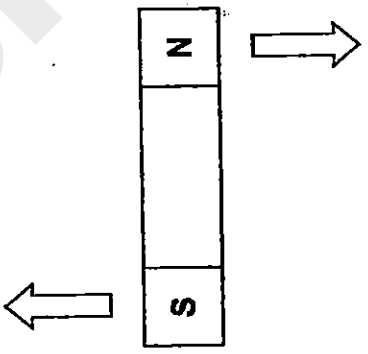
(1)



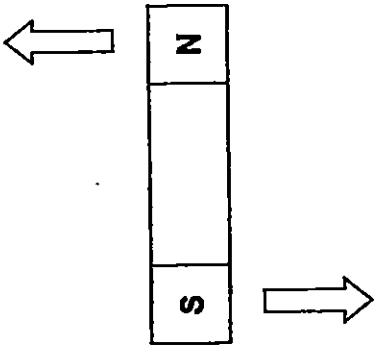
(2)



(3)



(4)



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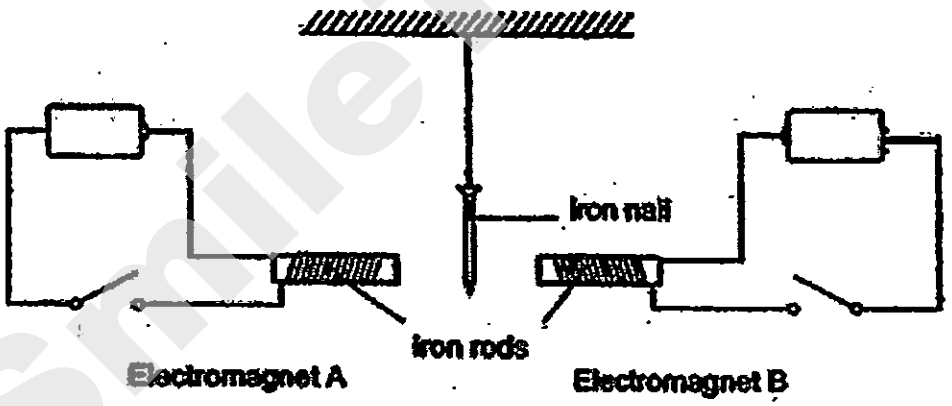
23. Jacqueline tried to magnetise an iron nail using the stroking method. She wanted to find out whether the iron nail was magnetised after the stroking was done. She placed the iron nail near a magnet and a steel paper clip. She recorded her observations below.

A: The iron nail repelled the magnet.
B: The iron nail was attracted to the magnet.
C: The iron nail attracted the steel paper clip.

Which of the following observation(s) help Jacqueline to confirm definitely that the nail was magnetised?

(1) B only
(2) A and B only
(3) A and C only
(4) B and C only

24. The diagram below shows an iron nail suspended between two electromagnets, A and B. The batteries, wires, number of coils of wire around the iron rod, iron rods and switches are identical in both systems. When both switches were closed, the iron nail remained in the same position.



What can be done to allow the iron nail to move towards electromagnet B?

(1) Add two more batteries to the set-up for electromagnet A.
(2) Reduce the number of coils of wire around electromagnet B.
(3) Add more coils of wire around electromagnet A.
(4) Add two more batteries to the set-up for electromagnet B.

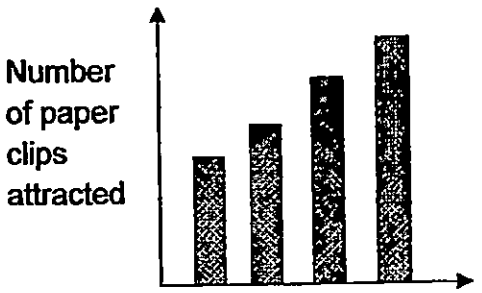
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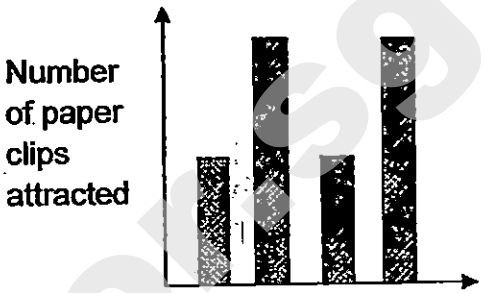
25. Dennis wanted to make a steel nail into a magnet by stroking it with a bar magnet. He stroked the nail with different number of strokes. He recorded the number of paper clips the nail could attract and plotted a graph.

Which of the graphs best represents the relationship between the number of strokes made and the number of paper clips the nail could attract?

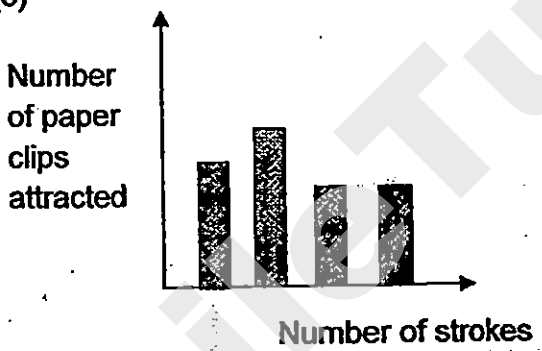
(1)



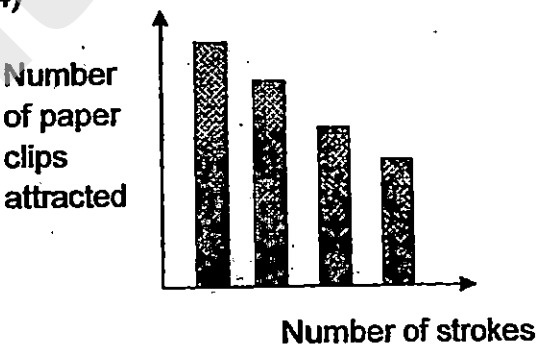
(2)



(3)



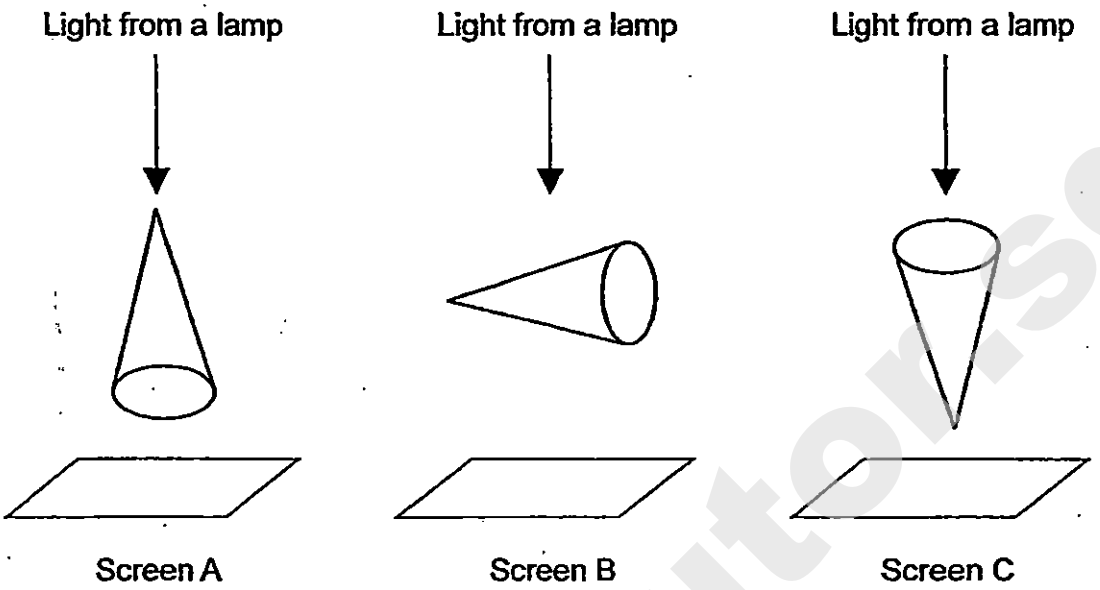
(4)



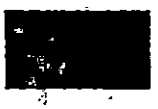
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26. Xian Yang wanted to find out how the shape of the shadow of an object is affected by the way the object is placed. He placed 3 similar objects in 3 different positions and shone light from the same lamp. He observed the shadows cast on screen A, B, and C below.



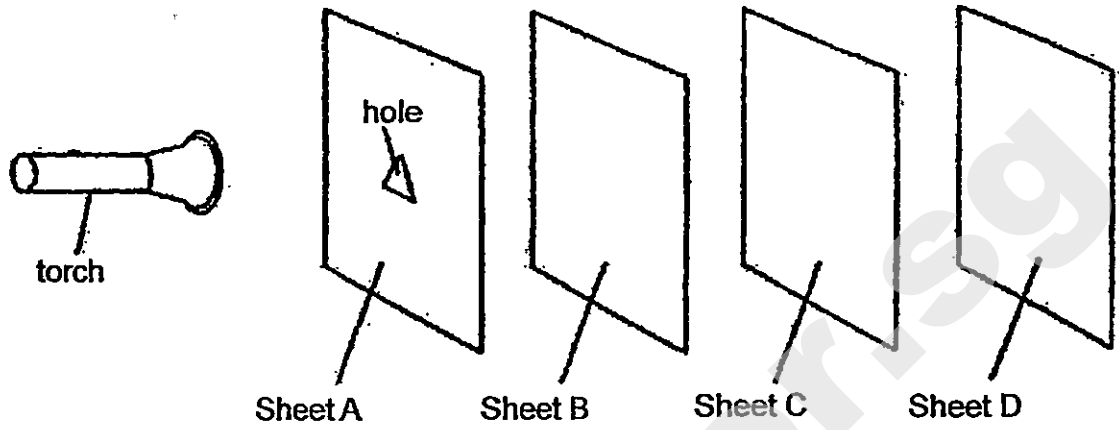
Which one of the following shadows would Xian Yang observe on the screens?

	Screen A	Screen B	Screen C
(1)			
(2)			
(3)			
(4)			

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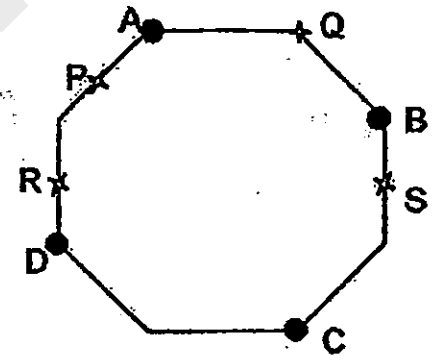
27. Cleon set up an experiment in a dark room as shown below. He placed a sheet of cardboard, tracing paper, clear glass and copper sheet at various distances from the torch. When he switched on the torch, a bright triangle could be seen on sheet C only.



Which of the following shows the likely materials for sheets A, B, C and D?

	Sheet A	Sheet B	Sheet C	Sheet D
(1)	clear glass	tracing paper	cardboard	copper sheet
(2)	tracing paper	clear glass	cardboard	copper sheet
(3)	cardboard	clear glass	copper sheet	tracing paper
(4)	copper sheet	tracing paper	clear glass	cardboard

28. Su Lee placed 4 blobs of wax of equal sizes, A, B, C and D, on an octagon-shaped copper wire. She heated the copper wire at a certain point. She observed that the blobs of wax began to melt in the order of B, C, A and D.



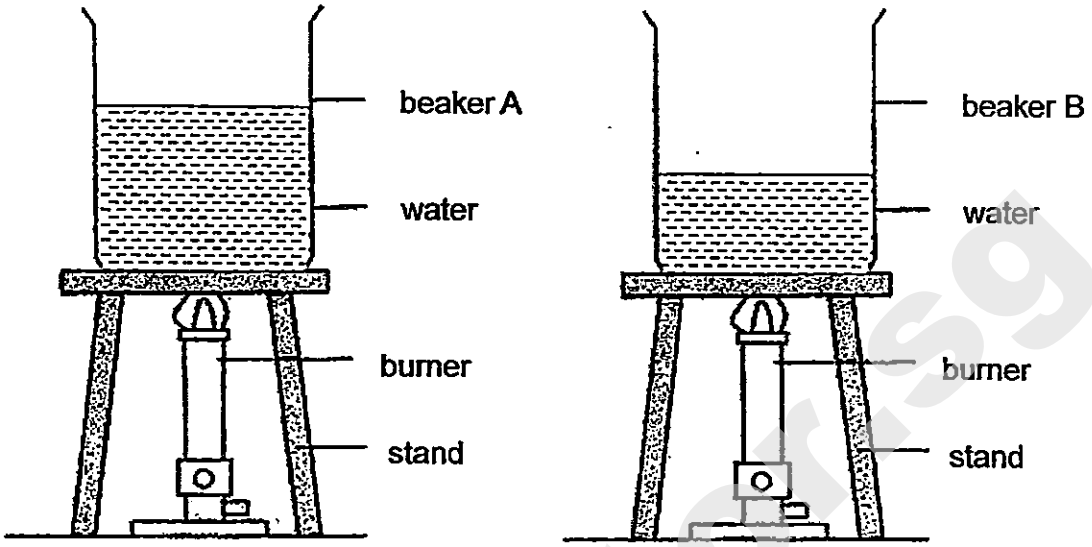
At which point, P, Q, R or S, did Su Lee heat the copper wire?

(1) P
(2) Q
(3) R
(4) S

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29. Jamilah heated two beakers containing different amounts of tap water. The water was heated until it reached 80^0C.



Based on her observation, Jamilah concluded her experiment with the following statements.

A: The water in beaker A takes a longer time to reach 80^0C.
B: The water in beaker B takes a shorter time to reach 80^0C.
C: The water in beaker B has less heat than the water in beaker A at 80^0C.
D: The water in beaker A has the same amount of heat as the water in beaker B at 80^0C.

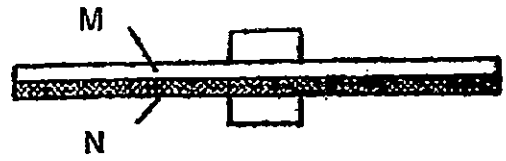
Which of Jamilah's statements are correct?

(1) A and C only
(2) B and D only
(3) A, B and C only
(4) A, B and D only

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30. The bimetallic strip, as shown below, is made up of two metals, M and N, fixed together. At room temperature, the bimetallic strip is straight and clamped at its centre.



If metal N expands more than metal M when it is heated, which one of the following diagrams below represents the bimetallic strip after it has been heated?

(1)



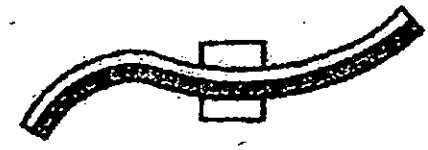
(2)



(3)



(4)



End of Section A

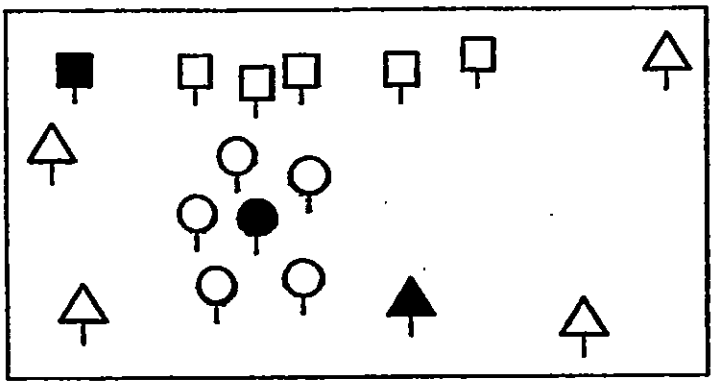
Please check your answer.

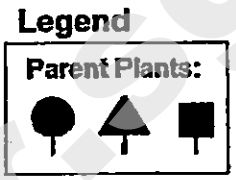
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SECTION B
Answer all the questions in the spaces provided.

31. The diagram below shows three plants growing in a field. The plants are represented using symbols. The wind has been constantly blown towards the east of the field. Each plant is only dispersed by one method.





(a) Which plant has seeds which are most likely to be dispersed by wind? Circle the correct symbol below. (1m)



(b) Give a reason to your answer for part (a). (1m)

_____

_____

(c) It is known that the seeds of the plant in (a) do not have wing-like structures. Describe a characteristic which the seeds of the plant in (a) would have to help the seeds to be dispersed by wind. Do not mention size. (1m)

_____

3

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SCIENCE
2015 SEMESTRAL EXAMINATION 1
PRIMARY 5

Name : _____ ( )

Class : Primary 5/ _____

Date : 12 May 2015

BOOKLET B

14 Questions
40 Marks

In this booklet, you should have the following:
a. Page 20 to Page 34
b. Questions 31 to 44

MARKS

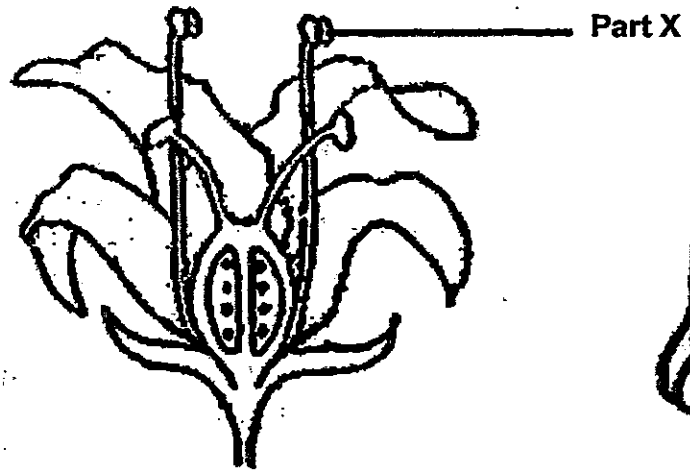
	OBTAINED	POSSIBLE
BOOKLET A		60
BOOKLET B		40
TOTAL		100

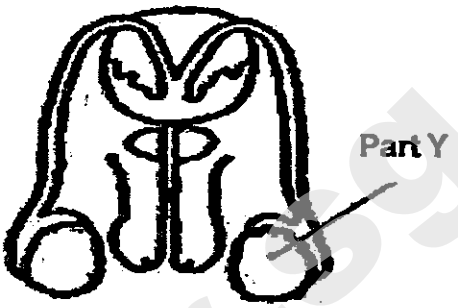
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32. Look at the diagrams below.





(a) Identify part X and part Y. (1m)

Part X: _____

Part Y: _____

(b) How are part X and part Y similar in function? (1m)

_____

_____

(c) The flower in the diagram is not scented and has dull-coloured petals. Based on the structure of the flower, is the flower more likely to be pollinated by wind or insects? Why? (1m)

_____

_____

3

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33. Jamal wants to find out how organism X's growth is affected by the presence of substance P in the water. He uses two 550 ml beakers for his experiment. The items in beaker 1 are shown in the table below.

He sets up a control experiment using beaker 2.

(a) Complete the table to show how he should set up beaker 2. (1m)

	Amount of substance P	**Amount of water used**	**Number of organism X**
Amount used in Beaker 1	10 ml	400 ml	50
Amount used in Beaker 2 (Control experiment)			

(b) Identify one other important variable that he must keep the same during the experiment. (1m)

_____

(c) What observation on organism X should he make in order to conclude that organism X grows better in beaker 1 at the end of the experiment? (1m)

_____

_____

3

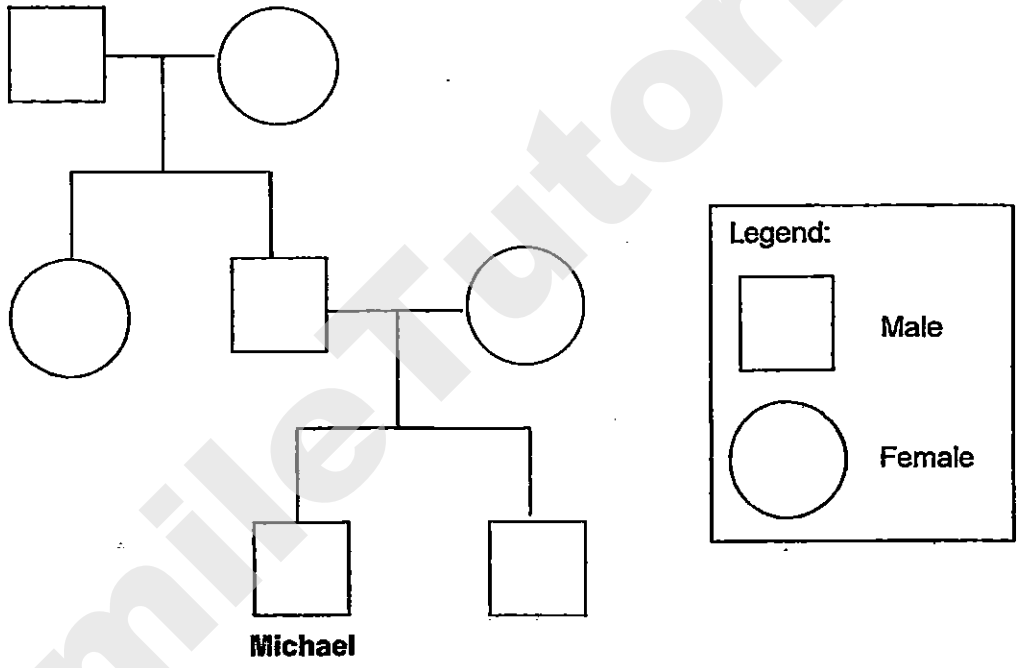
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34. The table shows information about Michael's family members and their natural hair colour.

Family member	Natural hair colour
Paternal grandfather	Brown
Paternal grandmother	Brown
Father	Brown
Mother	Black
Michael	Brown
Brother	Black

(a) The diagram below shows Michael's family tree. Shade the correct symbols which represent members of the family whereby the natural hair colour is black. (1m)



(b) Which part of his mother's egg cell contains the hereditary information that is passed down to Michael? (1m)

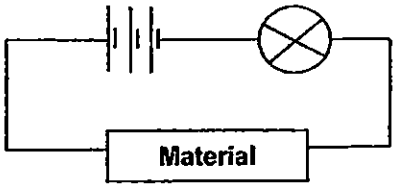
_____

(c) Circle the symbol which represents Michael's grandmother. (1m)

3

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35. Xin Hui set up a circuit for an experiment as shown below.



She used three different materials, A, B and C of the same size and thickness. Whenever she changed the material, she would use new batteries and bulb for the experiment.

Xin Hui measured the brightness of the bulb using a datalogger for every different material used. The results were recorded below.

Material	Brightness of the bulb (units)	Temperature of the material (^{0}C)
A	30	38
B	40	34
C	0	28

(a) Give a possible example of material C. (1m)

_____

(b) Based on the brightness of the bulb when material A and B were used, what could be concluded about material B? (1m)

_____

_____

(c) Which material, A, B or C, is most suitable for making the handle of a cooking pot so that the user's hand would not be burnt easily? Why? (1m)

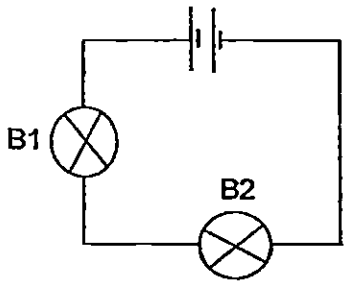
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36. Study the diagram below.



(a) Identify the type of arrangement the bulbs are arranged in. (1m)

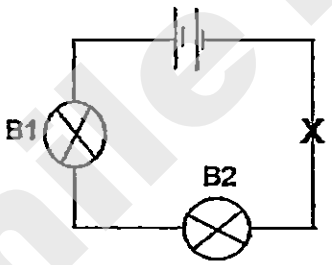
_____

(b) If bulb B1 fuses, what will happen to the brightness of bulb B2? Why? (1m)

_____

_____

Another bulb was added to the circuit at part X.



(c) If bulbs B1 and B2 are in working condition, what will happen to the brightness of bulb B2 after a bulb was added at part X? Why? (1m)

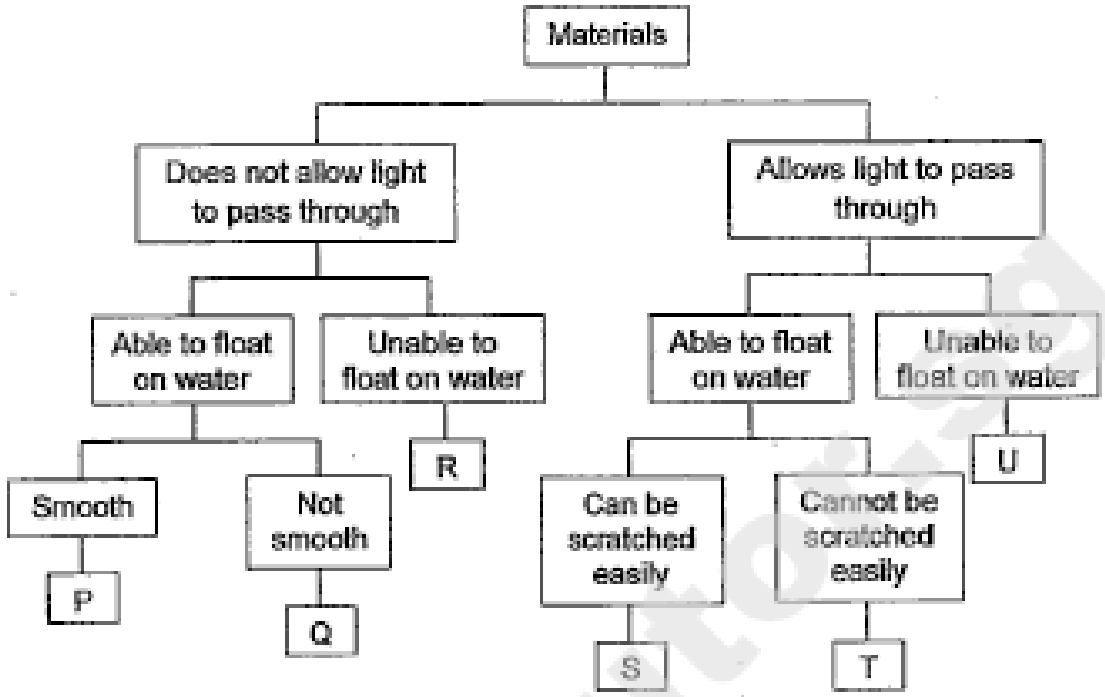
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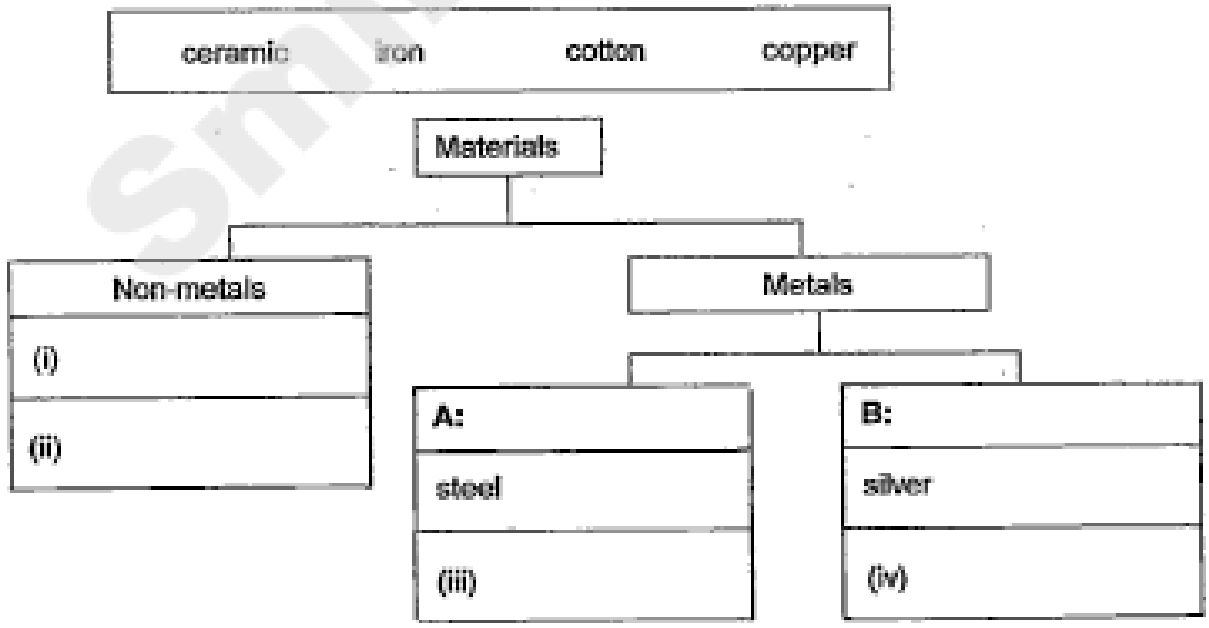
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37. The chart below shows how some materials, P, Q, R, S, T and U, can be classified based on their characteristics.



(a) What is the similarity between material P and material T. (1m)

(b) Complete the classification table below using the materials listed in the box. (2m)

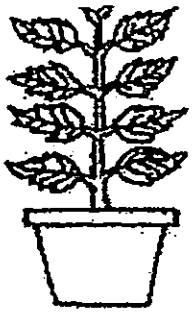


(c) Give suitable headings for A and B. (1m)

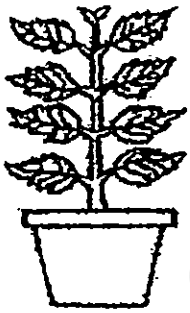
4

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38. Mr Rami carried out an experiment using identical plants, X and Y, as shown in the diagram below. He gave an equal amount of water to each of the plants at the start of the experiment. He placed plant X under the sun and plant Y in the dark. Mr Rami measured the height of both plants daily over a period of 2 weeks.



Plant X placed under the sun



Plant Y placed in the dark

(a) Mr Rami found that he had to water plant X more often compared to plant Y. Explain why this was so. (1m)

_____

_____

(b) Mr Rami repeated his experiment with 2 other pots of plant X and plant Y. Why did he do so? (1m)

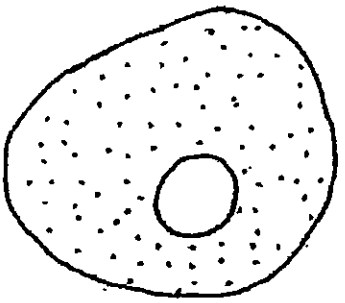
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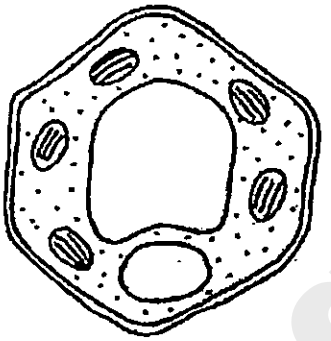
2

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39. The diagrams show a plant cell and an animal cell. The cells are labelled X and Y.



Cell X



Cell Y

(a) A certain part of cell Y is not found in cell X. Name this part. (½m)

_____

(b) What function can cell Y perform but cell X cannot? Why? (1½m)

_____

_____

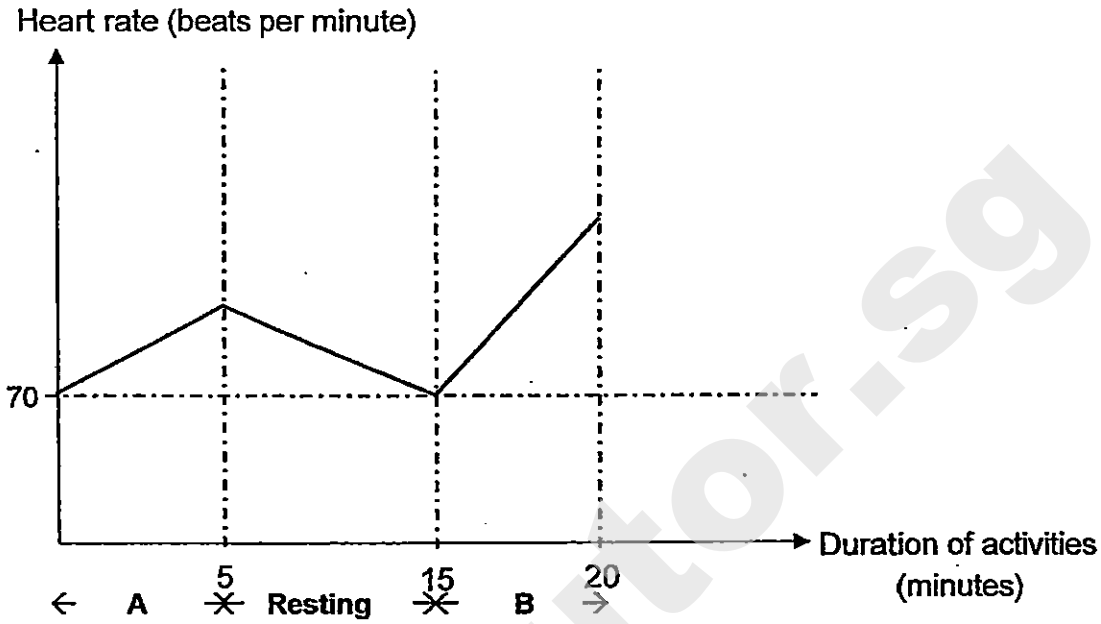
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40. When at rest, Gabriel's average heart rate is 70 beats per minute. Gabriel carried out three activities. The graph shows how his heart rate changed during the different activities.



(a) Study the graph. Fill in the blanks in the table with the letters "A" or "B" to match the activity to the correct part of the graph. (1m)

Activity	Part A or B of the graph?
Running	
Walking	

(b) Explain why Gabriel's heart rate increased when he was running? (1m)

_____

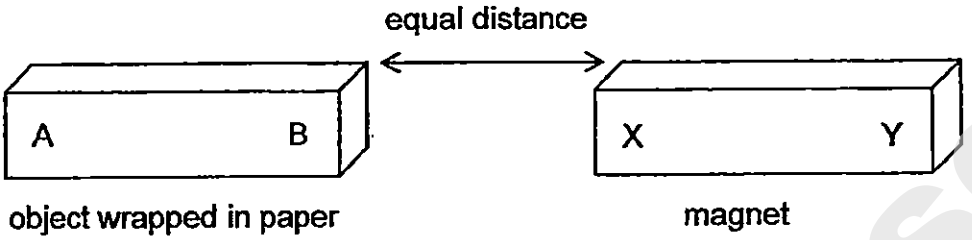
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41. Jiemin was given three objects, P, Q, and R, wrapped in paper. The objects consist of magnets and non-magnets.

The objects, with parts A and B, were of similar sizes and made of different materials. Jiemin held a magnet, with poles X and Y, at an equal distance from each of them in the diagram shown below.



Jiemin recorded his observations in the table below.

Object	Observations
P	P moved away from the magnet.
Q	Q moved towards the magnet.
R	R did not move.

(a) Which object was definitely not a magnet? (1m)

_____

(b) Using the letters, A, B, X or Y, shown in the diagram, explain the observation for object P. (1m)

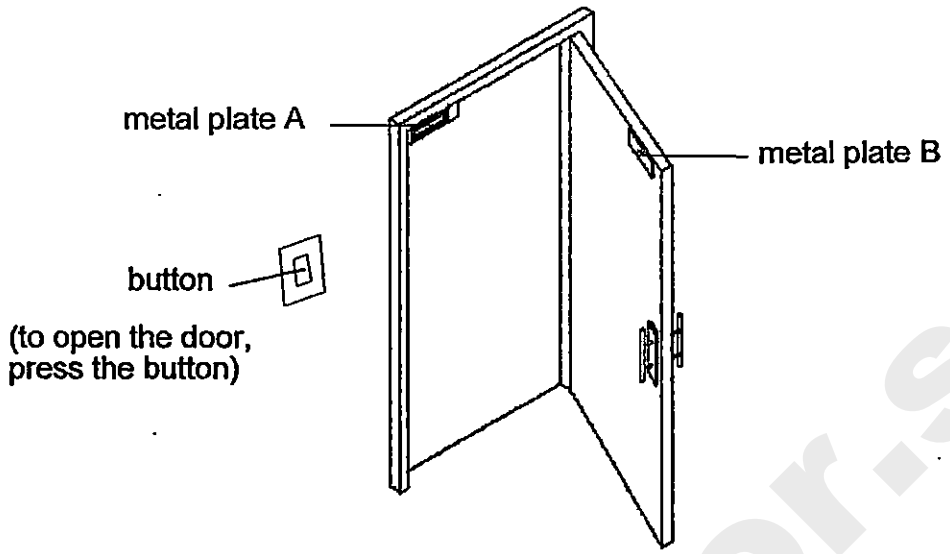
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An electromagnetic lock makes use of an electromagnet to lock the door. When electricity is available, metal plate A becomes an electromagnet.



(c) When Benjamin pressed the button at the side, he was able to open the door. Would there be an open or closed circuit for the electromagnetic lock? (1m)

_____

(d) Explain the answer for part (c). (1m)

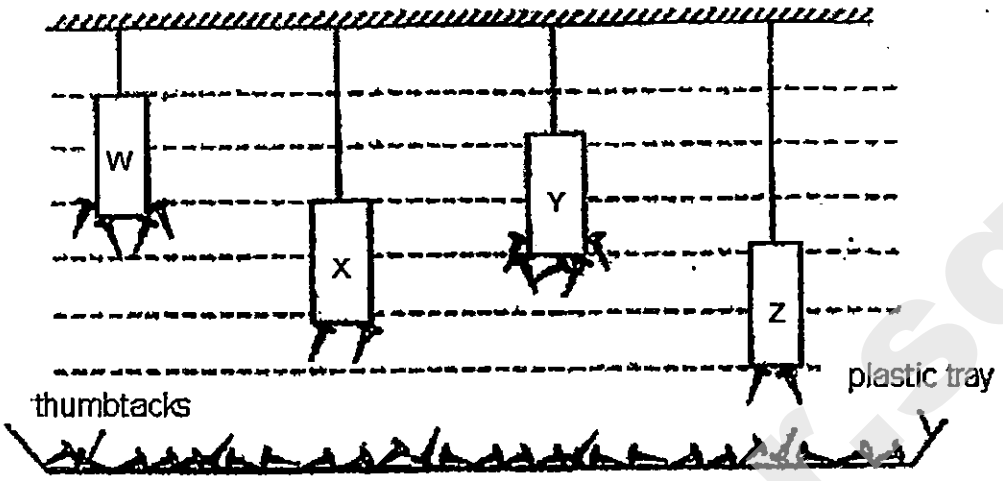
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_____

2

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42. Kayla wanted to compare the magnetism of 4 magnets of the same size, W, X, Y and Z. She set up the experiment below and observed the number of thumbtacks that were attracted by each magnet.



From the result of her experiment, Kayla could not conclude which magnet has the strongest magnetism.

(a) How should Kayla change her set-up so that she would be able to find out which magnet has the most magnetic strength? (1m)

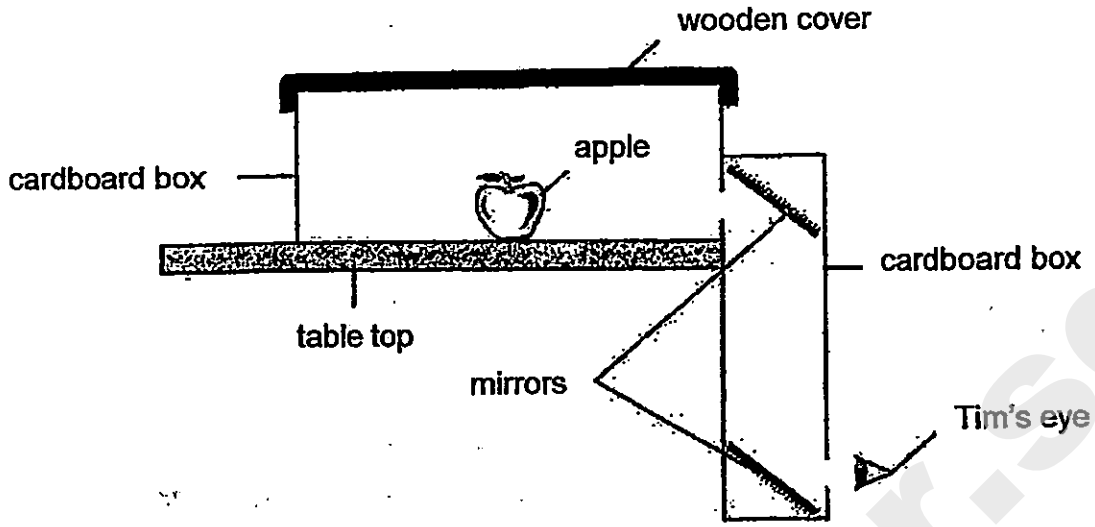
(b) For the answer in part (a), what should she observe to confirm which magnet had the greatest magnetic strength? (1m)

(c) Kayla replaced magnet Z with another magnet, M, of the same size. State one possible observation that Kayla could make if magnet M has a weaker magnetic strength compared to magnet Z. (1m)

3

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43. The diagram below shows a model which Tim made using 2 mirrors and 2 cardboard boxes.

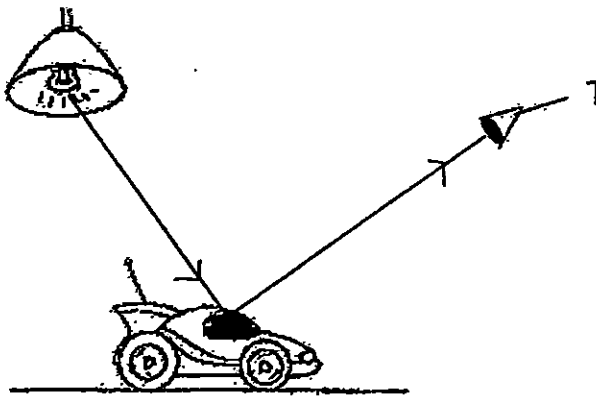


(a) When Tim looked through the hole, he was unable to see the apple. Explain why Tim was unable to do so. (1m)

(b) Without introducing any new items to the set-up, what must Tim do to be able to see the apple? (1m)

(c) Tim was able to see the toy car placed on the floor.

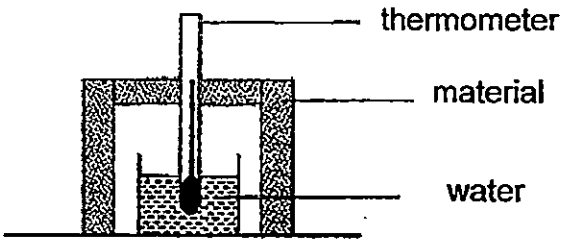
The lines represent light rays. Draw arrow heads on the lines to show how Tim could see the toy car. (1m)



3

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44. Pamela set up 3 experiments. One example was shown below. She tested 3 different materials of equal thickness.



Pamela measured and recorded the temperature of water in each beaker at regular intervals. The results of the experiment were shown below.

Time (min)	Temperature of water (^{0}C)		
	Set-up A	Set-up B	Set-up Z
0	100	100	100
5	63	81	59
10	50	76	43
15	45	72	37
20	41	69	31

(a) Which set-up should Pamela choose if she needed to keep her cold drinks cold for the longest time? (1m)

_____

(b) Explain your answer in (a). (1m)

_____

_____

_____

End of Section B

Please check your answer.

2

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : RED SWASTIKA SCHOOL
SUBJECT : SCIENCE
TERM : SA1

BOOKLET A

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
2	3	3	2	2	4	3	4	4	3
Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20
2	1	2	4	4	3	2	1	4	2
Q 21	Q 22	Q 23	Q 24	Q 25	Q 26	Q 27	Q 28	Q29	Q30
1	4	3	4	1	2	3	4	3	1

BOOKLET B

Q31a.

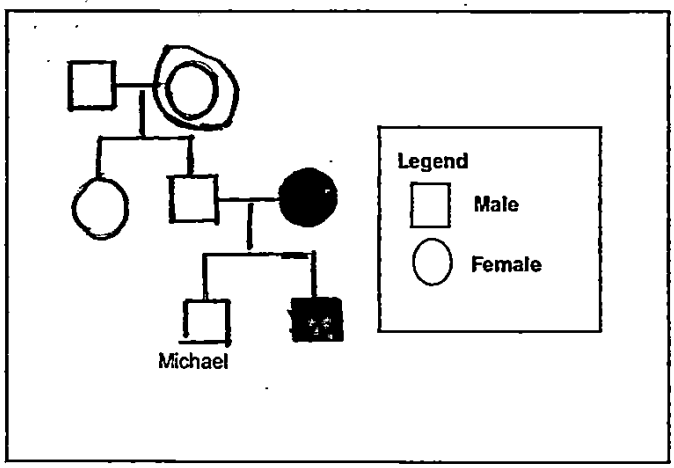


Q31b. The young plant is dispersed in the direction of wind.
Q31c. It is light.

Q 32a. Part X : Anther Part Y : Testis
Q32b. They produce male reproduction cells.
Q32c. It is wind., as insects are attracted to scented, bright coloured petals and nectar.

Q33a.
Amount of substance P – 0ml
Amount of water used - 400mL
Amount of organism X – 50
Q33b. The duration of the experiment
Q33c. See if substance P helps organism X to grow there will be a greater number of X in beaker 1 than in beaker 2.

Q34a. SEE PICTURE



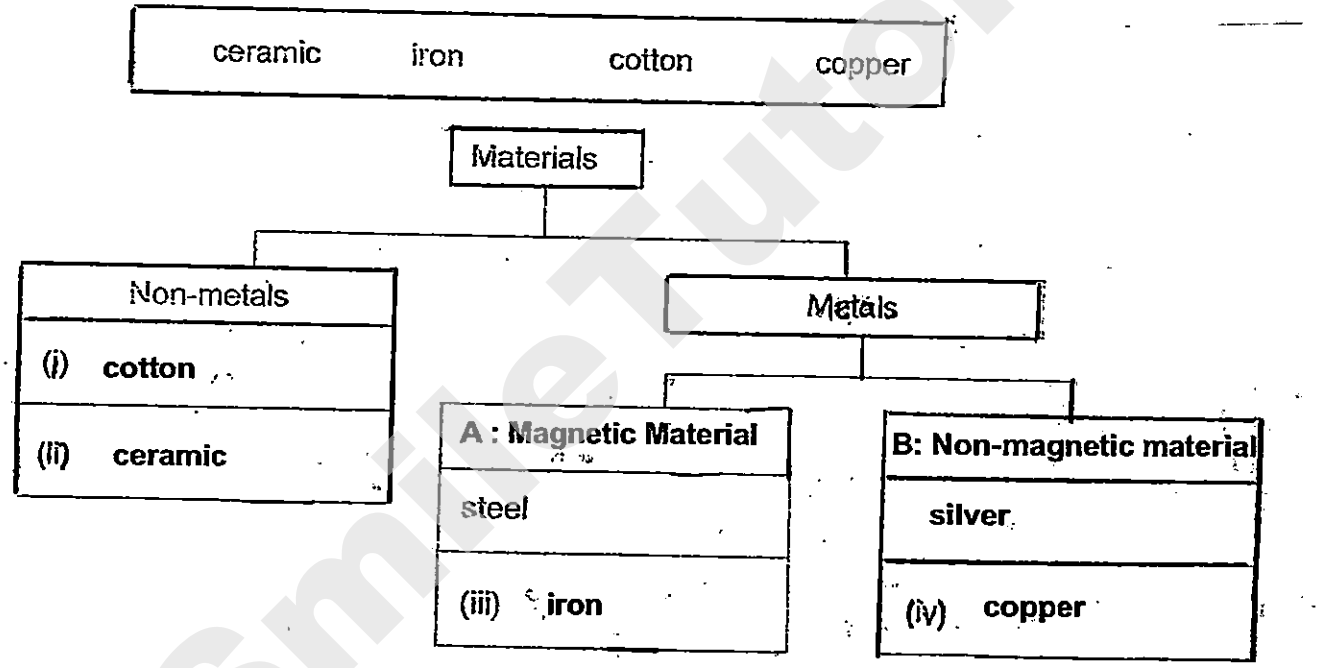
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Q34b. The nucleus
Q34c. SEE PICTURE

Q35a. Plastic
Q35b. Material B is a better conductor of electricity than material A but a poorer conductor of heat than material A.
Q35c. Material C. Material C is most suitable since if the bulb does not light up nor does the material heated up indicating it does not conduct electricity. Poor conductors of electricity are usually non – metals so they are also poor conductors of heat.

Q36a. Series
Q36b. Bulb B2 will not light up. It will be an open circuit if bulb B1 fuses.
Q36c. The brightness of bulb B2 will be dimmer.

Q37a. They both can float on water.
Q37b n Q37C - SEE PICTURE



Q38a. Plant X was under the sun so it can photosynthesize, therefore the plant nees more water to carry out photosynthesis.
Q38b. To get a more reliable result.

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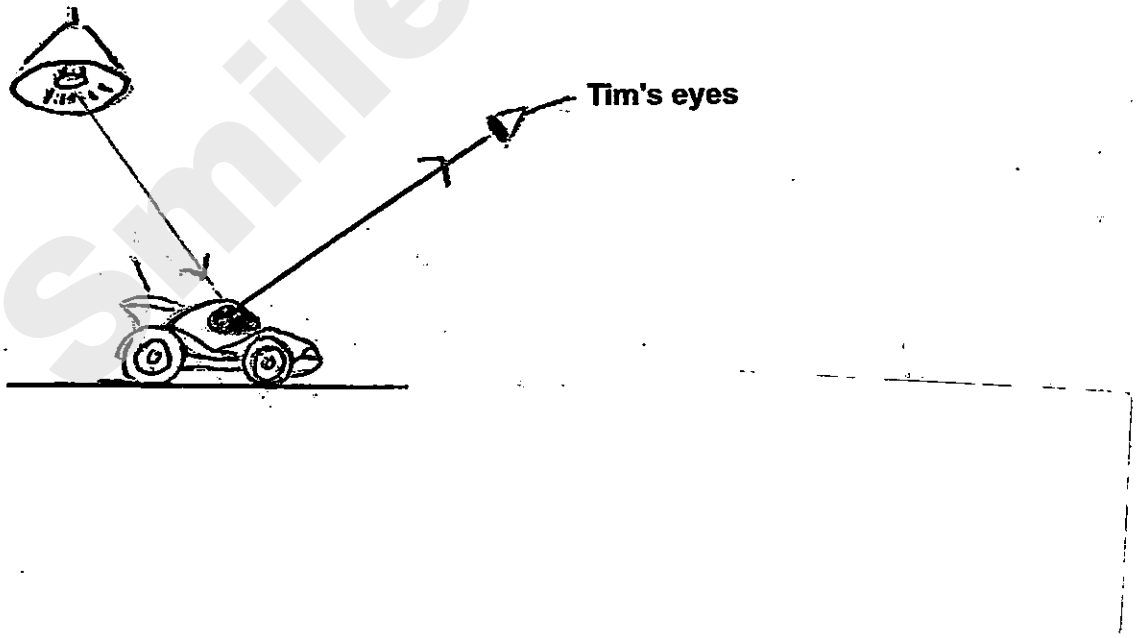
Q39a. Chloroplast
Q39b. Cell Y can make food on its own, but cell X cannot. In cell Y, there is chloroplast which contains a green pigment called chlorophyll that traps light energy to make food, but cell X does not have chloroplast.

Q40a.
Running – **B**
Walking – **A**
Q40b. The body needs more energy so the heart has to pump faster to transport digested food and air rich in oxygen to produce energy.

Q41a. R
Q41b. The poles B of object P and X were like poles so they repelled.
Q41c. Open.
Q41d. The electromagnet needs to be unmagnetised or else the door cannot open so electricity cannot flow through for the electromagnet to be unmagnetised , and the circuit must be open to prevent electricity from flowing through.

Q42a. Place the magnets at equal height
Q42b. To observe which magnet picks up the most thumbtacks.
Q42c. The thumbtacks attracted will decrease

Q43a. The wooden cover and the cardboard box is not allowing light to pass through, therefore no light can be reflected into Tim's eyes.
Q43b. Remove the wooden cover
Q43c. SEE PICTURE



Q44a. B
Q44B. It is the poorest conductor of heat.

THE END

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SINGAPORE CHINESE GIRLS' SCHOOL

FIRST SEMESTRAL ASSESSMENT 2015

SCIENCE

PRIMARY FIVE

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 5 SY /

BOOKLET A

30 questions

60 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

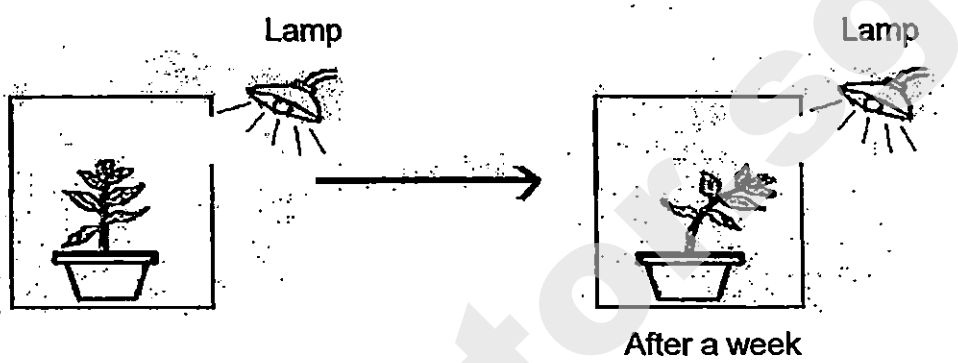
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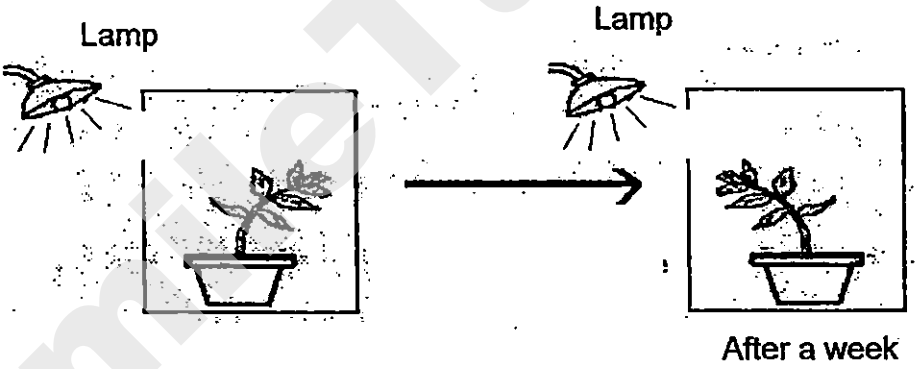
Part I (60 marks)

For each question from 1 to 30, 4 options are given.
One of them is the correct answer. Make your choice, (1, 2, 3 or 4).
Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Josephine carried out the following experiment on a plant. She placed a lighted lamp near the opening of an opaque box for a week and recorded the following observations.



She then placed the lighted lamp on the left side of the plant for another week and recorded the following observation.



Which characteristics of plants were Josephine trying to show in this experiment?

Plants_____.

A: need water
B: respond to changes around them
C: grow towards the direction of light
D: make food in the presence of light

(1) A and B only
(2) A and D only
(3) B and C only
(4) B, C and D only

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2. Johnny and his friends conducted an experiment using bread to test how mould would grow in different conditions.

	Temperature	Moisture on bread
Amy's bread	5 °C	High
Delvi's bread	30°C	Low
Muthu's bread	5°C	Low
Johnny's bread	30°C	High

Whose bread would contain the least amount of mould after 1 week?

(1) Amy's
(2) Delvi's
(3) Muthu's
(4) Johnny's

3. Xiao Hui wanted to make a grocery bag for her mother. She collected 4 unknown materials, A, B, C and D from her friends. She noted their properties in the table below.

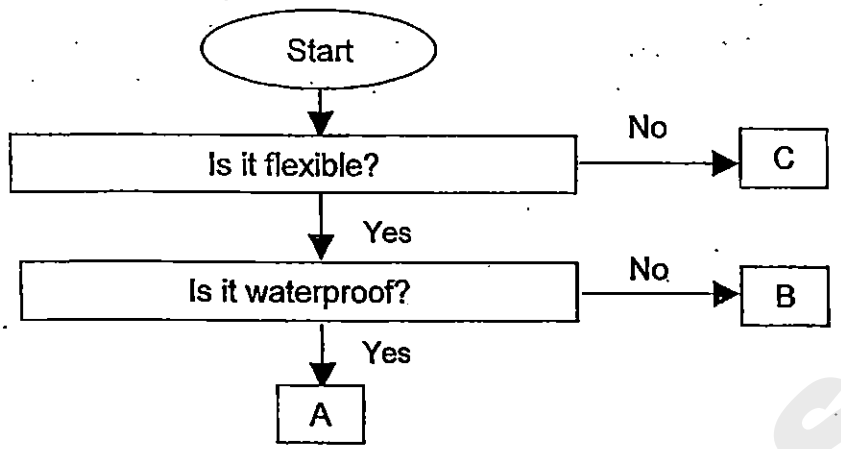
Properties	A	B	C	D
Is it strong?	No	Yes	No	Yes
Is it waterproof?	No	Yes	Yes	No
Is it transparent?	Yes	No	No	Yes
Is it light in weight?	Yes	Yes	Yes	No

Which is the most suitable material for Xiao Hui to make the bag?

(1) A
(2) B ✓
(3) C
(4) D

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4. Look at the flow chart below.



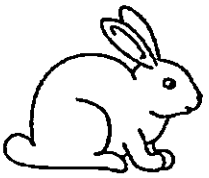
Which one of the following groups of materials fit the descriptions of the Materials A, B and C above?

	A	B	C
(1)	Plastic	Paper	Rubber
(2)	Ceramic	Glass	Plastic
(3)	Paper	Plastic	Ceramic
(4)	Rubber	Paper	Glass

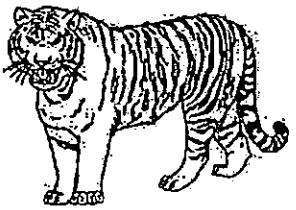
5.



Seal



Rabbit



Tiger

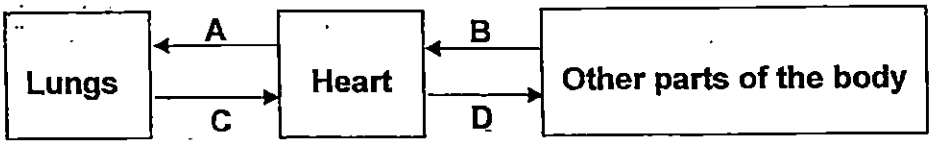
Based on what you know about the animals above, in what ways are they similar?

They _____.

(1) have feathers
(2) can only live on land
(3) breathe using their lungs
(4) reproduce by laying eggs

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6. The arrows below show how blood flows in our human body.



Based on the diagram above, which of the following statements are correct?

P: The blood at A contains less oxygen than the blood at C.
Q: The blood at A contains more oxygen than the blood at D.
R: The blood at B contains less carbon dioxide than the blood at C.
S: The blood at B contains more carbon dioxide than the blood at D.

(1) P and R only
(2) P and S only
(3) Q and R only
(4) Q and S only

7. Like a cell, a shopping mall is made up of different parts performing different functions. The text below describes Mall Y.

Mall Y specialises in selling electronic goods. The head office controls the sales of the goods sold. The security post at the entrance controls the flow of customers. A cafe at the basement provides food to customers.

Based on the description above, which one of the following matches the functions of the parts of Mall Y to the cell parts correctly?

	Head office	Security post	Cafe
(1)	Nucleus	Cell wall	Cytoplasm
(2)	Nucleus	Cell membrane	Chloroplast
(3)	Cell membrane	Cell wall	Chloroplast
(4)	Cell wall	Nucleus	Cytoplasm

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8. Justin made a few statements about inhaled and exhaled air as shown below.

A: Exhaled air is warmer than inhaled air.
B: Exhaled air contains more dust than inhaled air.
C: Inhaled air contains more oxygen than exhaled air.
D: Inhaled air contains more water vapour than exhaled air.

Which of the statement(s) is/are correct?

(1) A only
(2) A and C only
(3) B and D only
(4) A, B and D only

9. Which 2 systems work together to ensure that carbon dioxide is removed from body cells efficiently?

A: Digestive
B: Circulatory
C: Reproductive
D: Respiratory

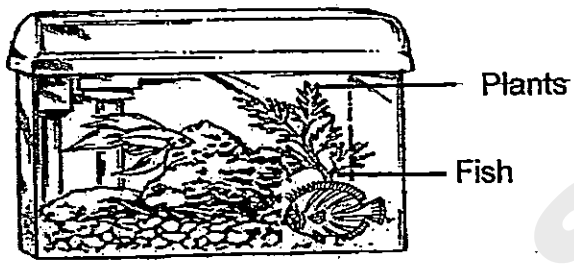
(1) A and B
(2) A and D
(3) C and D
(4) B and D

10. Zoe made a comparison between the Human Circulatory System and the Plant Transport System in the table below. Which of the comparisons was <u>correct</u>?

	Human Circulatory System	Plant Transport System
(1)	Oxygen is taken in only through the nose.	Oxygen is taken in through the stomata.
(2)	Different tubes transport all the different substances round the body.	One main tube transports all the different substances.
(3)	Water enters the body through the nose and mouth.	Water enters the plant through the leaves.
(4)	A heart is required to pump substances round the body.	No organ is needed to pump materials through the tubes.

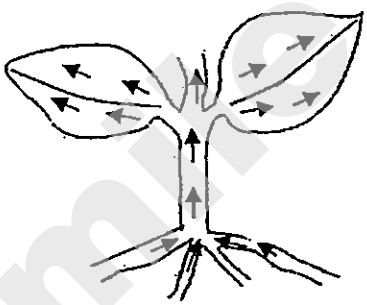
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11. Donovan has a fish tank at home. He wants to compare how different organisms take in the air needed for survival. Which of the following shows how the organisms in the tank take in the air needed for survival?

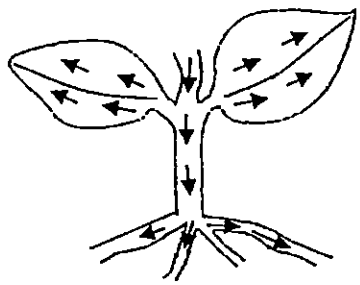


	Plants	Fish
(1)	Roots	Gills
(2)	Roots	Lungs
(3)	Stomata	Gills
(4)	Stomata	Lungs

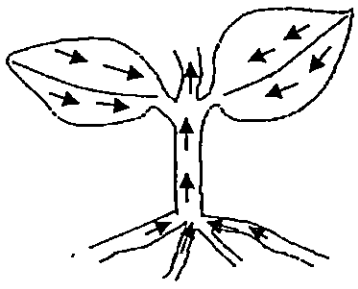
12. Which of the following diagrams shows the correct path taken by the food made by the plant?



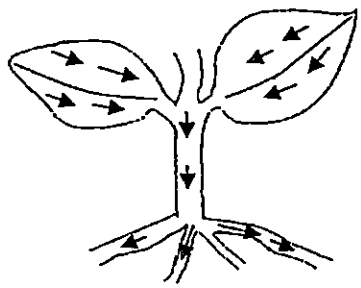
(1)



(2)



(3)



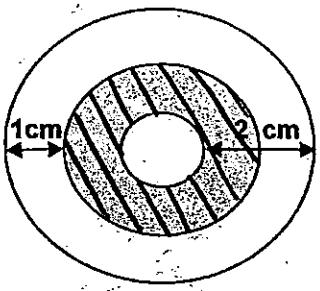
(4)

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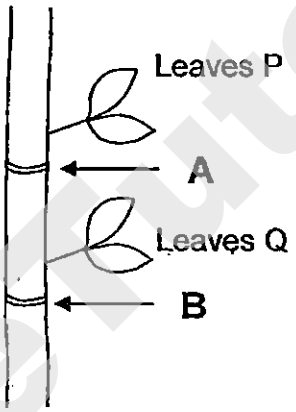
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13. The shaded part below shows the location of the water-carrying tubes in the plant.



Aunty Julie made 2 different cuts at A and B on the stem of her plant, as shown in the diagram below. She observed that leaves P died while leaves Q were still healthy.



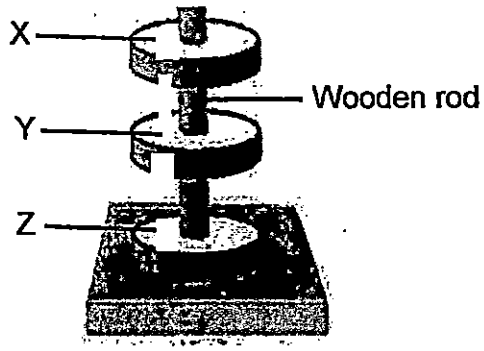
Which one of the following shows the correct depth of cut at A and B?

	Depth of cut at A (cm)	Depth of cut at B (cm)
(1)	1	1
(2)	1	2
(3)	2	1
(4)	2	2

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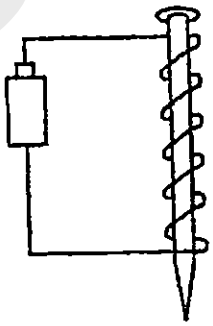
14. Feng Hui wants to find out the poles of 3 ring magnets. She placed them through a wooden rod and recorded her observation as shown below.



Which of the following shows the possible identity of poles X, Y and Z?

	X	Y	Z
(1)	North pole	North pole	North pole
(2)	North pole	South pole	North pole
(3)	South pole	North pole	North pole
(4)	South pole	South pole	North pole

15. Kimmie wanted to make an electromagnet. She coiled an electrical wire 5 times around an iron nail. She connected the ends of the wires to a battery.



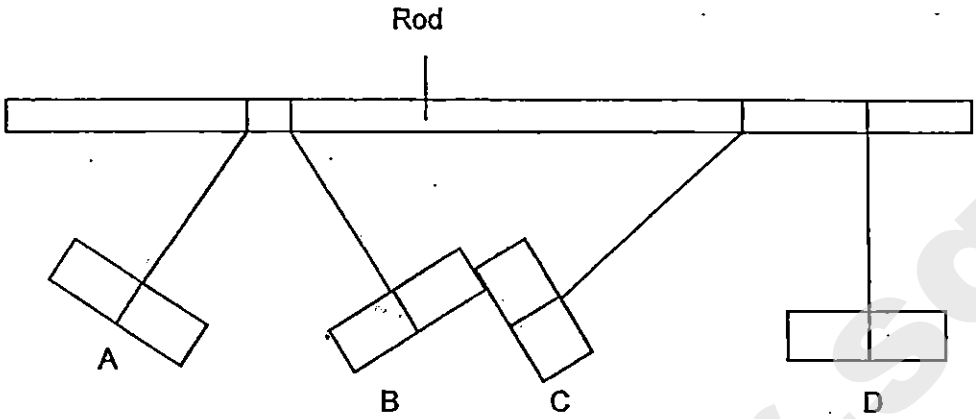
She found out that only a few paper clips can be attracted by the magnetised iron nail. What should she do to make a stronger electromagnet?

A: Use longer wires.
B: Use two batteries.
C: Use aluminium foil instead of the iron nail.
D: Increase the number of coils around the nail.

(1) A and B only
(2) A and C only
(3) B and D only
(4) B, C and D only

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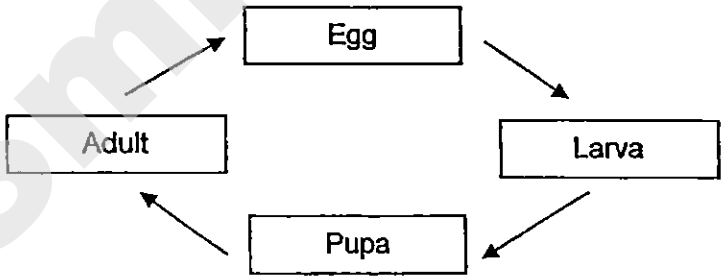
16. Rosie hung 4 bars A, B, C and D, from a piece of rod. They moved in different directions as shown in the diagram below.



Which of the following shows the possible identity of the 4 bars?

	A	B	C	D
(1)	Plastic	Steel	Aluminium	Magnet
(2)	Magnet	Magnet	Steel	Plastic
(3)	Steel	Magnet	Magnet	Aluminium
(4)	Magnet	Steel	Steel	Plastic

17. The diagram below shows the different stages in a life cycle.

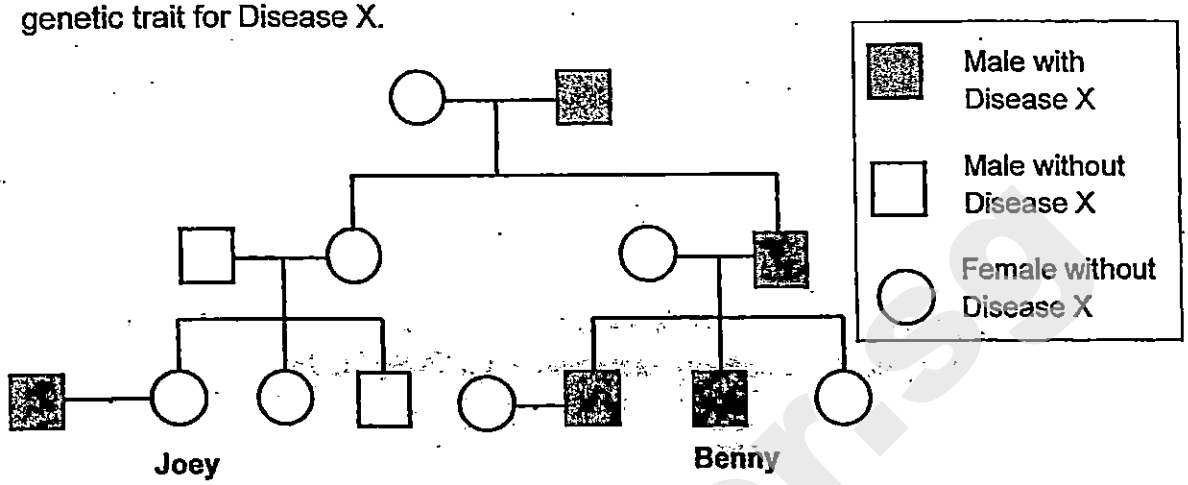


Which 2 animals go through the life cycle as shown above?

(1) Cockroach, Housefly
(2) Housefly, Dragonfly
(3) Butterfly, Grasshopper
(4) Mealworm beetle, Mosquito

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18. The diagram below shows the members of Benny's family who carry the genetic trait for Disease X.



Based on the information above, which of the following statements can be concluded?

A: Only males will have Disease X.
B: Benny inherited the genes of Disease X from his father.
C: Parents without Disease X will not produce a young with Disease X.

(1) A only
(2) B only
(3) B and C only
(4) A, B and C

19. Which of the following students are **correct**?

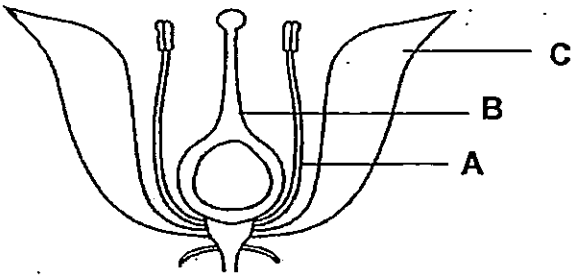
Seth	Flowers appear before the fruits.
Janice	All plants reproduce from seeds.
Kumar	Seeds can germinate in the dark.
Beatrice	Plants must be fertilised before pollination can take place.

(1) Seth and Kumar
(2) Janice and Kumar
(3) Seth and Beatrice
(4) Janice and Beatrice

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20. The following diagram shows parts of a flower.



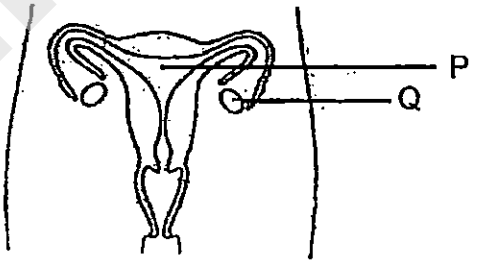
Mrs Fang has 4 identical flowers of the above (F, G, H and K). She removed some parts of the flowers as shown in the table below.

Flower	Parts removed
F	A
G	C
H	A and B
K	B and C

Which of the flowers are still able to undergo fertilisation?

(1) Flower G
(2) Flowers F and G
(3) Flowers H and K
(4) Flowers F, G and K

21. Look at the diagram below.

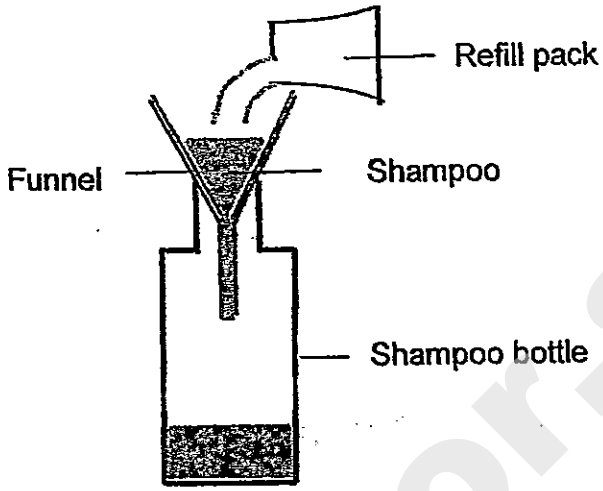


Which one of the following statements about the human reproductive system is true?

(1) Foetus develops at P.
(2) Foetus develops at Q.
(3) Sperm is produced at P.
(4) Sperm is produced at Q.

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22. Mr Ganesan wanted to refill his empty shampoo bottle with a refill pack, using a funnel. After some time, he observed that the shampoo stopped flowing into the bottle, as shown in the diagram below.



Which one of the following statements explains Mr Ganesan's observation?

(1) Air has mass.
(2) Air occupies space.
(3) The shampoo has mass.
(4) The shampoo bottle has a definite volume

23. How are carbon dioxide and ice **similar?**

A: They have mass.
B: They take up space.
C: They can be compressed.
D: They have definite shape.
E: They have a definite volume.

(1) A and B only
(2) B and C only
(3) C and D only
(4) B, C and E only

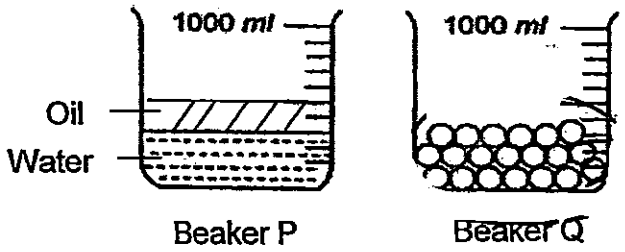
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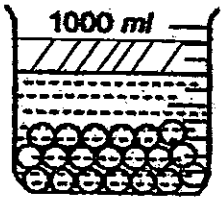
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24. Jenny poured some water and oil into Beaker P and placed some marbles into Beaker Q. She then poured the contents in Beaker P into Beaker Q.

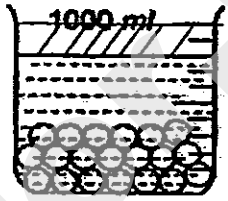


Which of the following diagrams best shows the water level in Beaker Q?

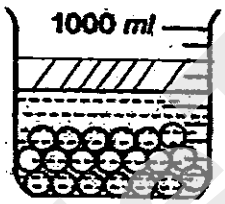
(1)



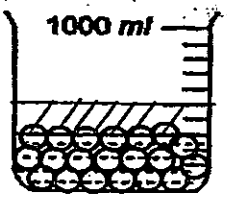
(3)



(2)



(4)



25. The table below shows the melting points and boiling points of 3 substances, A, B and C.

Substances	Melting Point (°C)	Boiling Point (°C)
A	35	200
B	15	30
C	60	120

Which one of the following observations is definitely correct when the temperature of the substances is 45°C?

(1) Substance A is a gas.
(2) Substance B is a liquid.
(3) Substance C is a solid.
(4) Substance A and C are liquids

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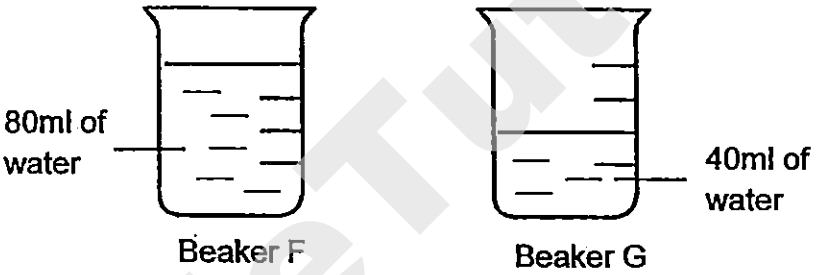
26. The diagram below shows a change in the state of water.



Which one of the following processes best represents the above change in water?

(1) Melting
(2) Freezing
(3) Evaporation
(4) Condensation

27. Hannah filled 2 beakers, F and G, with different amount of water and heated them up to 100^0C.



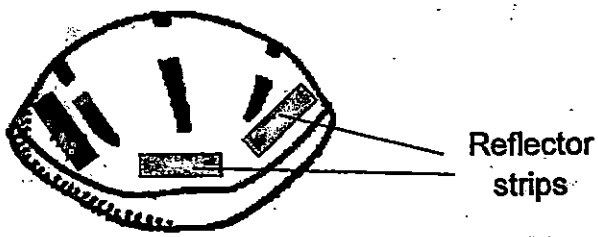
Which of the following statements is true about the 2 beakers of water?

(1) The water in Beaker F is hotter than that in Beaker G.
(2) The water in Beaker F has more heat energy than Beaker G.
(3) The water in Beaker G has more heat energy than Beaker F.
(4) The water in both beakers has the same amount of heat energy.

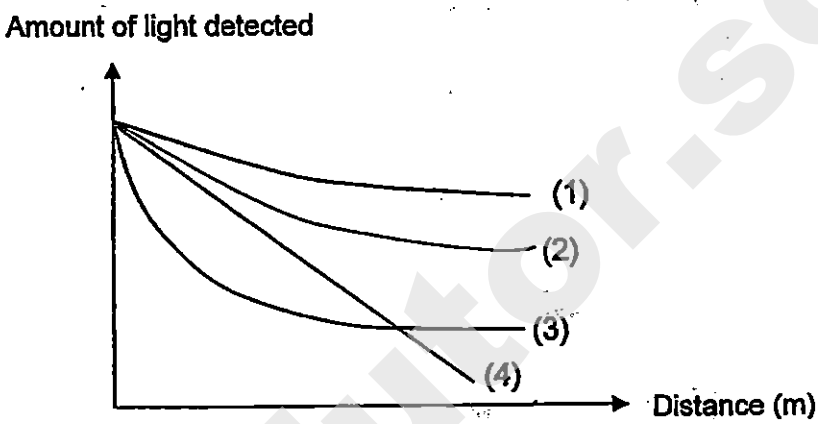
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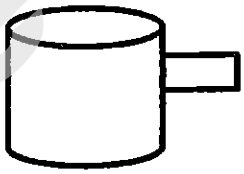
28. Serena wears the helmet below whenever she cycles at night. The reflector strips help motorists to see Serena.



Which material works best as the reflector strips?

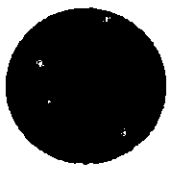


29. Jasmine shone the torch at different angles on object G.

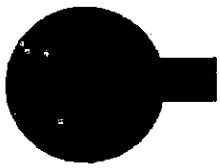


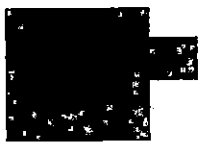
Object G

Which of the following shadows would not be a possible shadow formed by Object G?

(1) 

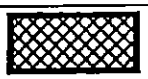
(2) 

(3) 

(4) 

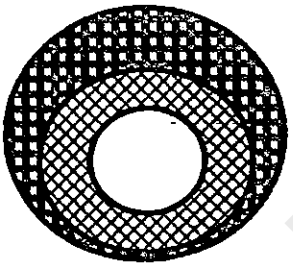
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30. The table below shows the expansion of certain metals when heated to 100°C.

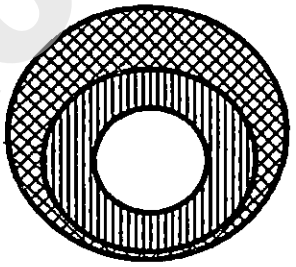
Key	Metal	Length of metal at room temperature	Length of metal at 100°C
	W	100 mm	102 mm
	X	100 mm	108 mm
	Y	100 mm	105 mm

Metals W, X and Y were used to make rings as shown below. The rings were immersed into water at 100°C for 10 minutes. Which of the inner rings could be easily removed after 10 minutes?

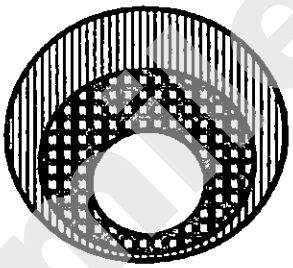
A:



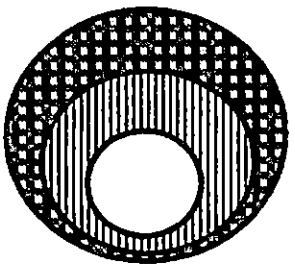
C;



B:



D:



(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

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SINGAPORE CHINESE GIRLS' SCHOOL

FIRST SEMESTRAL ASSESSMENT 2015

SCIENCE

PRIMARY FIVE

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 5 SY

Booklet A		60
Booklet B		40
Total		100

Parent's Signature

_____

BOOKLET B

14 questions

40 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

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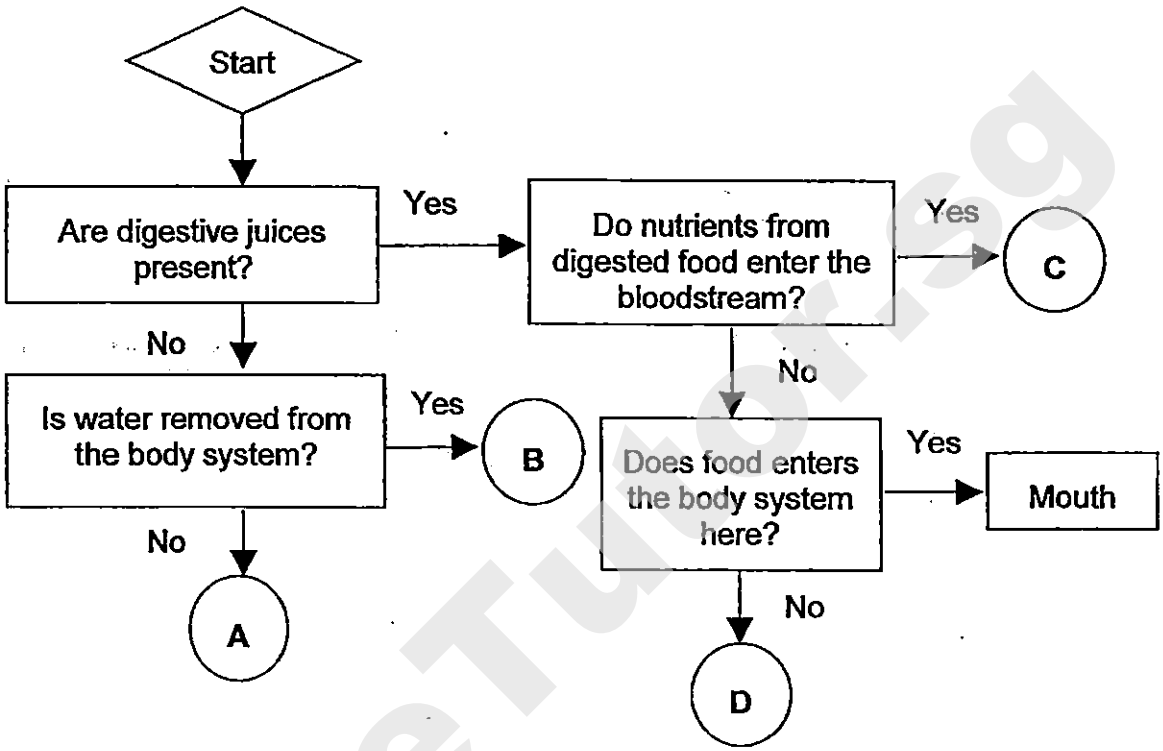
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Part II (40 marks)

Answer all the following questions.

31. Observe the following flowchart carefully.



In the flowchart above, the parts 'A', 'B', 'C' and 'D' represent parts of the human digestive system. Identify the 4 parts of the digestive system. (2m)

(a) A: _____

(b) B: _____

(c) C: _____

(d) D: _____

2

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32. Jane observed 2 types of cells under the microscope and recorded her results in the table below.

	Cell A	Cell B
Nucleus	Yes	Yes
Cell Wall	No	Yes
Chloroplast	No	No
Cell Membrane	Yes	No
Cytoplasm	Yes	Yes

(a) Jane's teacher told her that she might have made a mistake in her observation. Which cell, A or B, is likely to have the wrong observation? Explain your answer. (1m)

_____

_____

(b) Jane also observed another type of cells under the microscope.



Are the cells above animal or plant cells? Explain your answer. (1m)

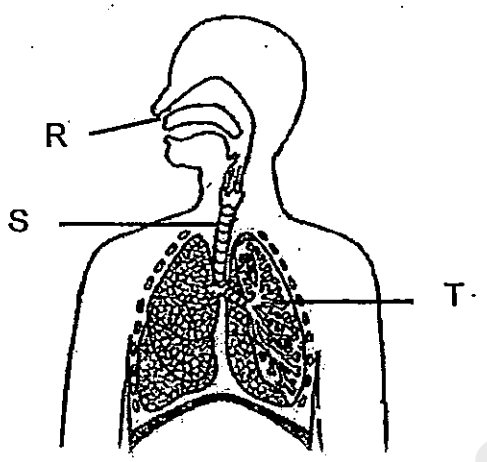
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33. Dorothy drew and labelled the different parts of the human respiratory system as shown in the diagram below.



She made the following statements. Put a tick (✓) in the correct boxes. (4m)

	Statement	True	False
(a)	Part R is the only part that allows air in and out of the body.		
(b)	Oxygen is absorbed by the blood at Part S.		
(c)	Only oxygen can pass through Part S.		
(d)	Carbon dioxide is removed from the blood at Part T.		

4

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34. Ahmad wanted to find out if the amount of oxygen in a tank affects the number of guppies swimming near the surface of the water. He placed an equal number of similar guppies into tanks A, B, C and D, followed by the adding of different amounts of oxygen in each tank.

After one day, he recorded his observations in the table shown below.

	A	B	C	D
Amount of oxygen in the water (cm^3)	2	13	7	5
Number of guppies near the water surface	10	2	6	8

(a) State the relationship between the amount of oxygen in the water and the number of guppies near the water surface? (1m)

_____

_____

(b) Explain why all the guppies in tank A died after a few days. (1m)

_____

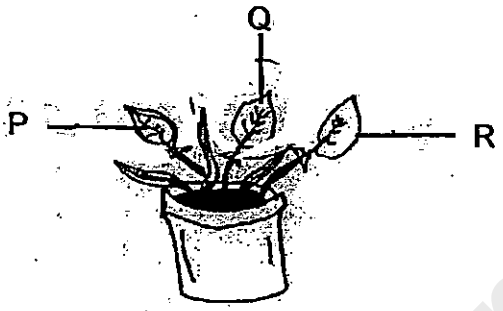
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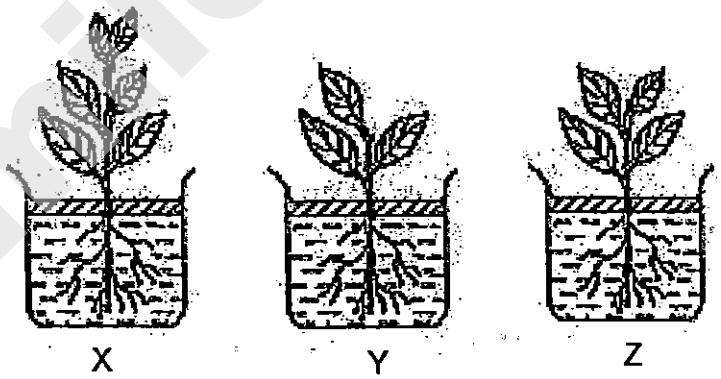
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35. Mrs Daisy set up the experiment below to find out more about the function of stomata. Using 3 leaves from the same plant, she painted the top and bottom of leaf P and only the top surface of leaf Q with black paint. She left leaf R unpainted. She then wrapped each leaf with a clear plastic bag and placed the pot under the sun.

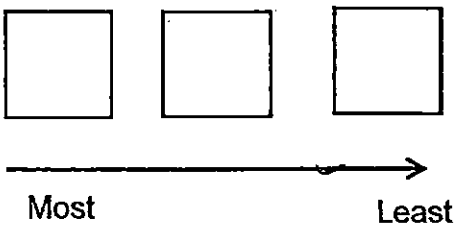


(a) Mrs Daisy observed water droplets inside the plastic bags after 2 hours. In which of the bag(s)/leaf(s) did she observe the water droplets? Explain your answer. (2m)

(b)



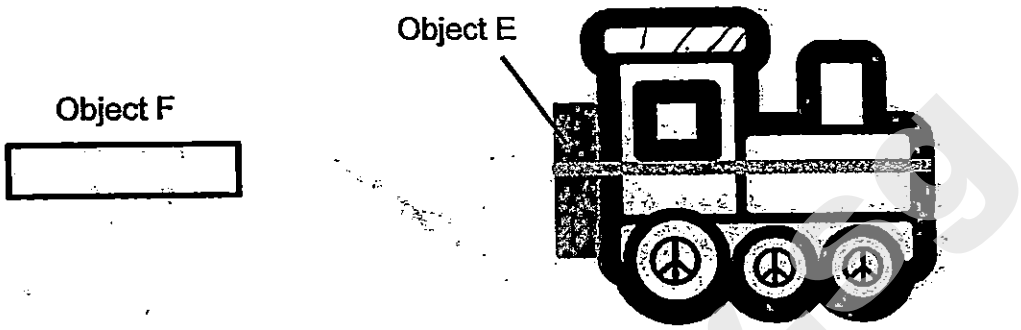
Mrs Daisy conducted another experiment as shown above. At the end of 5 days, all the beakers have less water. Order the beakers starting from the one with the most water left to the one with the least water left. (1m)



3

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36. Darryl wanted his toy train to move on its own. He tied Object E at the back of the train, as shown in the diagram below. When Object F was placed near the toy train, the train moved away from Object F.



(a) What is Object E? (1m)

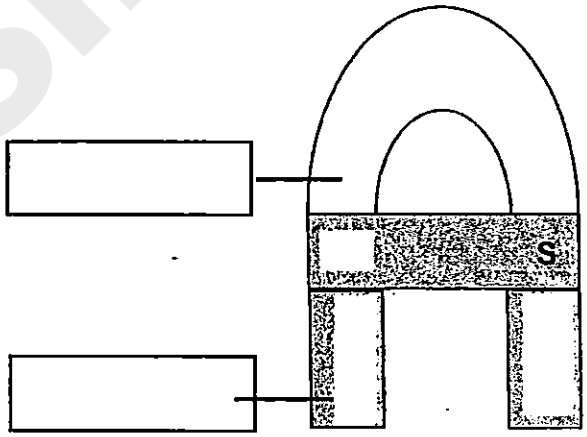
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(b) Explain why the toy train move away from Object F when Object F was placed near it. (1m)

_____

_____

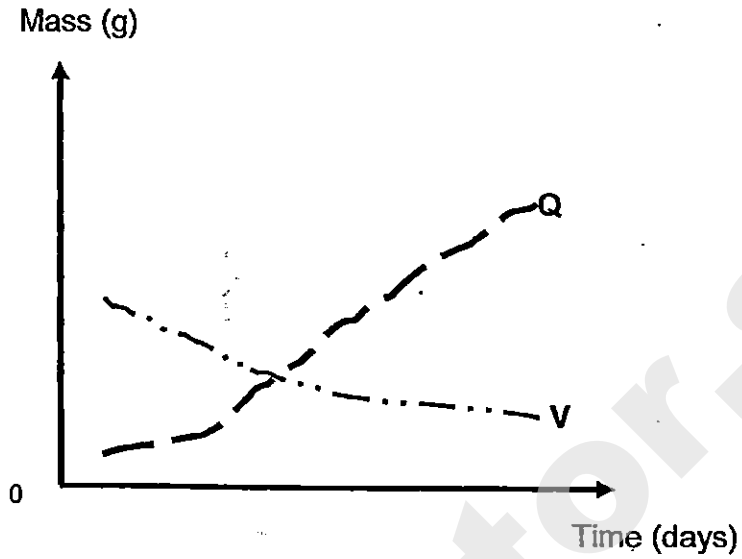
(c) Darryl then made the following structure using 1 horseshoe magnet and 3 bar-magnets. Fill in the blanks with 'N' for N-pole and 'S' for S-pole. (1m)



3

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37. The graph below shows the mass of a seedling and its seed leaves measured over a period of time.



(a) Which graph, Q or V, represents the seedling? (1m)

_____

(b) Which graph, Q or V, represents the seed leaves? (1m)

_____

(c) Explain why the mass of V decreases over a period of time. (1m)

_____

_____

3

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38. Gurma found 2 types of plants in a field and recorded her observations in the table below.

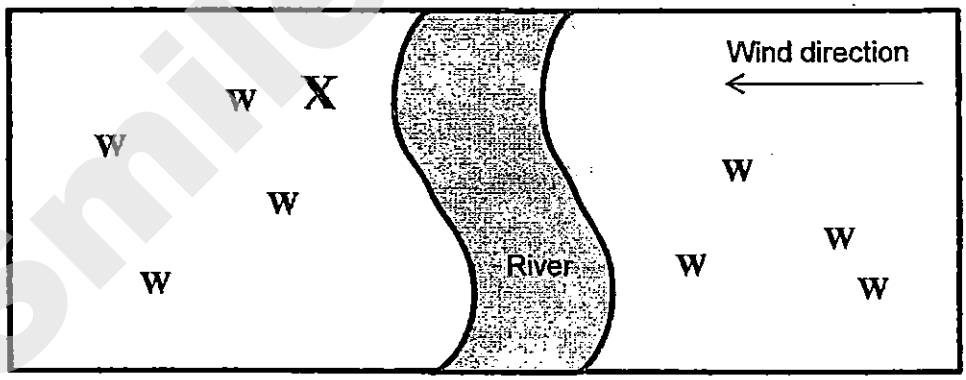
	Leaves	Stems	Flower	Fruits/ seeds
Plant 1	Small	Long	Small and coloured	Pod-like. Turns brown and dry when ripe.
Plant 2	Long and thin	Thick and long	Has white, feather-like stigmas	Has a fibrous husk

(a) Based on her observations above, state the method of seed dispersal of Plant 1 and Plant 2. (2m)

Plant 1 : _____

Plant 2 : _____

(b) The diagram below shows the locations of Plant 3 in an area. X shows the parent plant and W shows the young plants.



Give 2 possible characteristics of the fruits/seeds of Plant 3. (1m)

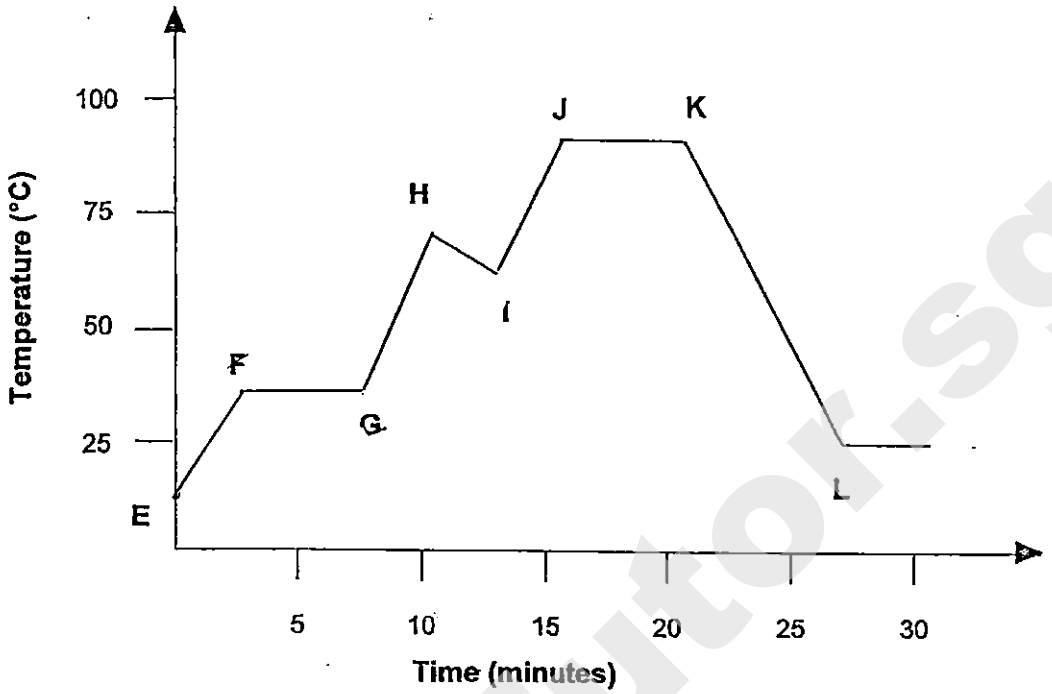
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_____

3

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39. A beaker containing Substance W was heated continuously from Point E to Point K. The temperature of substance W was recorded and plotted on the graph below.



(a) Why did the temperature of Substance W remain the same between points F and G? (1m)

_____

(b) There is a drop in temperature of Substance W between points H and I on the graph. Give a possible reason. (1m)

_____

_____

(c) Based on the graph, what is the temperature of the room? (1m)

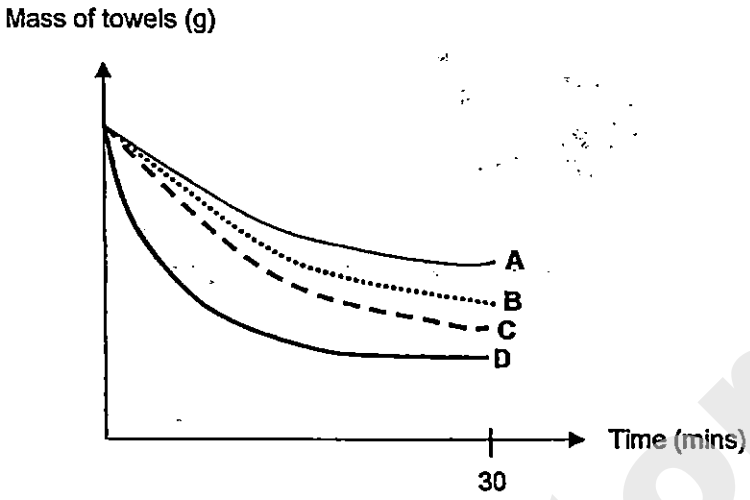
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40. 4 identical towels, A, B, C and D, were soaked in the same amount of water and hung at different locations to dry for 30 minutes.

The graph below shows the change in the mass of the towels over 30 minutes.



(a) Based on the graph, which towel was exposed to the least amount of wind? (1m)

_____

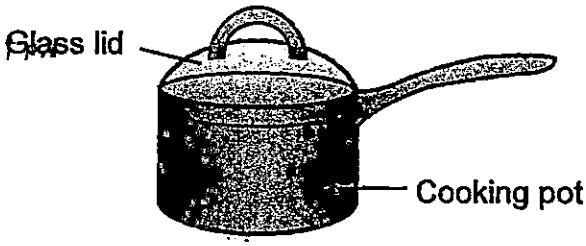
(b) Based on the experiment above, tick (✓) the variables that had been kept the same to ensure a fair test. (2m)

Variables that had been kept the same	**Tick (✓)**
Mass of the towels (at the end of experiment)	
Temperature of surrounding air	
The exposed surface area of the towels	
Duration of the experiment	

3

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41. Mrs Cheng boiled some soup for her daughter. She left it to cool on the dining table for about 10 minutes.



(a) Explain why water droplets could be seen on the inner side of the glass lid after 10 minutes. (2m)

_____

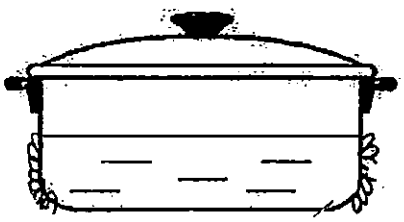
_____

(b) Explain why water droplets did not form on the outer side of the glass lid. (1m)

_____

_____

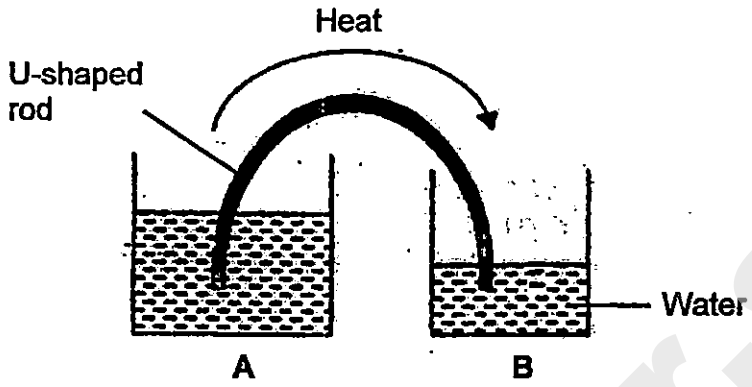
(c) Mr Cheng took out another pot from the refrigerator. He also noticed some water droplets after 10 minutes. Draw the water droplets he was likely to see on the diagram below. (1m)



4

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42. Sam placed a U-shaped copper rod into 2 beakers, A and B, each containing water of a different temperature. The arrow in the diagram below indicates how heat travelled through the rod immediately after it was immersed into the 2 beakers.



(a) Which beaker contains hot water and water at 27°C? (1m)

Hot water: Beaker _____

Water at 27°C: Beaker _____

(b) Sam repeated the experiment but this time, he used a plastic rod instead of a copper rod. He observed that it took a longer time for heat to be transferred from water in Beaker A to the water in Beaker B. Explain why this happened. (2m)

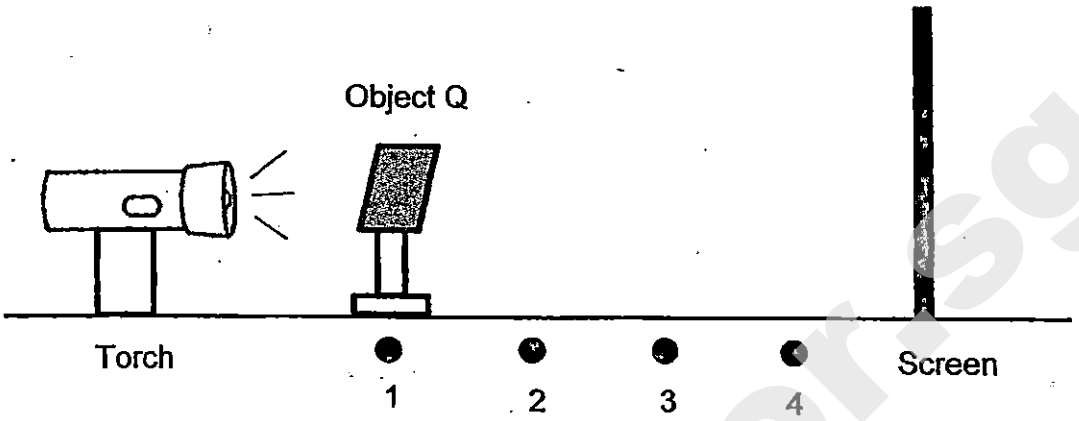
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_____

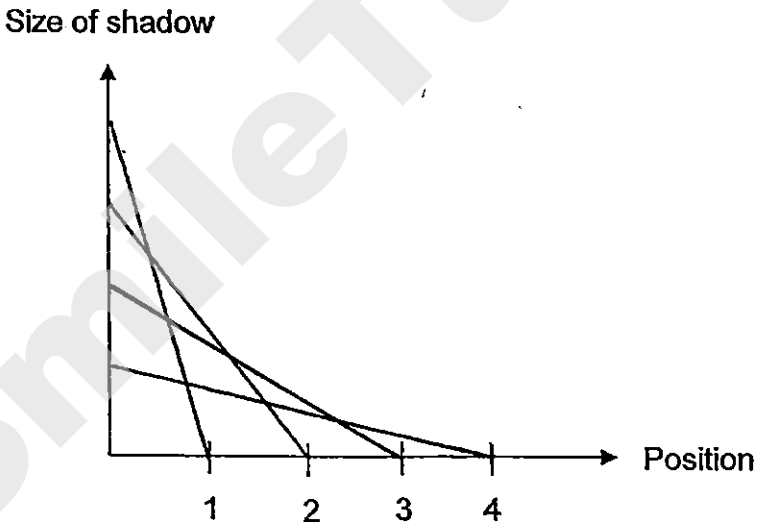
3

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43. Benaiah sets up the following experiment. He places a rectangular opaque object, Object Q, at different positions,1, 2, 3 and 4. He measures and records the height of the shadow of Object Q when it is placed at the different positions.



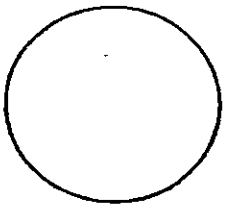
Predict and draw a line graph below, to show how the size of the shadow of Object Q will change with positions 1, 2, 3 and 4. (2m)



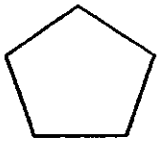
2

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44. Xiao Rong was given 3 objects, A, B and C, each of a different unknown material, for her light experiment. They are as shown below.



A

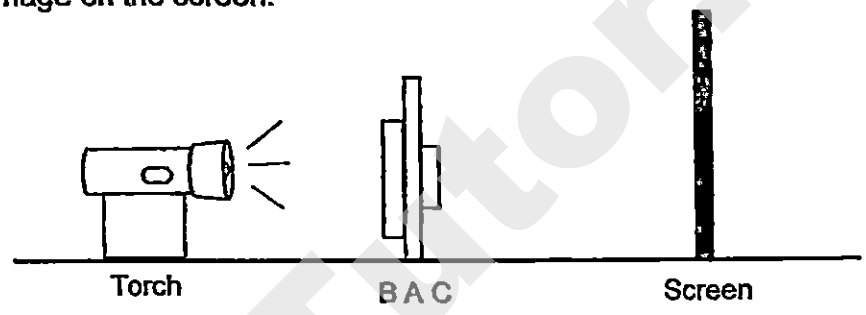


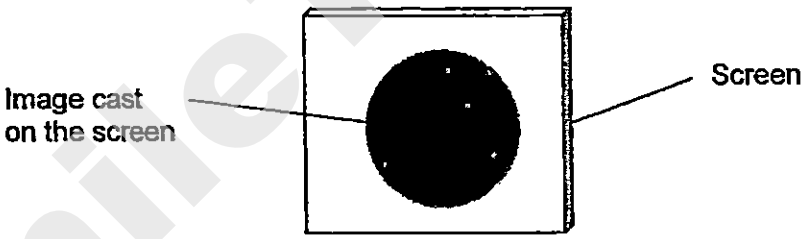
B



C

She managed to use the 3 objects, one in front of another as shown below, to form an image on the screen.





Xiao Rong's teacher gave her a table to identify some of the materials' characteristics. Based on the observation above, put a tick (✓) in the correct boxes. (3m)

Statement	True	False	Not possible to tell
A is opaque.			
B is transparent.			
C is translucent.			

3

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2015 P5 SA1 –Model Answers

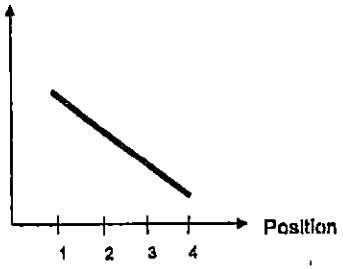
1)	3	6)	2	11)	3	16)	2	21)	1	26)	4
2)	3	7)	2	12)	4	17)	4	22)	2	27)	2
3)	2	8)	2	13)	3	18)	4	23)	1	28)	1
4)	4	9)	4	14)	2	19)	1	24)	2	29)	1
5)	3	10)	4	15)	3	20)	2	25)	3	30)	1

<table>
<tr><th>Qn</th><th>Accepted Answer</th></tr>
<tr><td>31 (a)</td><td>A: Gullet / Anus</td></tr>
<tr><td>(b)</td><td>B: Large Intestine</td></tr>
<tr><td>(c)</td><td>C: Small Intestine</td></tr>
<tr><td>(d)</td><td>D: Stomach</td></tr>
<tr><td>32(a)</td><td>Cell B. Cell B should have a cell membrane.</td></tr>
<tr><td>32(b)</td><td>Animal cells. They do not have cell wall.</td></tr>
<tr><td>33</td><td>
<table>
<tr><th>Statement</th><th>True</th><th>False</th></tr>
<tr><td>Part R is the only part that allows air in and out of the body.</td><td></td><td>✓</td></tr>
<tr><td>Oxygen is absorbed by the blood at Part S.</td><td></td><td>✓</td></tr>
<tr><td>Only oxygen can pass through Part S.</td><td></td><td>✓</td></tr>
</table>
</td></tr>
<tr><td>34(a)</td><td>The greater the amount of oxygen in the water, the fewer/smaller the number of guppies near the water surface.
Or
The lesser the amount of oxygen in the water, the greater the number of guppies near the water surface.</td></tr>
<tr><td>34(b)</td><td>The guppies did not have enough oxygen to survive.</td></tr>
<tr><td>35(a)</td><td>Leaves Q and R. The stomata in Q and R are not blocked so they can still lose water vapour and the water vapour condensed onto the inner side of the plastic bag to form water droplets.</td></tr>
<tr><td>35(b)</td><td>Y, Z, X</td></tr>
<tr><td>36(a)</td><td>Object E is a magnet.</td></tr>
<tr><td>36(b)</td><td>The part of Object F facing the part of Object E are like poles and the like poles repel one another.</td></tr>
<tr><td>36(c)</td><td>S ; N</td></tr>
</table>

<table>
<tr><td>37(a)</td><td>Mass of seedling: Q</td></tr>
<tr><td>37(b)</td><td>Mass of seed leaves: V</td></tr>
<tr><td>37(c)</td><td>The seedling used up the food in the seed leaves.</td></tr>
<tr><td>38(a)</td><td>Plant 1: Dispersed by splitting / Dispersed by splitting with explosive action
Plant 2: Dispersed by Water</td></tr>
<tr><td>38(b)</td><td>Brightly-coloured fruits, fleshy fruit, edible</td></tr>
<tr><td>39 (a)</td><td>Substance W is melting.</td></tr>
<tr><td>39 (b)</td><td>Ice cubes were added into the beaker.</td></tr>
<tr><td>39 (c)</td><td>25°C</td></tr>
<tr><td>40(a)</td><td>Towel A. (1m)</td></tr>
<tr><td>40(b)</td><td>
<table>
<tr><th>Variables that had been kept the same</th><th>Tick (✓)</th></tr>
<tr><td>Mass of the towels (at the end of experiment)</td><td></td></tr>
<tr><td>Temperature of surrounding air</td><td>✓</td></tr>
<tr><td>The exposed surface area of the towels</td><td>✓</td></tr>
<tr><td>Duration of the experiment</td><td>✓</td></tr>
</table>
</td></tr>
<tr><td>41(a)</td><td>The soup evaporated and turned into water vapour. Warmer water vapour from the soup condensed on the cooler inner side of the glass lid to form water droplets.</td></tr>
<tr><td>41(b)</td><td>Water vapour in the surrounding air was not warm enough to condense on the glass lid, which is warmer than the water vapour.
Or
The temperature of the glass lid was higher than the temperature of the water vapour in the surrounding, so condensation cannot take place.</td></tr>
<tr><td>41(c)</td><td>Water droplets → drawn on the outer surface of the pot</td></tr>
<tr><td>42(a)</td><td>Hot water: Beaker A
Water at 27°C: Beaker B</td></tr>
<tr><td>42(b)</td><td>Plastic is a poorer conductor of heat than copper, so it will conduct heat from the water in Beaker A to the water in Beaker B at a slower rate.</td></tr>
</table>

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43(a)



44

Statement	True	False	Not possible to tell
A is opaque.	✓		
B is transparent.			✓
C is translucent.			✓

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2

END

PRIMARY 5 MID-YEAR EXAMINATION 2015

Name _____ Date: 15 May 2015

Class : Primary 5 _____ Duration: 1 hour 45 minutes

Parent's Signature : _____ Marks: _____ / 60

SCIENCE
BOOKLET A

INSTRUCTIONS TO CANDIDATES

Write your name, register number and class.

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

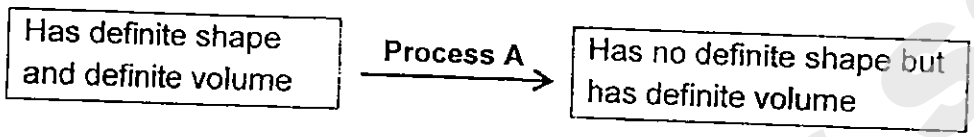
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Section A (30 x 2 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

1. The diagram below describes a change in the state of water.



What is Process A?

(1) Boiling

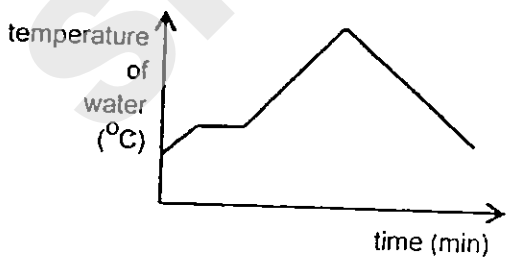
(2) Melting

(3) Evaporation

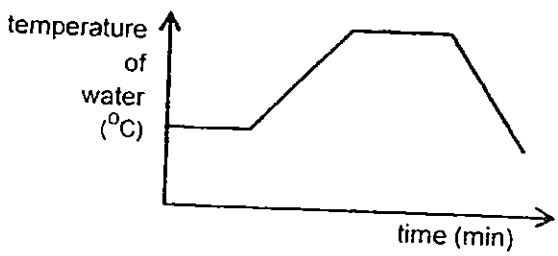
(4) Condensation

2. At the start of his experiment, Simon put some ice cubes into a beaker of water. After the ice cubes had melted, he heated the water until it reached boiling point. He continued to heat the water for a few more minutes before turning off the flame at the end of his experiment. Which of the following line graphs shows the results of his experiment?

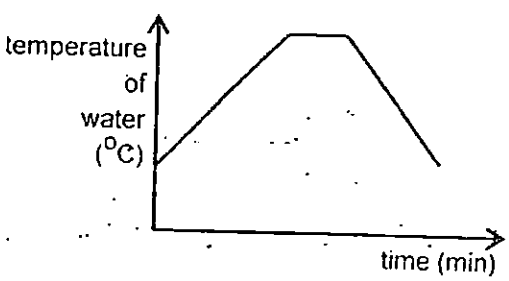
(1)



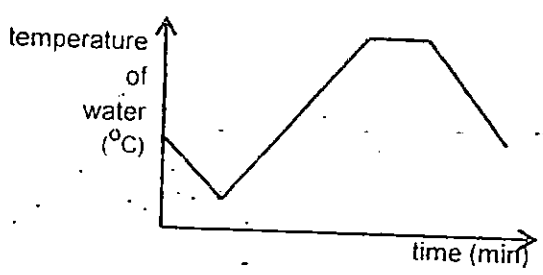
(2)



(3)



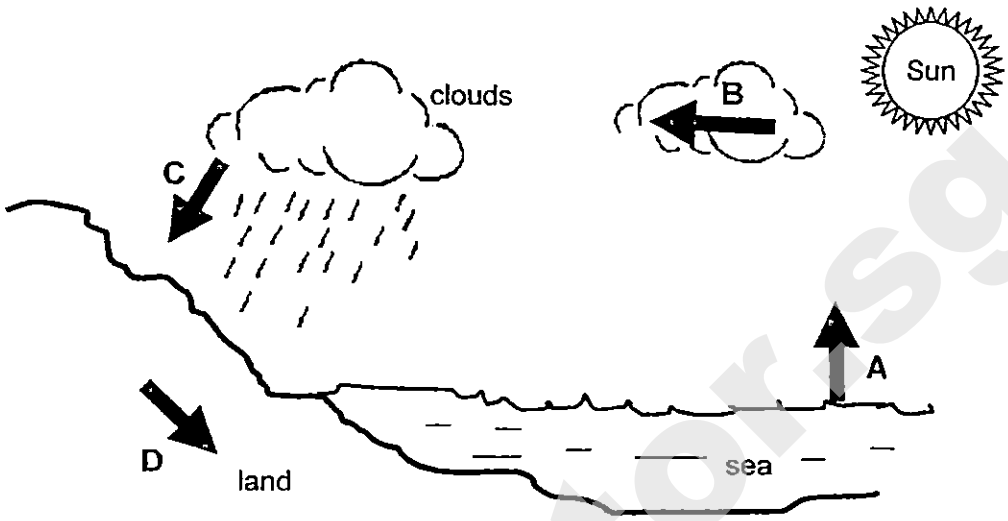
(4)



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3. Study the diagram of the water cycle below. The letters, A, B, C and D, represent the stages of the water cycle.



Which of the following stages, A, B, C or D, will occur faster when the temperature of the surrounding air increases?

(1) A
(2) B
(3) C
(4) D

4. Which of the following actions is an example of reusing water?

(1) Purifying river water for drinking.
(2) Using water from washing rice to water plants.
(3) Using a mug instead of running water when brushing teeth.
(4) Washing vegetables in a basin of water instead of under a running tap.

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5. Max wanted to investigate if the rate of evaporation of water was affected by the exposed surface area of water. He used four different containers, A, B, C and D, made of the same material. The table below shows the different conditions at the start of the experiment.

Container	Room temperature (^{o}C)	Volume of water (cm^3)	Exposed surface area of water (cm^2)
A	25	400	50
B	25	500	120
C	25	500	50
D	31	500	50

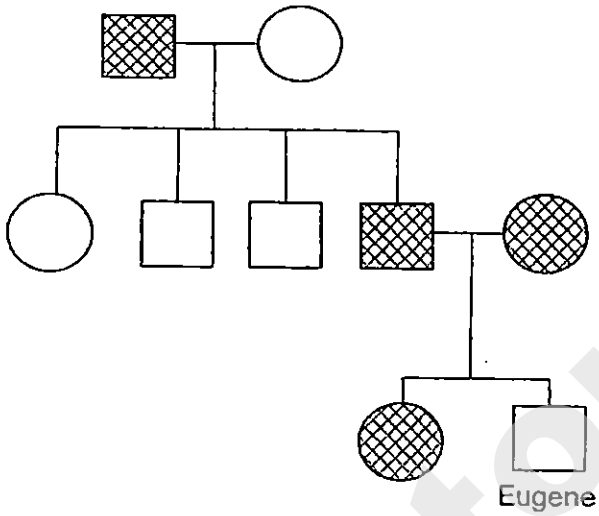
Which of the following two containers should Max compare?

(1) A and D
(2) B and C
(3) C and D
(4) D and B

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6. Study the family tree shown below.



male with ability to roll tongue	female with ability to roll tongue
male without ability to roll tongue	female without ability to roll tongue

Based on the information above, which of the following statements is correct?

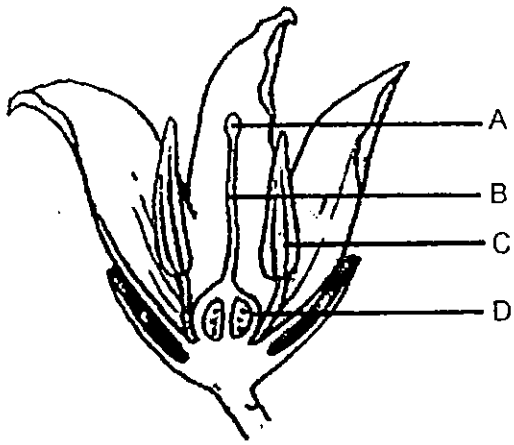
(1) Eugene's aunt has the ability to roll her tongue.
(2) Eugene inherited the ability to roll his tongue from his mother.
(3) Eugene has 2 grandparents who have the ability to roll their tongues.
(4) Eugene's sister inherited the ability to roll her tongue from her parents

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7. The diagram below shows a flower of a plant. A, B, C and D are parts of the flower.



In which parts of the flower are pollen grains produced and ovules found?

	Pollen Grains produced	Ovules found
(1)	A	B
(2)	A	D
(3)	C	B
(4)	C	D

8. Which of the following statements about the female reproductive cell in the human body is correct?

(1) It has no nucleus.

(2) It is produced in the fallopian tube

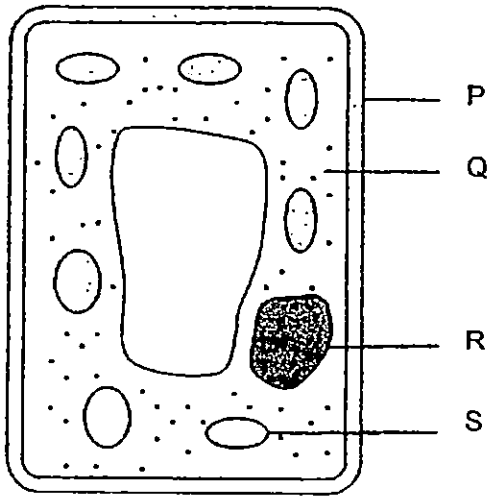
(3) It is the largest cell in the human body.

(4) It becomes a foetus immediately after fertilisation.

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9. The diagram below shows a plant cell with the parts labelled P, Q, R and S.



Which two parts of the plant cell, P,Q, R and S, are also found in animal cells?

(1) P and Q
(2) P and S
(3) Q and R
(4) R and S

10. Which of the following statements about cells is correct?

(1) Cells can be seen with the naked eye.
(2) Cells have fixed shapes and structures.
(3) Cells are unable to reproduce on their own.
(4) Cells are able to react to changes in the environment.

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11. Devi cut herself while she was helping her mother with some chores. A few days later, the wound had healed. Explain how the wound can heal by itself?

(1) Cells have undergone cell division to replace the damaged cells.
(2) Cells from other parts of the body moved to cover up the wound.
(3) Cells combined to form bigger cells to replace the damaged cells.
(4) Cells around the wound have grown bigger to cover up the wound.

12 The diagram below shows a seedling.



What are the conditions necessary for the seed to reach this stage?

(1) Water and light only.
(2) Oxygen and warmth only.
(3) Water, air and warmth only.
(4) Water, light and carbon dioxide only.

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13. Which of the following statements correctly states the similarities between ferns and mosses?

(1) They have small flowers.
(2) They reproduce from spores.
(3) They can be found only in water.
(4) They are unable to produce their own food.

14 Three pupils classified some materials in different ways. Their classification tables are shown below.

Mary

Group A	Group B
fabric glass plastic rubber aluminium	iron steel

Veronica

Group A	Group B
fabric glass plastic rubber	iron steel aluminium

Sally

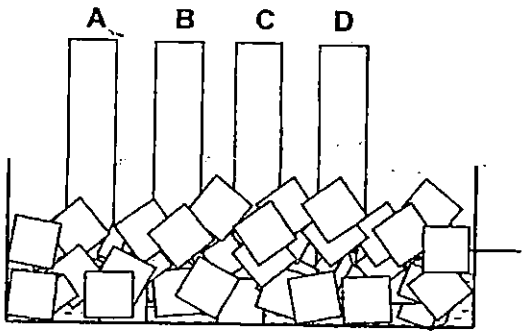
Group A	Group B
rubber fabric	iron plastic steel glass aluminium

Who classified the materials with the help of a magnet?

(1) Mary only
(2) Veronica only
(3) Mary and Veronica only
(4) Mary, Veronica and Sally

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15. Mabel carried out an experiment at room temperature with four rods, A, B, C and D, each made of a different material. One end of each rod was put into a container filled with melting ice as shown below



After 15 minutes, the temperature at the end of each rod was taken and the results were as shown in the table below.

Rod	Temperature (°C)
A	25
B	20
C	15
D	10

Which rod is the best conductor of heat?

(1) Rod A
(2) Rod B
(3) Rod C
(4) Rod D

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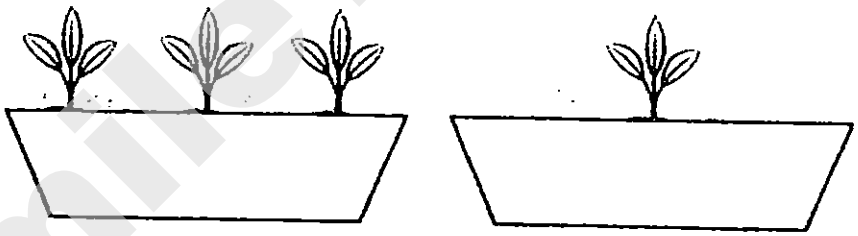
16. The table below shows the melting points and boiling points of three substances, X, Y and Z.

Substance	Melting point (°C)	Boiling point (°C)
X	27	66
Y	41	83
Z	58	95

At which of the following temperatures will the three substances, X, Y and Z, be in the same state of matter?

(1) 30°C
(2) 50°C
(3) 60°C
(4) 80°C

17. Stacy wanted to find out if overcrowding would affect the growth of plants. She grew some plants in two identical pots, X and Y. She placed these pots under sunlight and watered them every day.



Pot X Pot Y

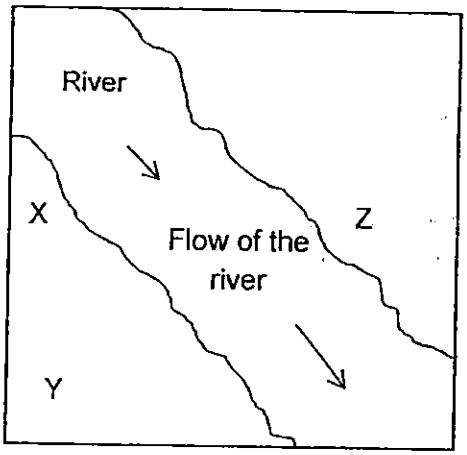
Which variables should she keep the same?

A: Type of water used
B: Amount of water given
C: Type of plants used
D: Location of pots

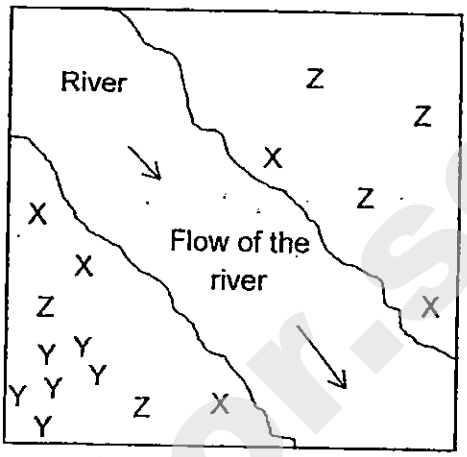
(1) A and C only
(2) B and D only
(3) B, C and D only
(4) A, B, C and D

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18. Three plants, X, Y and Z, were planted on a piece of land as shown in Picture 1 below. Picture 2 shows the same piece of land a few years later.



Picture 1



Picture 2

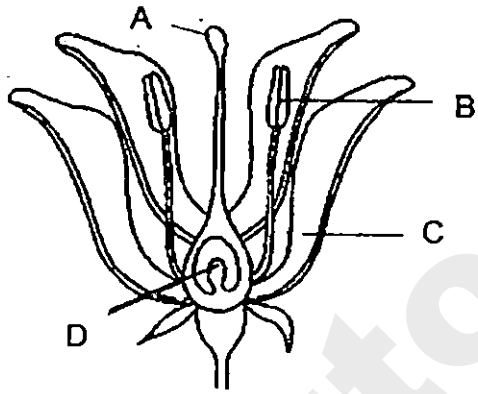
How are the fruits of the plants, X, Y and Z, dispersed?

	X	Y	Z
(1)	Water	Splitting action	Wind
(2)	Water	Wind	Splitting action
(3)	Wind	Water	Splitting Action
(4)	Wind	Splitting Action	Water

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19. A, B, C and D are parts of flower X. Su Shan removed two of these parts of flower X. She then transferred some pollen from another flower of the same plant to the remaining parts of flower X. After some time, flower X formed a fruit.



Flower X

Which two parts of flower X had been removed?

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

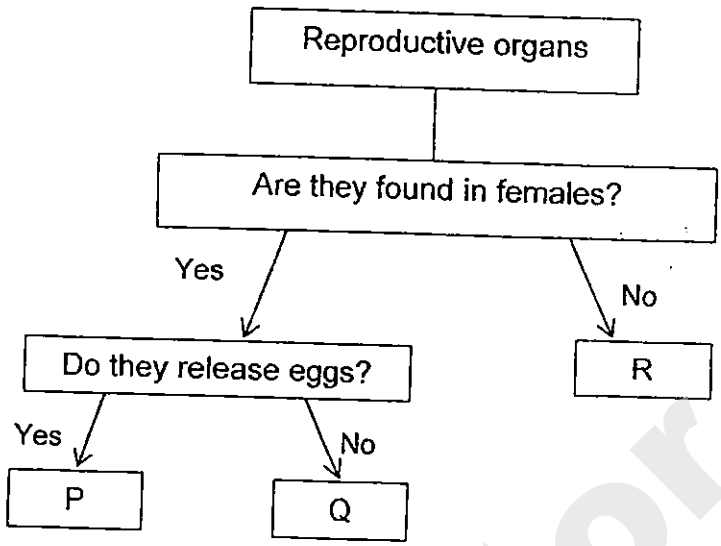
20. Matthew made some comments about his two friends, Colin and Caleb, who are identical twins. Which of the following comments he made is definitely true?

(1) Both of them have unique thumbprints.
(2) Both of them have the same height and weight.
(3) They inherited identical football skills from their father.
(4) They inherited the ability to speak three languages from their mother.

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21. Identify the organs, P, Q and R, of the human reproductive system in the flowchart below.



	P	Q	R
(1)	Testis	Ovule	Ovary
(2)	Testis	Ovary	Womb
(3)	Ovary	Testis	Womb
(4)	Ovary	Womb	Testis

22. The table below provides some information on three cells, X, Y and Z. A tick (√) indicates the presence of a part of the cells.

Cell	Part of cell		
	nucleus	chloroplast	cell wall
X	√		√
Y	√	√	√
Z	√		

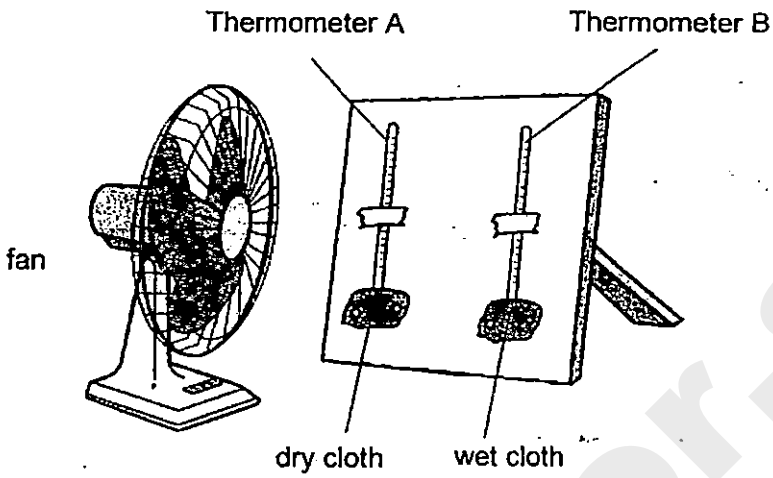
Where are cells, X, Y and Z, found?

	X	Y	Z
(1)	cheek	leaf	root
(2)	leaf	root	cheek
(3)	root	cheek	leaf
(4)	root	leaf	cheek

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25. Susan set up an experiment as shown below:



She switched on the fan and recorded the temperature at various time intervals. Her results are as shown below:

Time (minute)	Temperature readings of Thermometer A (°C)	Temperature readings of Thermometer B (°C)
0	30	30
3	30	28
6	30	27

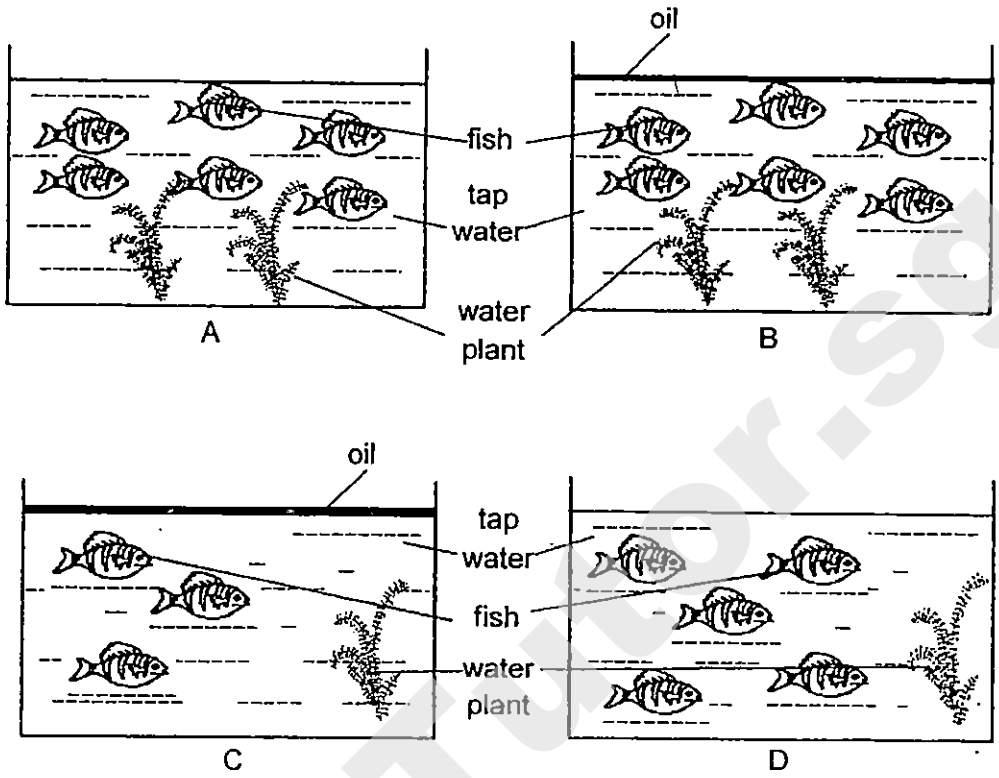
Why was there a drop in the temperature readings of Thermometer B?

(1) Heat from the surroundings was conducted to Thermometer B.
(2) Thermometer B lost heat when water evaporated from the wet cloth.
(3) The wet cloth on Thermometer B acted as a poor conductor of heat.
(4) Thermometer B lost heat when water vapour condensed on the wet cloth.

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26. Mabel sets up four tanks, A, B, C and D, as shown below.



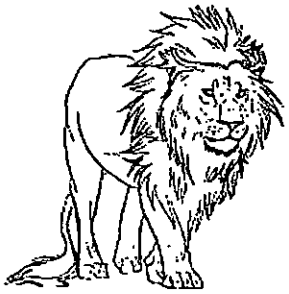
Which two tanks should she use to study the effect of water pollution on living things?

(1) A and B only
(2) A and D only
(3) B and C only
(4) C and D only

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27. The diagram below shows a lion.



Which of the following statements is true?

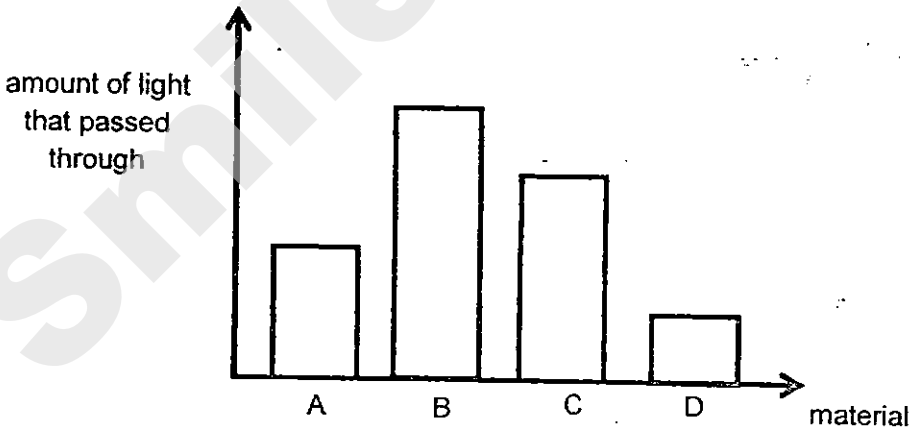
(1) The lion is made up of billions of cells of the same type.

(2) The cells in the lion are of the same size and shape.

(3) Each cell has a cell wall which gives the lion its shape.

(4) The cells contain genetic information about the lion's parents.

28. John used a light sensor and a data logger to find out how much light passed through four different materials, A, B, C and D. He plotted the results in a bar chart as shown below.



Which of the materials would cast the darkest shadow?

(1) A

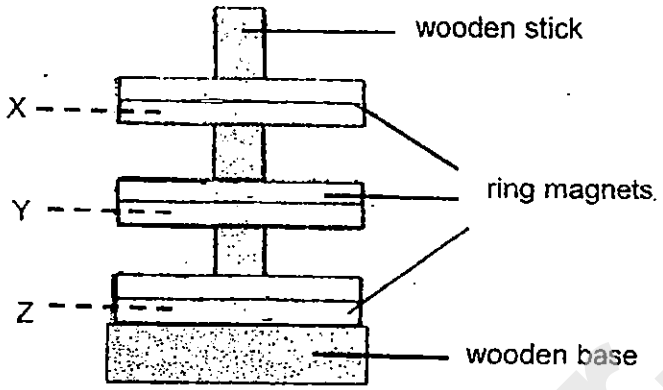
(2) B

(3) C

(4) D

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29. The diagram below shows what happens when three ring magnets are placed around a wooden stick. X, Y and Z are poles of the ring magnets.



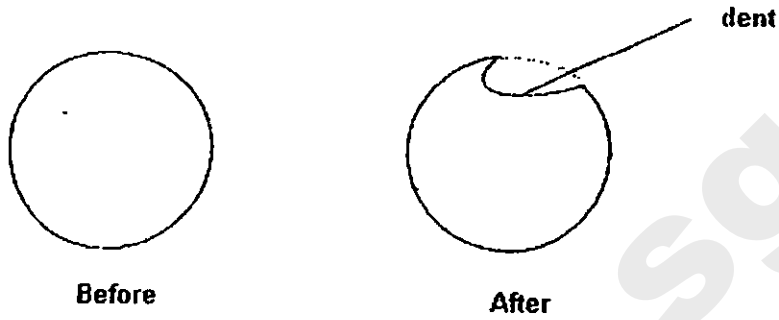
What poles could X, Y and Z be?

	X	Y	Z
(1)	North-seeking pole	North-seeking pole	North-seeking pole
(2)	North-seeking pole	South-seeking pole	South-seeking pole
(3)	South-seeking pole	North-seeking pole	South-seeking pole
(4)	South-seeking pole	South-seeking pole	North-seeking pole

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30. The diagram below shows a table-tennis ball, before and after it has been dented. There are no holes in the table-tennis ball.



Which of the following shows the change after the table-tennis ball has been dented?

	Before dent		After dent	
	Mass of table-tennis ball (g)	Volume of air in table tennis ball (cm^3)	Mass of table-tennis ball (g)	Volume of air in table tennis ball (cm^3)
(1)	3	8	2.5	6
(2)	3	8	2.5	8
(3)	3	8	3	6
(4)	3	8	3	8

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SINCERITY & PERSEVERANCE

PRIMARY 5 MID-YEAR EXAMINATION 2015

Name : _____ Date: 15 May 2015

Class : Primary 5 _____ Duration: 1 hour 45 minutes

Parent's Signature : _____ Marks: _____ / 40

SCIENCE
BOOKLET B

INSTRUCTIONS TO CANDIDATES

Write your name, register number and class.

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

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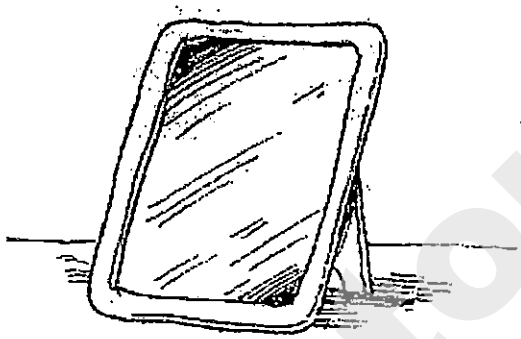
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Section B (40 marks)

Write your answers to the questions, 31 to 44, in the spaces provided.

31. Amy had a hot shower. After showering, she found that the mirror in the bathroom was misted up. After a while, the mist cleared and she was able to see herself in the mirror again.



(a) Explain why the mirror was misted up. [2]

_____

_____

(b) Explain why the mist on the mirror cleared after a while. [1]

_____

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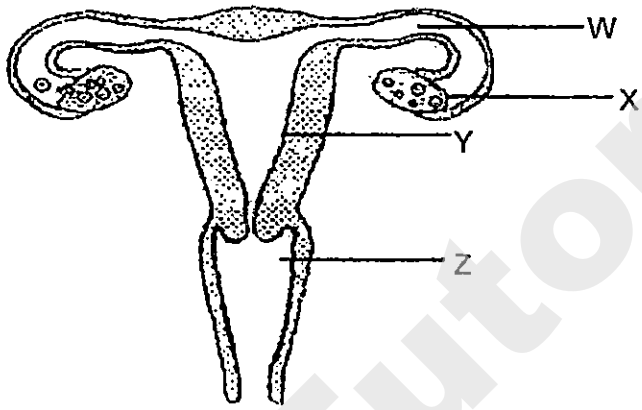
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32. (a) What happens to a sperm and an egg during fertilisation? [1]

_____

_____

(b) The diagram below shows the human female reproductive system.



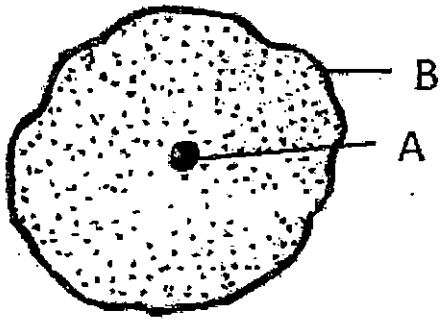
In which of the following parts, W, X, Y and Z, of the human female reproductive system do fertilisation and attachment of the fertilised egg to the womb take place? [1]

Fertilisation	Attachment of the fertilised egg to the womb
(i)	(ii)

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33. The diagram below shows an animal cell.



Name the parts, A and B, of the cell as indicated in the diagram and state their function. [2]

Cell Part	Name of Cell Part	Function
A		
B		

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34. Mrs Leong wanted to investigate if water will evaporate faster when the surrounding air temperature is higher. She poured equal volumes of water into two identical containers and placed them in two different rooms, Room A and Room B.
She recorded the volume of water in both containers over 5 days in the table below.

Time (days)	Volume of water in the container (ml)	
	Room A	Room B
0	100	100
1	92	85
2	80	72
3	72	54
4	60	45
5	46	30

(a) Identify the variable she changed for this experiment. [1]

_____

(b) Based on the results in the table, which room had a higher temperature? Give a reason for your answer. [2]

_____

_____

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35. Joseph conducted an experiment to investigate how two types of pollutants, liquid detergent and bleach, affect the growth of duckweeds. He filled 3 similar containers, P, Q and R, with tap water and added 50 duckweeds into each of them. He added liquid detergent into container Q and bleach into container R.

(a) Complete the table below with the correct volume of tap water and pollutants to be used to ensure a fair test.

Container	**P**	**Q**	**R**
Volume of tap water (ml)	(i)	100	(ii)
Volume of pollutants (ml)	(iii)	(iv)	50

(b) What is the purpose of having container P as the control set-up? [1]

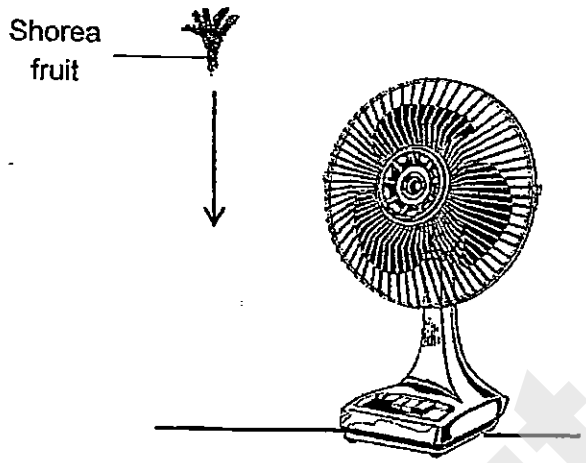
Joseph left the three containers near a window and recorded the number of healthy duckweeds after one week. The table below shows the results of his experiment.

Container	**P**	**Q**	**R**
Number of duckweeds at the start of the experiment	50	50	50
Number of duckweeds at the end of the experiment	55	45	20

(c) Compare the results for the containers, Q and R. What can you conclude from the results of the experiment? [1]

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36. Zach was given two Shorea fruits. He was asked to find out if the length of the wing-like structure affects its duration in the air. He decided to drop the Shorea fruits in front of a fan and record the time taken for them to reach the ground.



(a) State the variable that should be changed in this investigation? [1]

_____

(b) Besides measuring the duration of the Shorea fruit in the air, state another variable that Zach can measure to show that the length of the wing-like structure affects the dispersal of the fruit. [1]

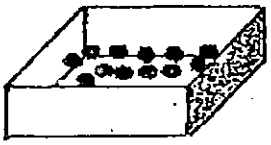
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(c) State one reason why fruits and seeds need to be dispersed. [1]

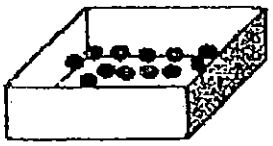
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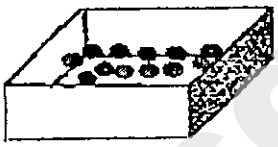
37. Calvin planted an equal number of similar bean seeds in 3 trays and placed them under different temperature conditions as shown below. The seeds were provided the same amount of sunlight, the same type of garden soil and watered with the same volume of water daily for six days.



Tray A
6°C



Tray B
15°C



Tray C
27°C

The results are shown in the table below.

Tray	Temperature (°C)	Total number of seeds germinated					
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
A	6	0	0	0	0	1	1
B	15	0	0	0	1	4	6
C	27	0	2	8	13	17	20

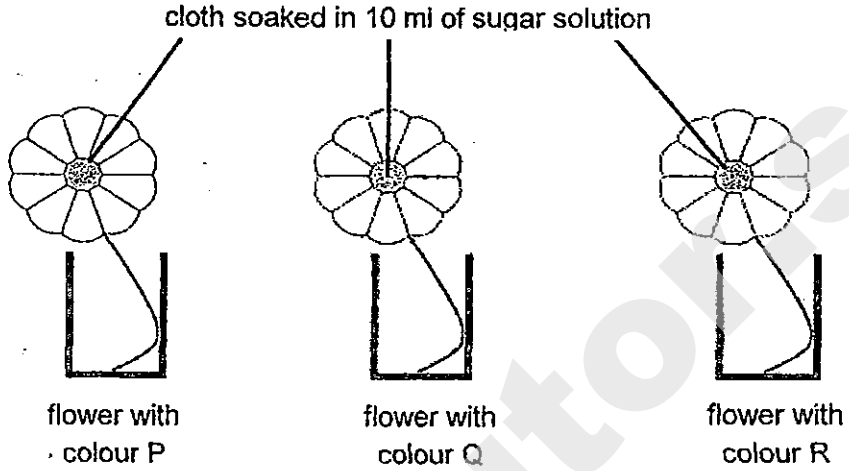
(a) What was the aim of the experiment? [1]

(b) Based on the results in the table, indicate with a tick, (√) whether each of the following conclusion is True, False or Not Possible To Tell. [2]

	Conclusion	True	False	Not Possible To Tell
(i)	The temperature of 6 °C was too cold for the seeds to germinate.			
(ii)	All types of seeds germinate best at the temperature of 27 °C.			
(iii)	The earliest germination was observed in seeds placed at the temperature of 27 °C.			
(iv)	The seeds would not germinate above the temperature of 27 °C.			

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38. Paul wanted to find out if the number of butterflies landing on flowers was affected by the colour of the flowers. He made three identical flowers out of the same type of paper but with three different colours. He attached a ball of cloth soaked in 10ml of sugar solution to the middle of each of the three flowers as shown in the diagram below.



Paul placed the three flowers in the garden and counted the number of butterflies that landed on each flower over a period of four hours. He recorded his observations in the table below.

Colour of flower	Number of butterflies that landed on the flowers			
	1st hour	2nd hour	3rd hour	4th hour
P	2	3	2	2
Q	6	8	7	6
R	3	4	3	3

(a) Based on the results of the experiment, which colour of flower, P, Q or R, would have the highest chance of being pollinated? [1]

_____

(b) Explain your answer in (a) [1]

_____

(c) Paul conducted another experiment to find out how the size of the flowers affects the number of butterflies that landed on the flowers. State one variable that he would have to keep constant. [1]

_____

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39. Mr Siew reared some chickens on his farm in Coop X and Coop Y, as shown in the table below. A few weeks later, Mr Siew found some eggs in his coops. He put an egg from each coop in an incubator and set the temperature at 41°C. After many weeks, the egg from Coop Y hatched, while the egg from Coop X did not.

Number of Chickens			
Coop X		Coop Y	
Male	Female	Male	Female
0	50	10	50

(a) Explain why the egg from Coop Y hatched but the egg from Coop X did not? [2]

_____

_____

(b) What should Mr Siew do to ensure that the eggs in the Coop X will also hatch? [1]

_____

40. (a) Identify the process in the sexual reproduction of flowering plants which is similar to the transfer of sperm to the female's body in the sexual reproduction of human beings. [1]

_____

(b) Describe the change in the ovary, style and stigma of a flower after fertilisation. [2]

(i) Ovary - _____

_____

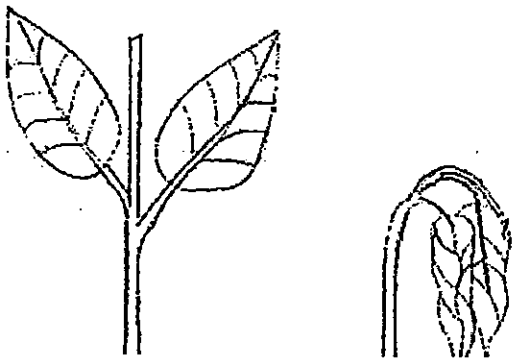
(ii) Stigma and style - _____

_____

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41. Xiao Wen had not been watering her plant for a few days. She observed the following change in her plant.

Diagram A



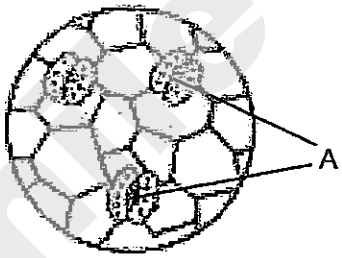
plant at the start

plant after a few days

(a) Based on Diagram A, state the importance of water to plants. [1]

_____

The diagram below shows an enlarged part of the leaf.



(b) What are the tiny openings labelled A called? [1]

_____

(c) State the function of the tiny openings labelled A. [1]

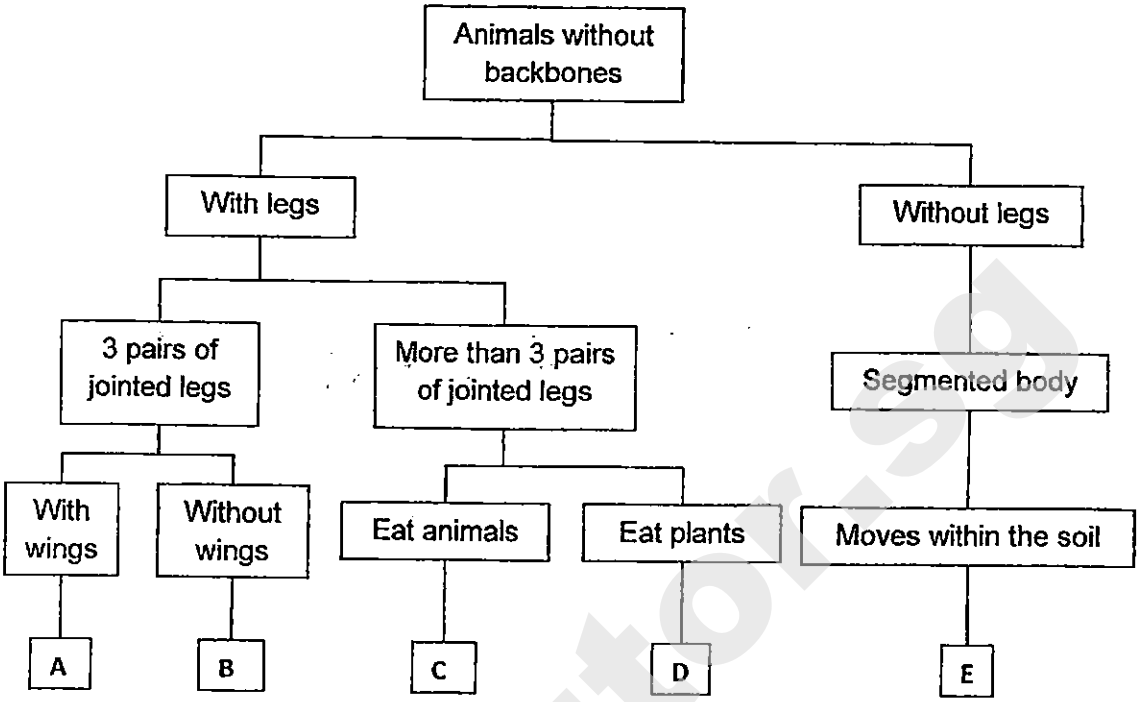
_____

_____

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42. Study the classification chart below.



(a) Based on the chart above, list all the characteristics of Animal C [1]

_____

_____

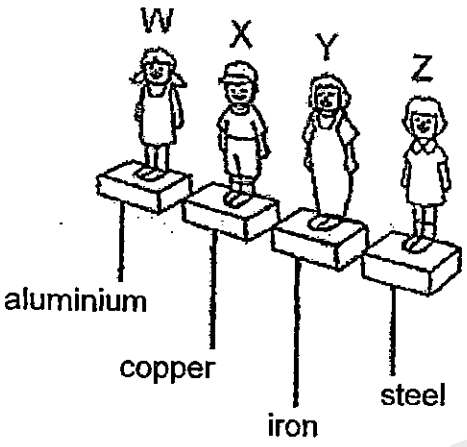
(b) Write the letter, A, B, C, D or E, that represents the animals below. [2]

Animal	Represented by Letter
(i) 	
(ii) 	

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43. Michael had four figurines, W, X, Y and Z. Each of them is made of a different metal as shown below.



He put the figurines on a cardboard and tried to move them using a magnet below the cardboard.

(a) Which figurine(s), W, X, Y or Z, was/were Michael able to move using the magnet? Explain your answer. [2]

_____

_____

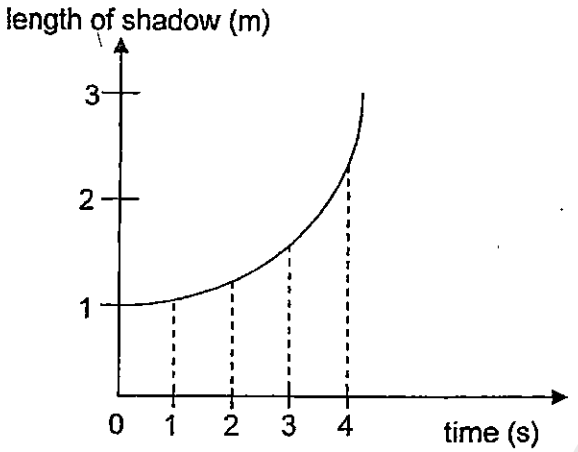
_____

(b) Identify another metal which a figurine can be made of so that it can also be moved by the magnet. [1]

_____

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44. The graph below shows how the length of Leela's shadow changed over a period of time as she walked in a straight line near a street lamp at night.



(a) State the two properties of light that caused her shadow to form. [2]

(i) Property 1 - _____

(ii) Property 2 - _____

(b) Was Leela walking towards or away from the lamp during the period shown in the graph? Give a reason for your answer. [1]

_____

_____

END.

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : TAO NAN
SUBJECT : SCIENCE
TERM : SA1

Q1	2	Q7	4	Q13	2	Q19	3	Q25	2
Q2	4	Q8	3	Q14	1	Q20	1	Q26	1
Q3	1	Q9	3	Q15	4	Q21	4	Q27	4
Q4	2	Q10	4	Q16	3	Q22	4	Q28	4
Q5	2	Q11	1	Q17	4	Q23	3	Q29	3
Q6	4	Q12	3	Q18	1	Q24	4	Q30	3

Q31	(a)	The hot water evaporates into water vapour which touches the cooler surface of the mirror and condenses into water droplets which forms mist on the mirror.
	(b)	The water droplets on the mirror gains heat from the surrounding air and evaporates into water vapour.
Q32	(a)	The nucleus of a sperm fuses with the nucleus of an egg.
	(b)	(i) W (ii) Y
Q33		A – nucleus – controls the activities of the cell. B – cell membrane – allows certain substances to enter or exit the cell.
Q34	(a)	The variable is the surrounding air temperature.
	(b)	Room B. The water in the container in Room B evaporated faster than the water in the container in Room A.
Q35	(a)	(i) 100 (ii) 100 (iii) 0 (iv) 50
	(b)	It is to compare the results of the experiment.
	(c)	Bleach is a stronger pollutant than the liquid detergent.
Q36	(a)	The variable is the length of the wing-like structure,
	(b)	Zach can measure how far the Shorea fruit travels away from the fan.
	(c)	It is to prevent competition for sunlight and water between the parent plant and the daughter plant.
Q37	(a)	To find out how temperature affects the number of seeds germinated.
	(b)	(i) False (ii) Not possible to tell (iii) true (iv) Not possible to tell

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Q38	(a)	Colour Q
	(b)	Colour Q has the most number of butterflies that landed on it for four hours.
	(c)	Colour of the flower
Q39	(a)	There was 10 males in Coop Y to fertilise the egg but there was no males to fertilise the egg in Coop X.
	(b)	Put a few male chickens to fertilise the eggs.
Q40	(a)	Pollinations
	(b)	(i) It will bulge and turn into a fruit. (ii) They will wither and fall off the flower.
Q41	(a)	Water keeps the plant upright.
	(b)	stomata
	(c)	It allows the exchange of gases.
Q42	(a)	It does not have a backbone, it has legs, it has more than 3 pairs of jointed legs and it eats animals.
	(b)	(i) E (ii) B
Q43	(a)	Figurines Y and Z. They are magnetic materials and can be attracted by a magnet.
	(b)	Cobalt
Q44	(a)	(i) Light travels in a straight line. (ii) Light cannot pass through opaque objects.
	(b)	She was walking away from the lamp. The further Leela is from the lamp the longer her shadow.

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Z

END

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ANGLO-CHINESE SCHOOL
(JUNIOR)

CONTINUAL ASSESSMENT 2 (2015)
PRIMARY 5

SCIENCE

BOOKLET A

Wednesday **26 August 2015** **50 minutes**

Name : _____ **(** **)**

Class : P5 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 12 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The total marks for this booklet is 24.

The total time for Booklets A and B is 50 minutes.

This question paper consists of 12 printed pages (inclusive of cover page).

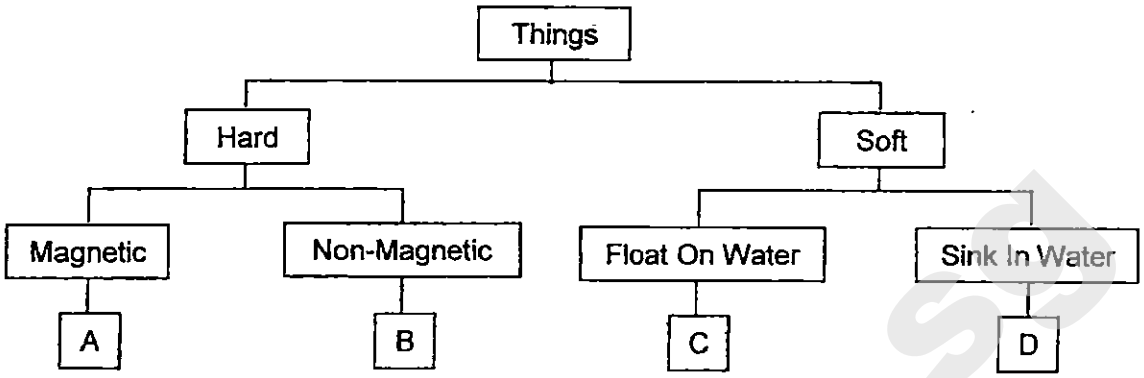
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Section A (24 marks)

For each question from 1 to 12, four options are given. One of them is the correct answer. Choose the correct option (**1, 2, 3 or 4**) and shade the correct oval on the Optical Answer Sheet (OAS).

1 Study the flowchart.



Which of the following best represent A, B, C and D in the flowchart above?

	A	B	C	D
(1)	Iron Filings	Aluminium Can	Styrofoam	Rubber Eraser
(2)	Steel Thumbtacks	Silver Coin	Rubber Eraser	Styrofoam
(3)	Steel Screw	Copper Coin	Plasticine Ball	Styrofoam
(4)	Aluminium Can	Steel Screw	Styrofoam	Plasticine Ball

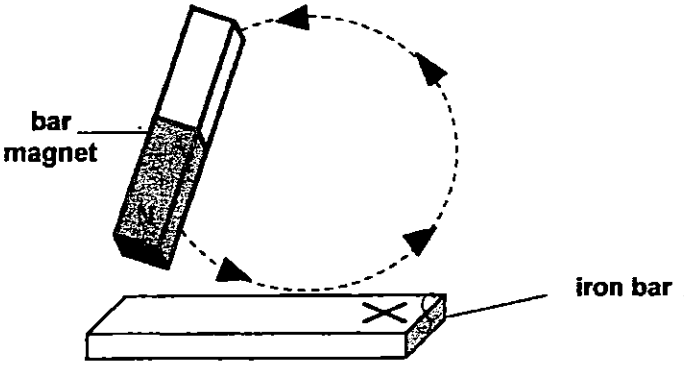
2 Which of the following statements about fungi are true?

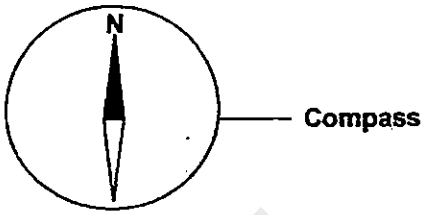
A Fungi reproduce by spores.
B All fungi are harmful to man
C Some fungi are microscopic.
D Fungi need sunlight to make their own food.

(1) A and C only
(2) B and C only
(3) B and D only
(4) A and D only

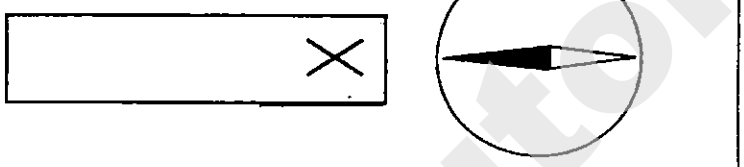
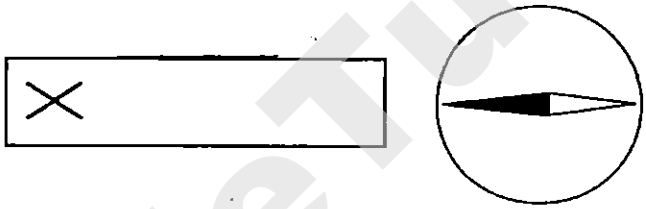
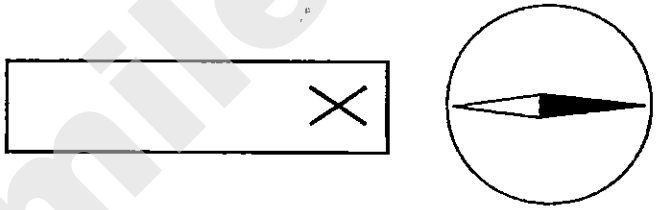
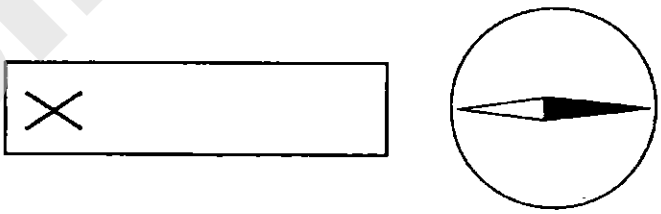
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3 Calvin used a bar magnet to repeatedly stroke an iron bar as shown below.





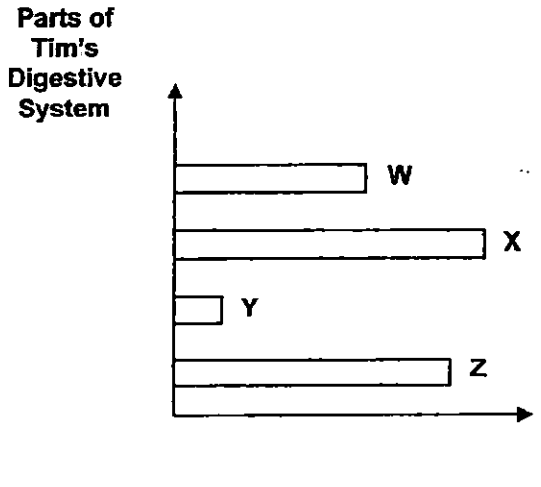
He then placed the iron bar next to a compass. Which of the following is a possible observation?

	Possible Observation
A	
B	
C	
D	

(1) A and B only
(2) B and C only
(3) C and D only
(4) A and D only

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4 Tim ate a banana at 12 pm. The bar graph below shows the amount of undigested food in different parts, W, X, Y and Z, of his digestive system, as the food he ate first enters each organ between 12 to 3 pm.



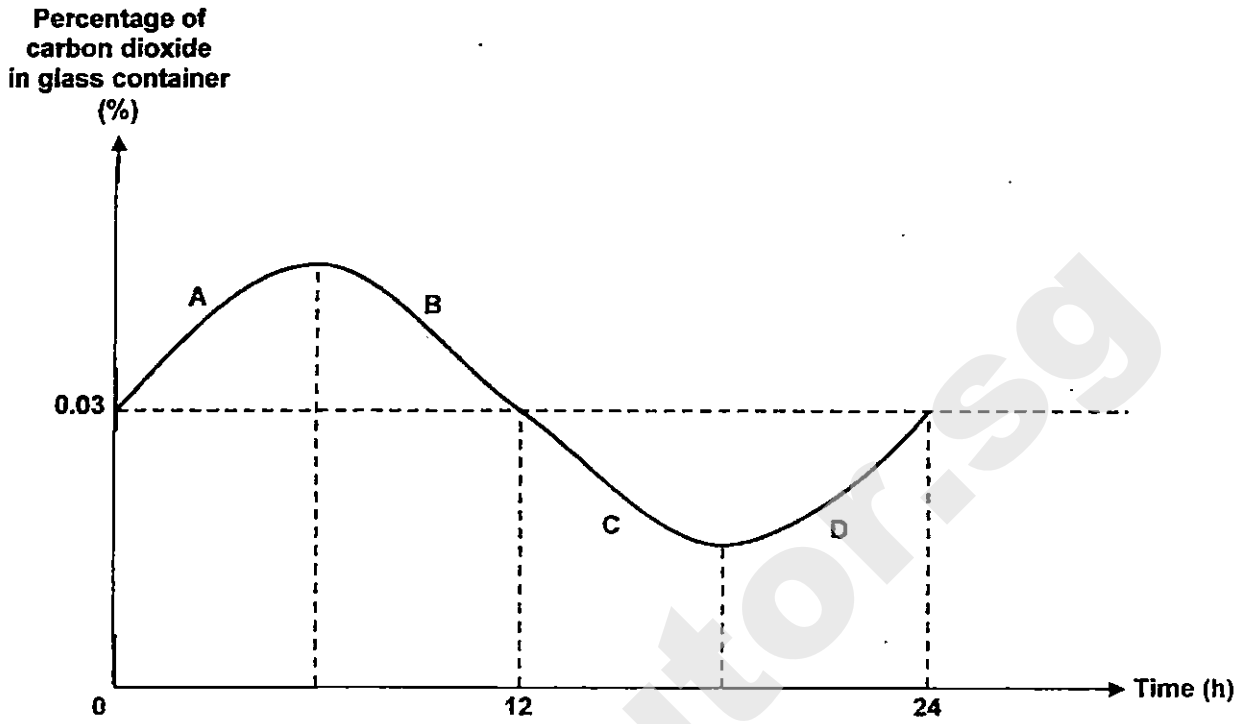
Which of the following best represents the parts, W, X, Y and Z of Tim's digestive system as shown in the bar graph above?

	W	X	Y	Z
(1)	small intestine	large intestine	mouth	stomach
(2)	large intestine	small intestine	stomach	mouth
(3)	small intestine	mouth	large intestine	stomach
(4)	stomach	mouth	small intestine	large intestine

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5 Anna placed a healthy potted plant in a glass container and sealed it. She placed the glass container in the garden and measured the percentage of carbon dioxide in the container at regular intervals over a 24 hour time period. She plotted the graph as shown below.



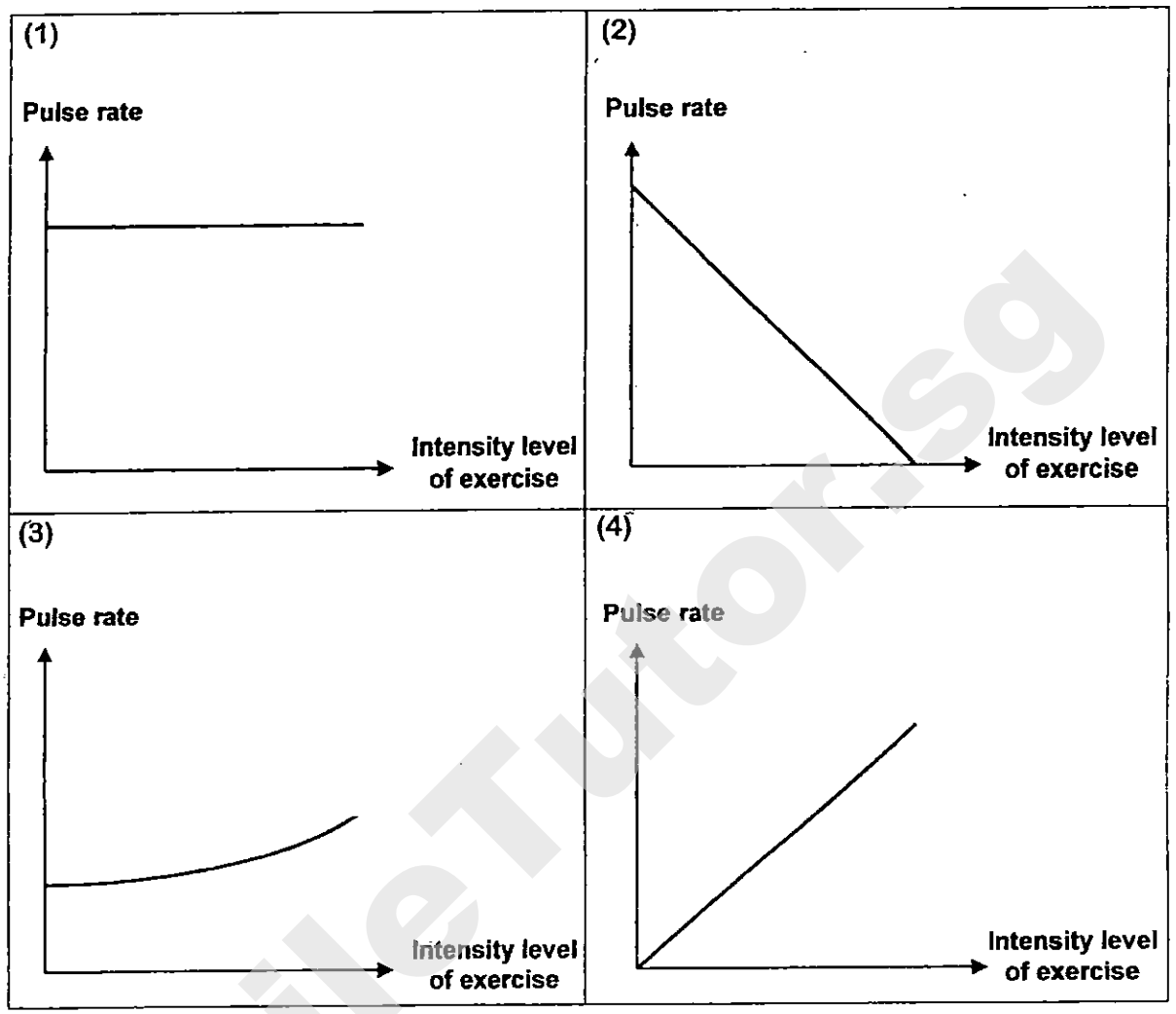
Which parts of the graph show that photosynthesis was taking place?

(1) A and B only
(2) B and C only
(3) C and D only
(4) A and D only

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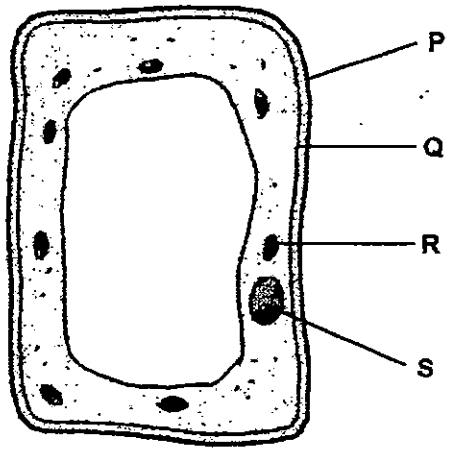
6 Which of the following graphs show the correct relationship between a person's pulse rate and the intensity level of the exercise that the person is involved in?



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7 The diagram below shows a plant cell.



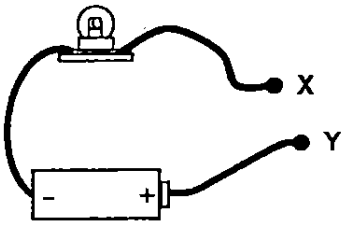
Which of the following correctly identifies the function of the cell parts P, Q, R and S?

	P	Q	R	S
(1)	Controls the movement of substances in and out of the cell	Gives the cell its shape	Enables the plant to make food	Controls all the activities in the cell
(2)	Gives the cell its shape	Controls the movement of substances in and out of the cell	Enables the plant to make food	Controls all the activities in the cell
(3)	Controls the movement of substances in and out of the cell	Gives the cell its shape	Controls all the activities in the cell	Enables the plant to make food
(4)	Gives the cell its shape	Controls the movement of substances in and out of the cell	Controls all the activities in the cell	Enables the plant to make food

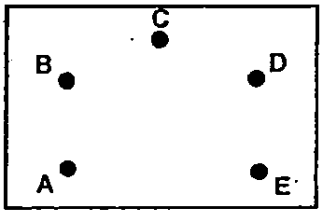
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8 Tessa used the circuit tester to test a circuit card. She connected the points X and Y of the circuit tester to the metal pins A, B, C, D and E on the circuit card to see if the bulb would light up. She recorded the results of the connections in the table below.



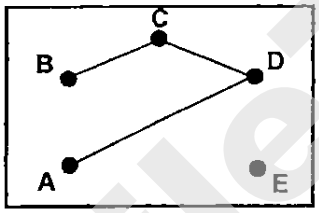
circuit tester



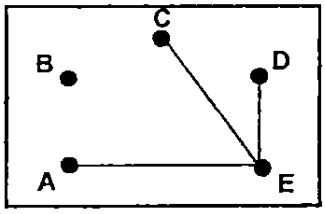
Metal Pins Connected	Did the bulb light up?
B and C	No
A and C	Yes
A and D	Yes
D and E	No

Which of the diagrams represent the circuit card which was tested?

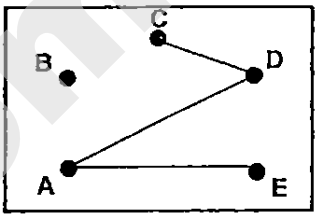
(1)



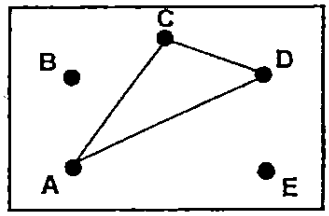
(2)



(3)



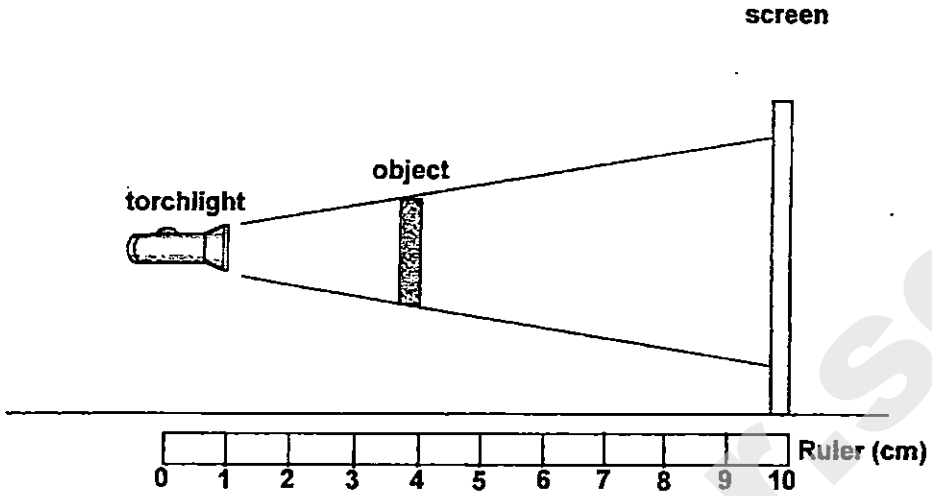
(4)



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9 Calvin placed a small torchlight at the 1 cm mark of a ruler. The torchlight shone at an object that was placed at the 4 cm mark of the ruler as shown below. A shadow was cast on the screen.



Which of the following, A, B, C and D, show the positions of the torchlight and object such that they will cast a larger shadow on the screen than before?

	Position of Torchlight (cm)	Position of Object (cm)
A	0	8
B	1	3
C	2	4
D	1	5

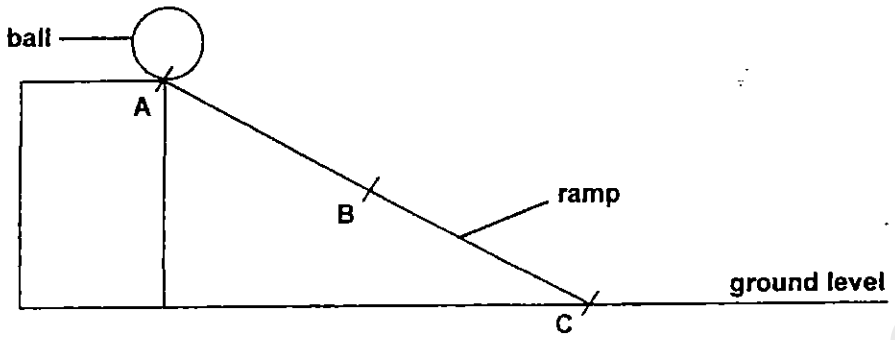
(1) A and B only
(2) B and C only
(3) C and D only
(4) A and D only

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10 Lucy placed a ball at the top of a ramp at position A as shown below. When she released the ball, it rolled down the ramp from position A to position B and C.



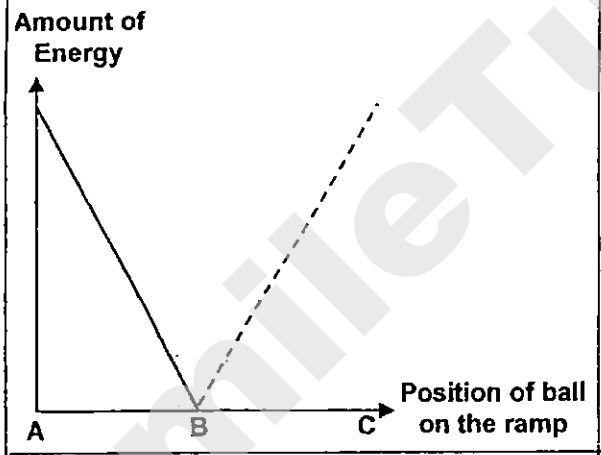
Which one of the following graphs correctly represents the change in the amount of gravitational potential energy and kinetic energy possessed by the ball as it rolled down the ramp from position A to C?

Key :

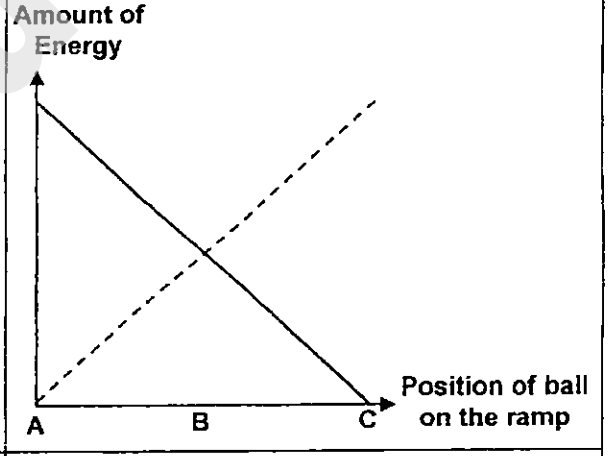
——— Gravitational Potential Energy

- - - - - Kinetic Energy

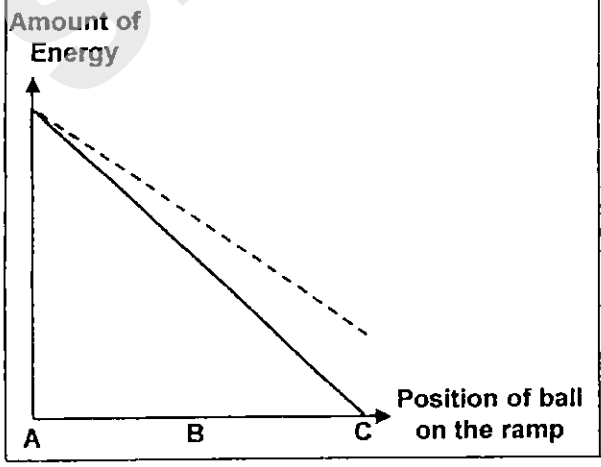
(1)



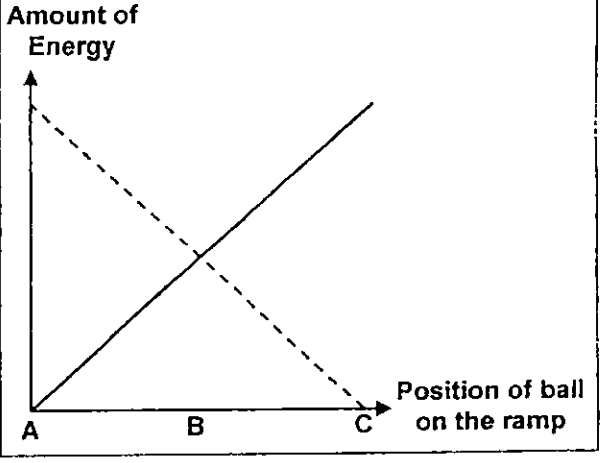
(2)



(3)



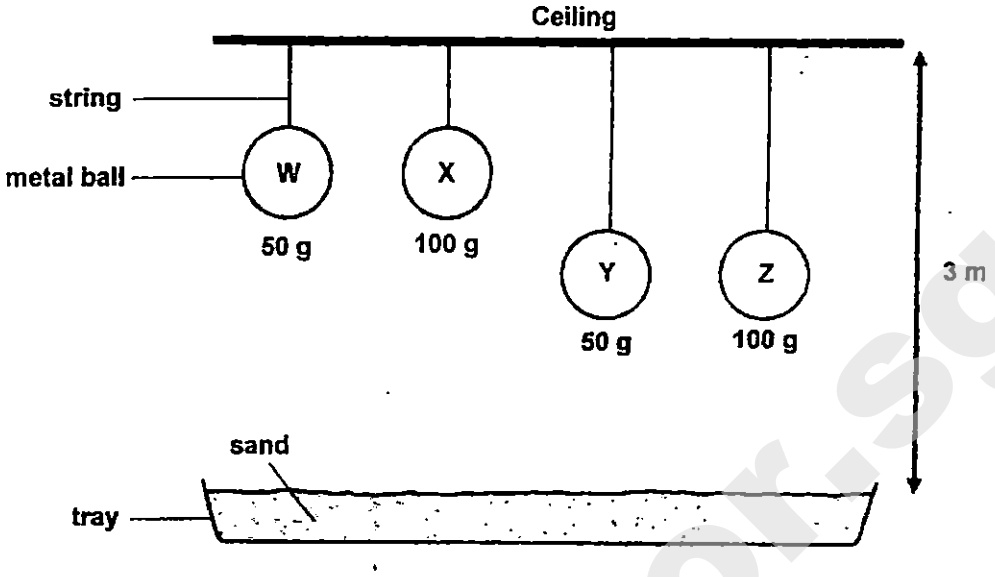
(4)



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11 The diagram below shows 4 metal balls, W, X, Y and Z suspended by strings from the ceiling above a tray of sand. The ceiling is 3 m above the surface of the sand.



Which of the following statements are definitely true?

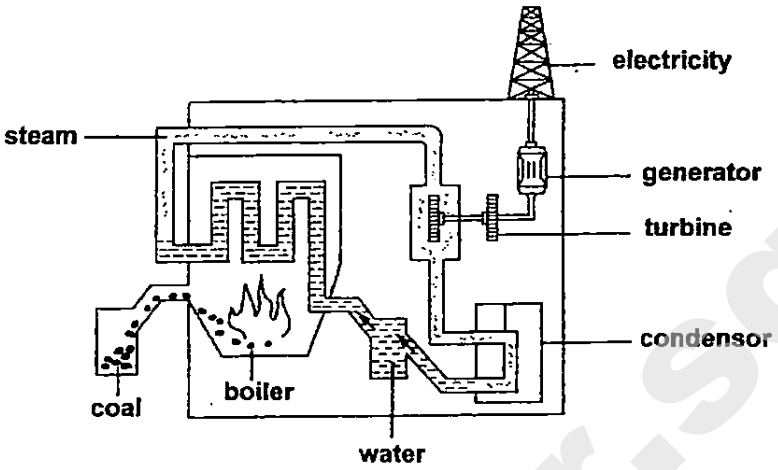
A W has the same amount of gravitational potential energy as X.
B X has a greater amount of gravitational potential energy than Y.
C X and Z have the same amount of gravitational potential energy.
D Y will make the smallest depression in the sand, compared to the rest, if all the strings are cut.

(1) A and C only
(2) B and C only
(3) B and D only
(4) A and D only

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12 The diagram below shows a fuel-burning power station.



Which of the following statements about the above power station are true?

A The steam possesses kinetic energy.
B Electricity is used to turn the turbine of the power station.
C Kinetic energy of water is converted to kinetic energy of turbine.
D The chemical potential energy of coal is converted to heat energy which is used to boil water.

(1) A and B only
(2) B and C only
(3) C and D only
(4) A and D only

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ANGLO-CHINESE SCHOOL
(JUNIOR)

CONTINUAL ASSESSMENT 2 (2015)
PRIMARY 5

SCIENCE

BOOKLET B

Wednesday **26 August 2015** **50 minutes**

Name : _____ ( )

Class : P5 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 6 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The number of marks is given in brackets [ ] at the end of each question or part question.

The total marks for this booklet is 16.

The total time for Booklets A and B is 50 minutes.

This question paper consists of 7 printed pages (inclusive of cover page).

PRACTICAL	**/ 10**
BOOKLET A	**/ 24**
BOOKLET B	**/ 16**
TOTAL	**/ 50**
Parent's signature/ Date:	

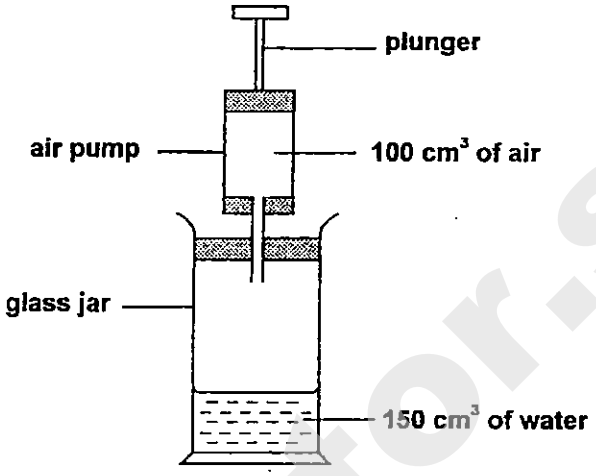
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For questions 13 to 18, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

(16 marks)

13 Ryan set up an experiment as shown below.



(a) If the capacity of the glass jar is 400 cm^3, what will be the volume of the air and water in the glass jar when the plunger is pushed all the way in? Fill in your answers in the table below. [1]

Type of Matter	Volume (cm^3)
Air	
Water	

(b) Based on the results of the above experiment, what can Ryan conclude about the property of the volume of air and water? [1]

_____

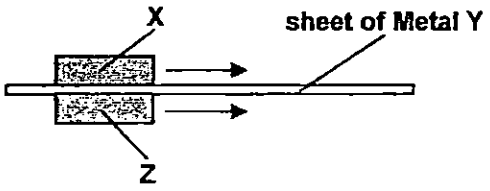
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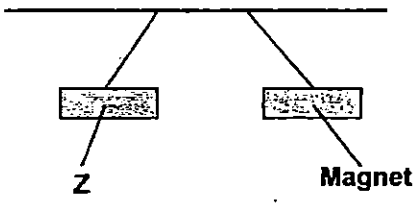
SCORE	2

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14 Study the set-ups shown below.



Set-up P



Set-up Q

In set-up P, object X was placed on top of a sheet of metal Y. When object Z was placed under the sheet of metal and moved directly under object X, object X moved along with object Z in the same direction as indicated by the arrows.

In set-up Q, object Z was hung freely on a string close to a freely suspended magnet. The diagram above shows what happened to object Z and the magnet.

(a) What can you infer about object X and object Z? Indicate your answer by putting a tick (✓) in the correct column(s). [1]

Item	Is it made of magnetic material?	Is it made of non-magnetic material?	Is it a magnet?
Object X			
Object Z			

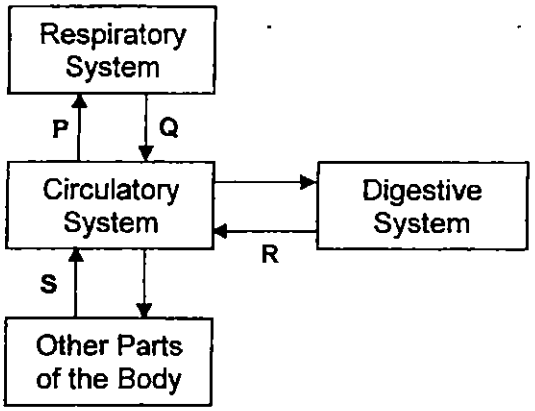
(b) Predict what would happen to object X if a sheet of iron is used instead of metal sheet Y in the above experiment. Explain clearly the reason for your answer. [1]

(Go on to the next page)

SCORE	/ 2

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15 The diagram below shows the blood vessels, P, Q, R and S between different systems and parts of a human body.



(a) State the difference in the level of oxygen in the blood in P and Q. Explain why there is a difference. [1]

_____

_____

(b) Name two useful substances that are present in the blood in R that are provided by the digestive system. [1]

_____

_____

(c) Name two substances that are present in the blood in S that are produced by the other parts of the body, which have to be transported to other organs for removal. [1]

_____

_____

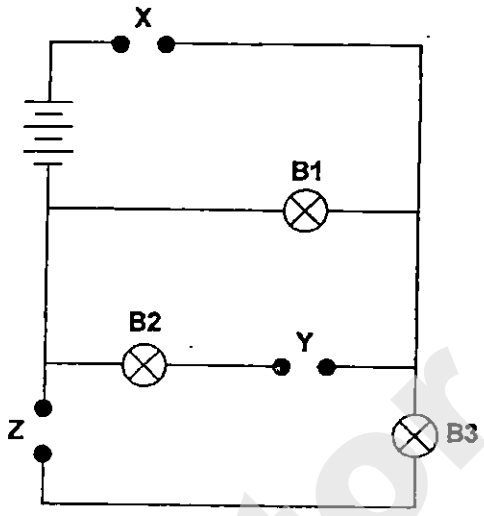
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SCORE	
	3

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16 The circuit below is formed by 3 identical batteries, 3 identical light bulbs B1, B2 and B3, and some pieces of insulated wire.



(a) When 3 identical iron bars are placed at X, Y and Z respectively, all 3 bulbs B1, B2 and B3 light up. How are the bulbs arranged in the above circuit? [1]

_____

_____

(b) State one advantage that the arrangement of bulbs in the above circuit can provide. [1]

_____

_____

(c) When the 3 identical iron bars are replaced with 3 new bars of unknown material M1, M2 and M3 at X, Y and Z respectively, only bulbs B1 and B2 light up. What can you conclude about M1, M2 and M3 based on this observation? [1]

_____

_____

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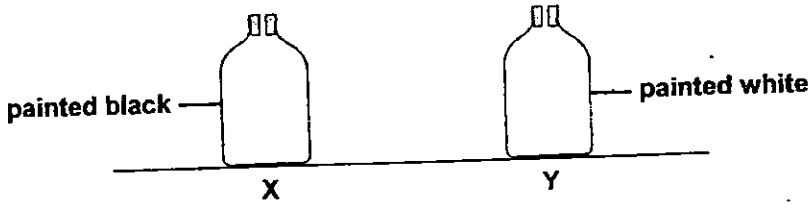
SCORE	
	3

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17 Jack had two identical metal containers X and Y. He painted the external surface of X black and that of Y white.

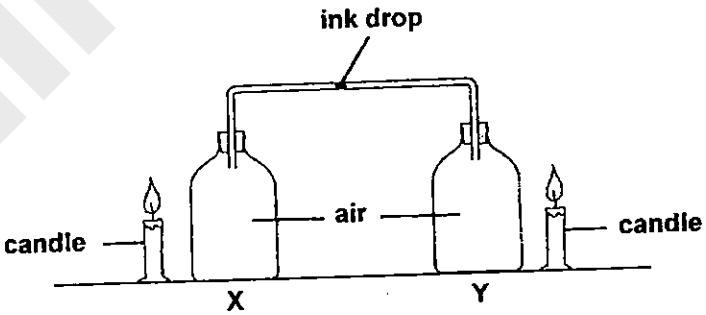


He then filled the containers with an equal amount of water at room temperature, at 28°C, and left both containers under the hot sun for 1 hour. He then measured the temperature of the water in both containers and recorded his observations in the table below.

Container	Temperature of Water (°C)
X	40
Y	35

(a) What can Jack infer from the results of his experiment to explain why the temperature of the water in X is higher than that in Y? [1]

Jack emptied both containers and dried them. When both containers had cooled to room temperature, he used them in a second experiment as shown in the set up below He used identical candles.



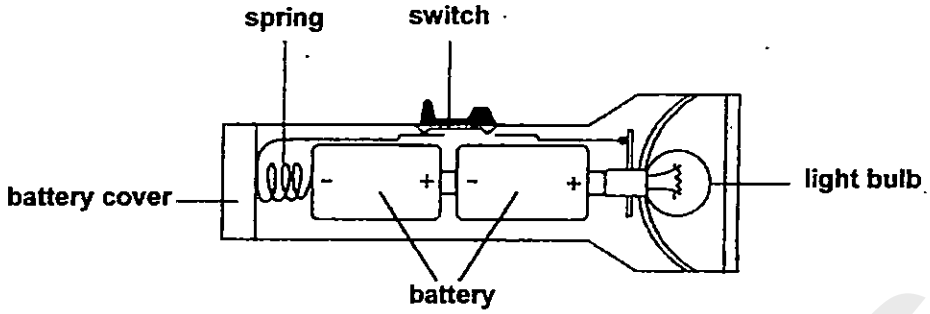
(b) Predict what will happen to the ink drop. Explain clearly the reasons for your answer. [2]

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SCORE 3

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18 The diagram below shows a cross-section of a battery-powered torch.



(a) What form of energy does the spring have when the battery cover of the torch is screwed in place? [1]

_____

(b) What are the main energy conversions that take place when the torch is switched on? [2]

(i) _____ energy (in the batteries) → (ii) _____ energy (in the circuit) → (iii) _____ energy (given off by the filament of the bulb) + (iv) _____ energy (given off by the filament of the bulb)

End of Paper.

SCORE / 3

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LEVEL : PRIMARY 5
SCHOOL : ANGLO – CHINESE SCHOOL (JUNIOR)
SUBJECT : SCIENCE
TERM : CA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
1	1	4	3	2	3	2	4	2	2
Q 11	**Q 12**								
3	**4**								

Q13a. Air – 250cm^3 Q13a. Water – 150cm^3

Q13b. Air can be compressed while water cannot be compressed.

Q14a. Object X – Is it made of magnetic material
Q14a. Object Z – Is it made of magnetic material? N Is it a magnet?

Q14b. Object X would not move. When a sheet of iron was used instead of metal sheet Y, it is a magnetic material which does not allow magnetic force to pass through it. Hence Object X would not move as Object Z moved along .

Q15a. The level of oxygen in the blood P was lower than that of blood in Q. The blood in P was transported to the Respiratory system to release the carbon dioxide and pick oxygen at the lungs, hence blood at Q was rich in oxygen .

Q15b. Digested food and nutrients.

Q15c. Waste products and water.

Q16a. The bulbs are arranged in parallel.

Q16b. If one of the bulb fuses, the other bulbs would remain lit.

Q16c. M1 and M2 are electrical conductors while M3 is an electrical insulator.

Q17a. Container x conducted more heat from the surroundings to the container than container Y as X gained more heat. Hence the temperature in container X is higher than Y.

Q17b. X is able to gain / absorb more heat which heat the air inside X faster.

Q18a. Elastic potential energy

Q18b. i) Chemical potential → ii) electrical energy → iii) heat energy + iv) ight energy

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CONTINUAL ASSESSMENT 2 - 2015
PRIMARY FIVE
SCIENCE

MARKS	
Sect A:	/ 40
Sect B:	/ 40
Total :	/ 80

Name : _____( )

Class : Primary 5 / ____

Date : 25 August 2015

Section A: (20 x 2 marks = 40 marks)

For each question from 1 to 20, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Why do living things reproduce?

(1) To ensure a great diversity of living things.
(2) To ensure that the species will not become extinct.
(3) To increase the chances of survival of their young.
(4) To allow the number of living things to remain the same.

2. Which of the following is/are plant(s) that reproduce from spores?

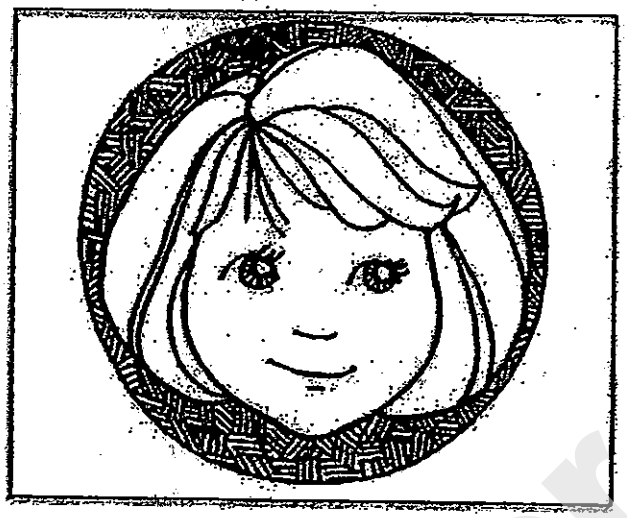
A Moss
B Tomato
C Banana
D Pineapple

(1) A only
(2) B only
(3) C and D only
(4) A, C, and D only

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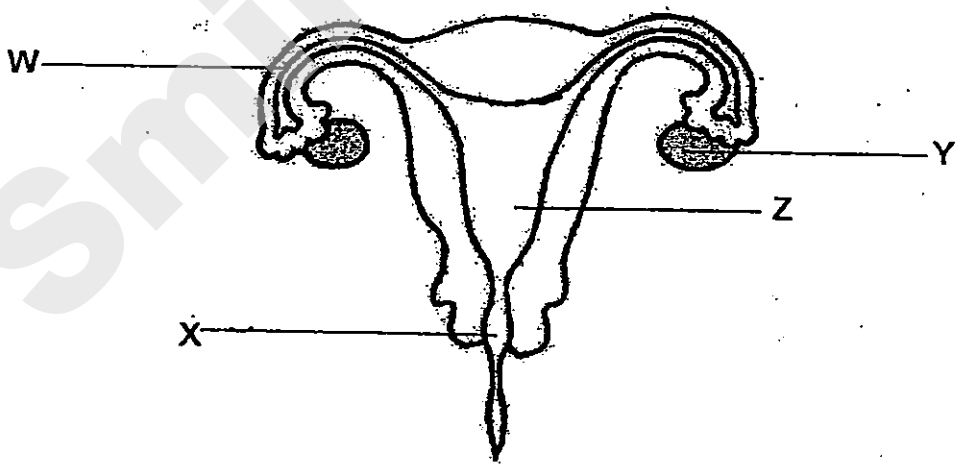
3. The picture below is a photograph of Jane. She has short hair, big eyes and pointed chin.



Which member of her family has passed on one of his/her characteristics to Jane?

	Family member	Characteristics
(1)	Jane's father	short hair and square chin
(2)	Jane's mother	long hair and small eyes
(3)	Jane's grandfather	big eyes and square chin
(4)	Jane's grandmother	small eyes and short hair

4. The diagram below shows parts of the female reproductive system.



The part _____ is where the fertilised egg develops into a baby.

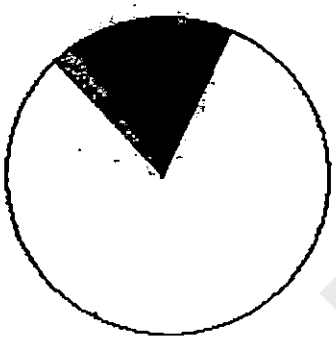
(1) W
(2) X
(3) Y
(4) Z

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5. Mrs Lee had four pupils in her Science remedial class. She gave each of them a compact disc and three tubes of poster paint of different colours. The 3 different colours represented the different types of gases as shown in the table below.

○	white colour	Oxygen
●	grey colour	Nitrogen
●	black colour	carbon dioxide and other gases

They used the poster paint to paint the compact discs in order to show the approximate volume of the different types of gases in the surrounding air as shown below.



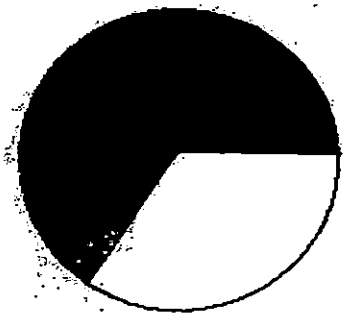
compact disc A



compact disc B



compact disc C



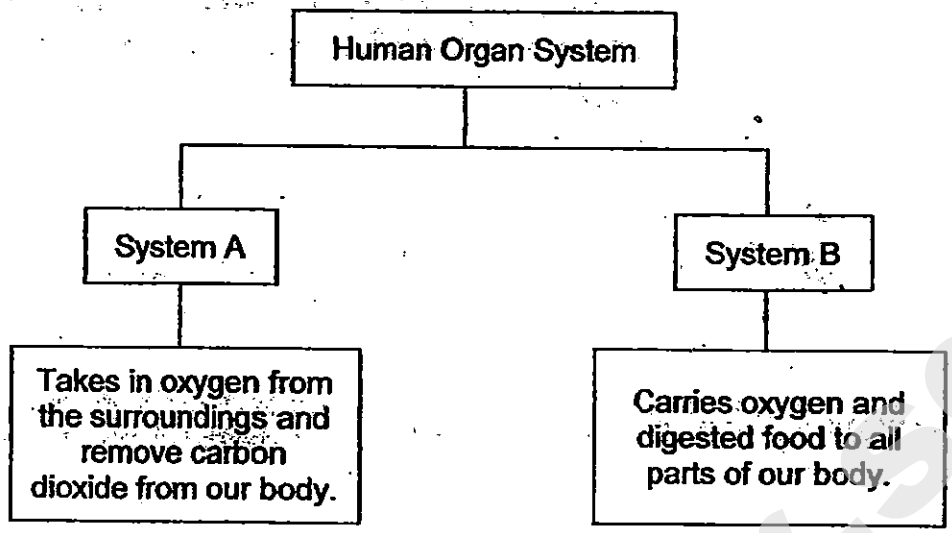
compact disc D

Which one of the following compact discs best represents the approximate volume of the different types of gases in the surrounding air?

(1) A
(2) B
(3) C
(4) D

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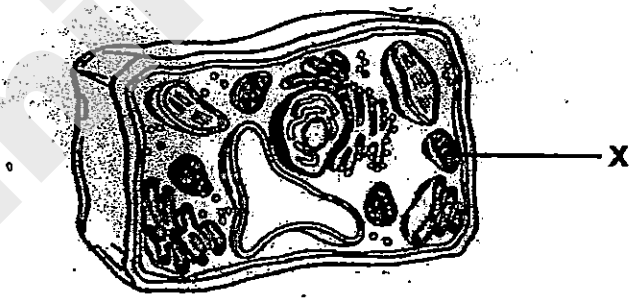
6. Study the classification chart below carefully.



Which of the following shows correctly what systems A and B are?

	System A	System B
(1)	Respiratory System	Digestive System
(2)	Respiratory System	Circulatory System
(3)	Digestive System	Circulatory System
(4)	Circulatory System	Respiratory System

7. The diagram below shows the cell of an organism. Three pupils, Jack, Tom and Mary, made some statements on the function of part X, which contains a green pigment.



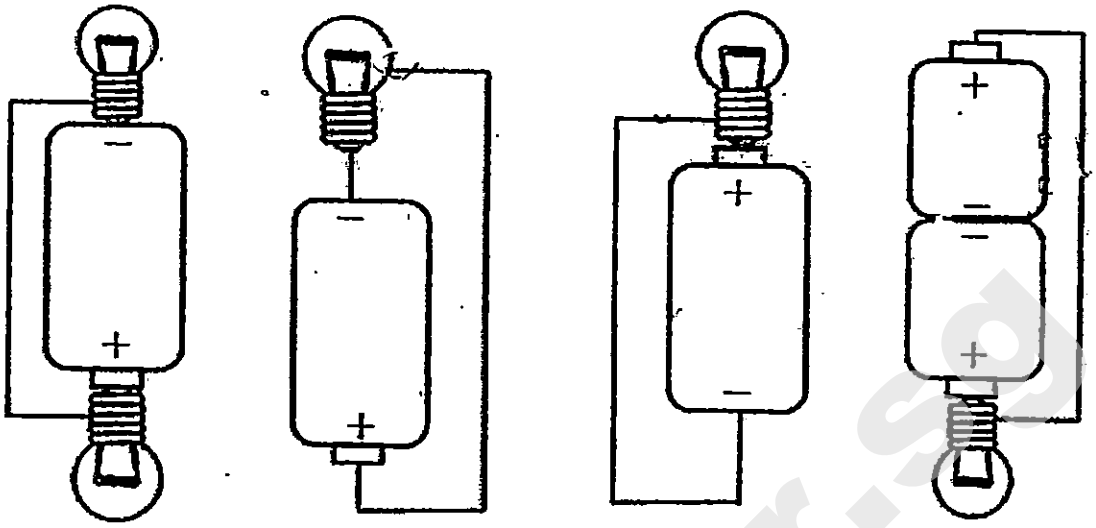
Jack: "It contains chlorophyll."
Tom: "It allows the organism to exchange gases.
Mary: "Without it, the organism cannot make food."

Which pupils have made a correct statement about the function of X?

(1) Jack and Tom
(2) Jack and Mary
(3) Tom and Mary
(4) Jack, Tom and Mary

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8. Study the four circuits below carefully.



A B C D

Which circuit(s) will <u>not</u> allow electric current to flow through to light up the bulb(s)?

(1) D only
(2) A and C only
(3) B and D only
(4) A, B and D only

9. Ben carried out an investigation to find out how the number of wings of the shorea fruit affects the time it stays in the air. The table below shows the number of wings he removed from four similar shorea fruits, P, Q, R and S.

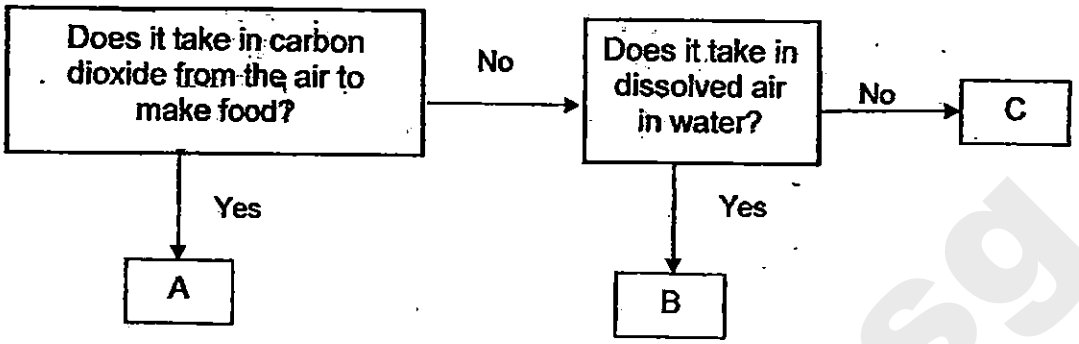
Shorea fruit	Number of wings removed
P	1
Q	0
R	3
S	2

Then he dropped the fruits, P, Q, R and S, from the same height and measured the time taken for each fruit to reach the ground. He recorded the time taken and arranged the fruits in order starting from the fruit that took the <u>longest</u> time to reach the ground. Which of the following shows the correct order?

(1) P, S, R, Q
(2) R, S, P, Q
(3) P, Q, R, S
(4) Q, P, S, R

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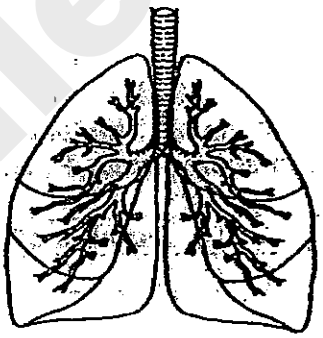
10. Study the flow chart below carefully.



What could living things A, B and C be?

	A	B	C
(1)	Mushroom	Guppy	Eagle
(2)	Hydrilla	Goldfish	Pigeon
(3)	Bacteria	Whale	Dolphin
(4)	Fern	Duckweed	Seahorse

11. The organ below is found in a human.



Which of the statements about its function is **true**?

A It continues to work when the human sleeps.
B It has a muscular organ to transport materials to all parts of the body.
C It stops working immediately when the digestive system is not working well.
D It works together with the digestive and circulatory system to enable human to do work.

(1) A and B only
(2) A and D only
(3) B, C and D only
(4) A, B, C and D

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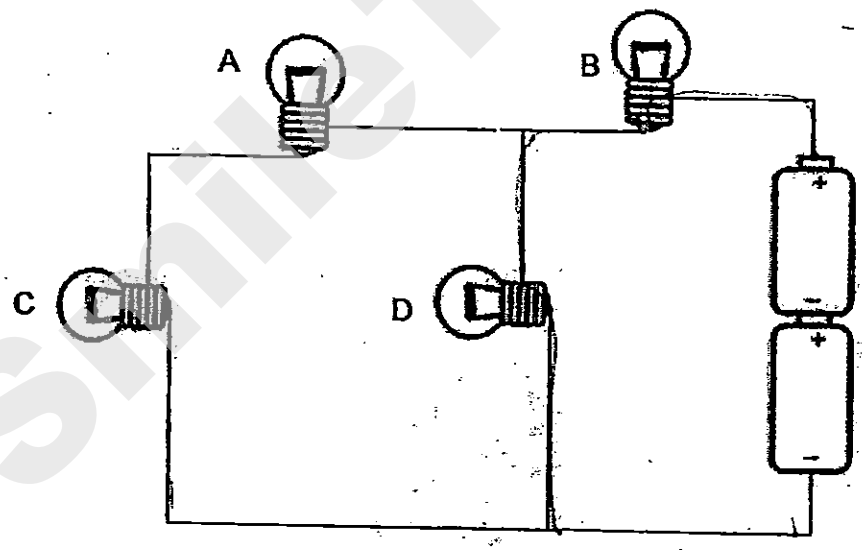
12. The table below shows the characteristics of two cells, X and Y.

Parts of the cell	Cell X	Cell Y
Cell membrane	✓	✓
Cell Wall	✓	
Chloroplast		
Nucleus	✓	✓

Which of the following best represents X and Y?

	Cell X	Cell Y
(1)	Nerve cell	Leaf cell
(2)	Leaf cell	Nerve cell
(3)	Root Cell	Cheek cell
(4)	Cheek Cell	Root Cell

13. The diagram below shows an electric circuit.



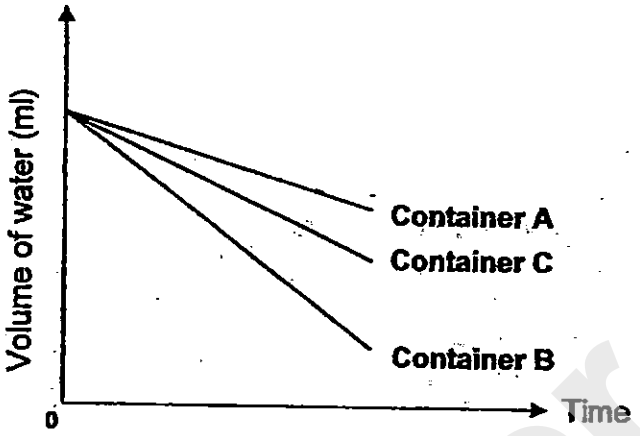
Which bulbs will still light up if bulb C fuses?

(1) A and B only
(2) B and D only
(3) A, B and D only
(4) None of the bulbs

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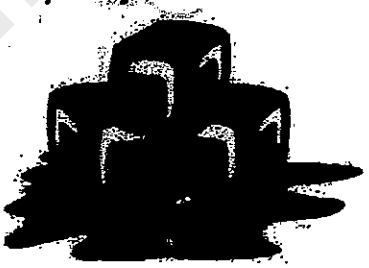
14. Vera used three different containers, A, B and C, of different sizes to find out how the exposed surface area of the water affects the rate of evaporation. She poured equal amount of water into each of the container and placed them at the same location with direct sunlight. She plotted a graph showing the volume of water in each container over time.



Which of the following best represents the size of the exposed surface area of the water in the three different containers?

	Exposed surface area of water		
	A	B	C
(1)	80 cm^2	50 cm^2	25 cm^2
(2)	80 cm^2	25 cm^2	50 cm^2
(3)	25 cm^2	50 cm^2	80 cm^2
(4)	25 cm^2	80 cm^2	50 cm^2

15. Corrine wants to find out if the surrounding temperature affects the time taken for the ice cubes to melt completely.



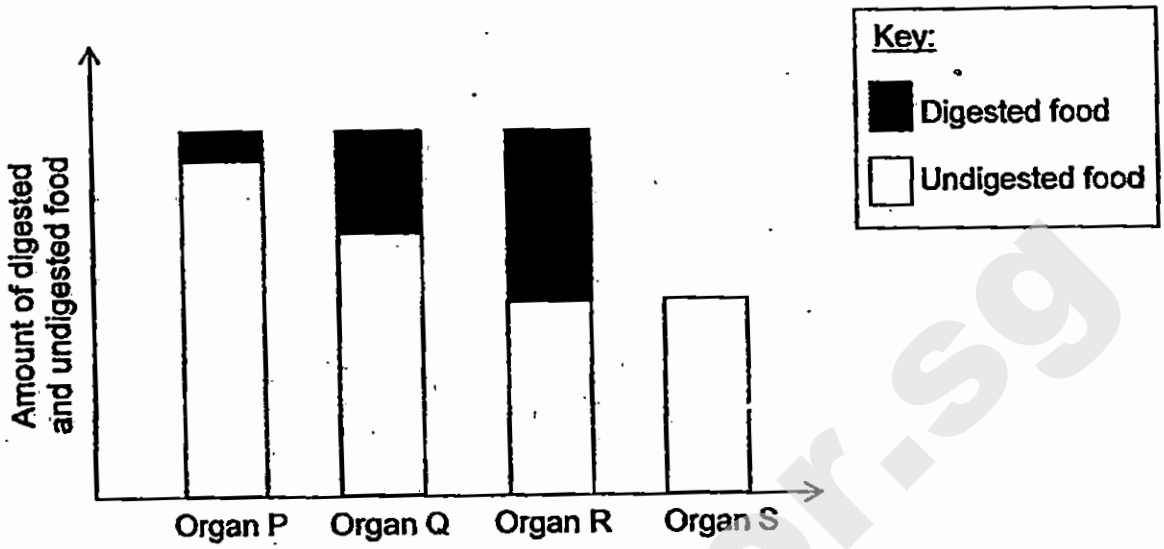
What variables should she keep the same when setting up the experimental set-up and the control set-up ?

A size of ice cubes
B number of ice cubes
C temperature of the location
D duration of the experiment

(1) A and B only
(2) C and D only
(3) A, B and D only
(4) A, B, C and D

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16. The bar graph below shows the amount of digested and undigested food in 4 organs, P, Q, R and S, of the digestive system over four hours.



Which one of the following organs will most likely represent the large intestine?

(1) Organ P
(2) Organ Q
(3) Organ R
(4) Organ S

17. Tom recorded the characteristics of four animals in the table below.

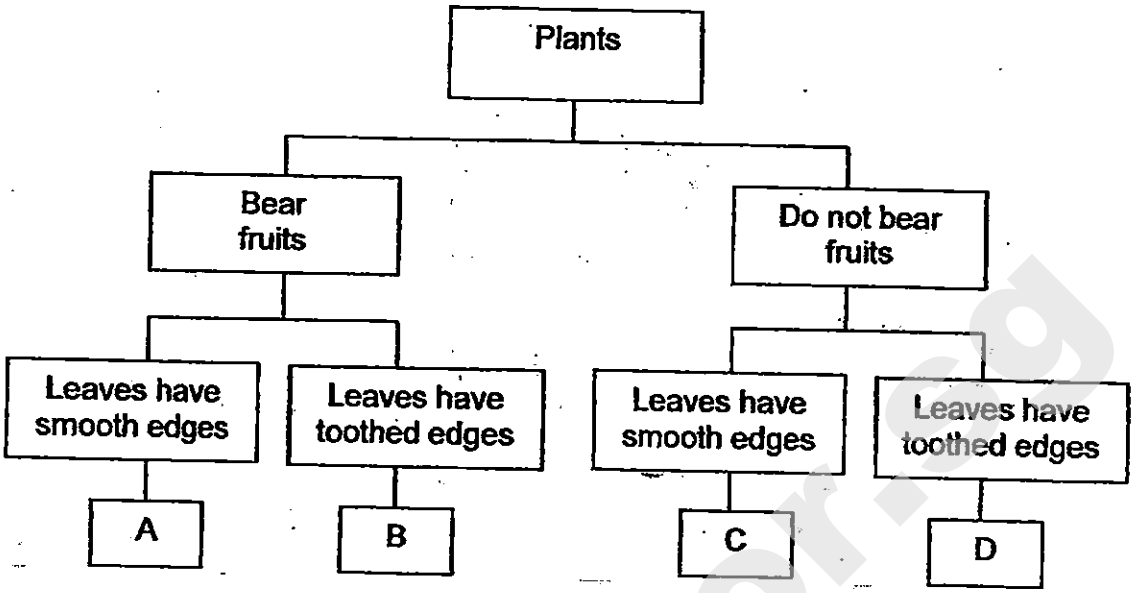
Animal	Can fly	Lays eggs	Has beak	Live on land
A	✓			✓
B		✓		
C		✓	✓	✓
D	✓	✓		✓

Which of the animals, A, B, C or D, is most likely a bird?

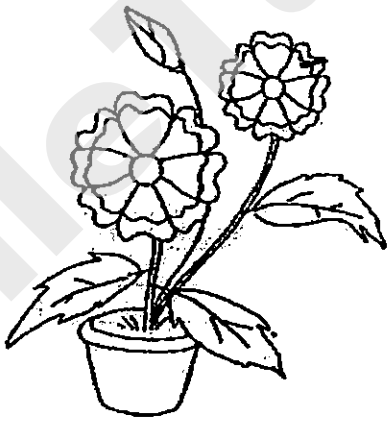
(1) A
(2) B
(3) C
(4) D

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18. Study the classification chart below carefully.



Tom took a picture of plant Y as shown below during his field trip to the Singapore Botanic Gardens.



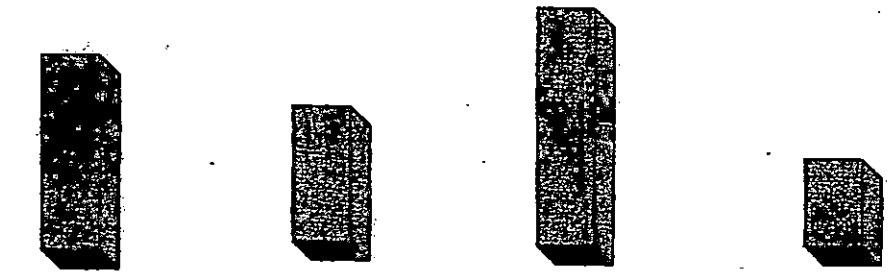
Plant Y

In which group, A, B, C or D, should plant Y be classified under?

(1) A
(2) B
(3) C
(4) D

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19. Jay conducted an experiment with four different magnets as shown below.



Magnet A Magnet B Magnet C Magnet D

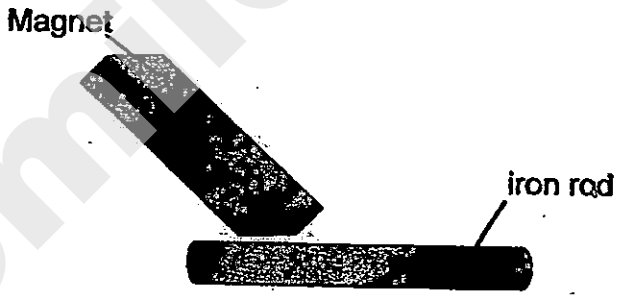
He brought them close to some paper clips and recorded the number of paper clips attracted by each magnet in the table below.

	Magnet A	Magnet B	Magnet C	Magnet D
Number of paper clips attracted	18	13	15	25

What can he conclude from the results in the table?

(1) The size of the magnets affects the magnetic strength of the magnets.
(2) The magnetic strength of bigger magnets is more than smaller magnets.
(3) The magnetic strength of smaller magnets is more than bigger magnets.
(4) The size of the magnets does not affect the magnetic strength of the magnets.

20. Kerrie carried out the activity below to magnetise an iron rod. She stroked the rod about 30 times. After the activity, the iron rod was able to attract some paper clips.



Besides stroking the rod 30 times, which of the following must she do in order to magnetise the iron rod?

A Stroke the ends of the rod only.
B Stroke the entire length of the rod.
C Stroke the rod in different directions.
D Stroke the rod with only the North-pole of the magnet.

(1) A only
(2) B and D only
(3) C and D only
(4) A, C and D only

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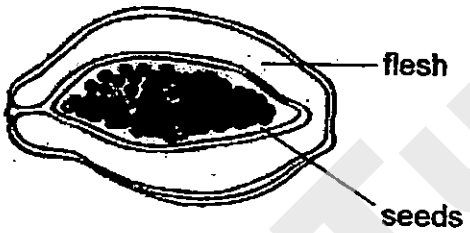
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PRIMARY FIVE
SCIENCE

Name : _____ ( ) Class : Primary 5 / _____

Date : 25 August 2015

Section B: 14 Questions (40 marks)
Write your answers to questions 21 to 34. The number of marks available is shown in brackets [ ] at the end of each question or part question.

21. Tina recorded her observations of fruit X as shown in the diagram below.



Fruit X

- is juicy and fleshy
- has many seeds

(a) Based on the information above, identify the dispersal method of the seeds of Fruit X. [1]

_____

_____

(b) How does having many seeds help the plant of fruit X to ensure the continuity of its own kind? [1]

_____

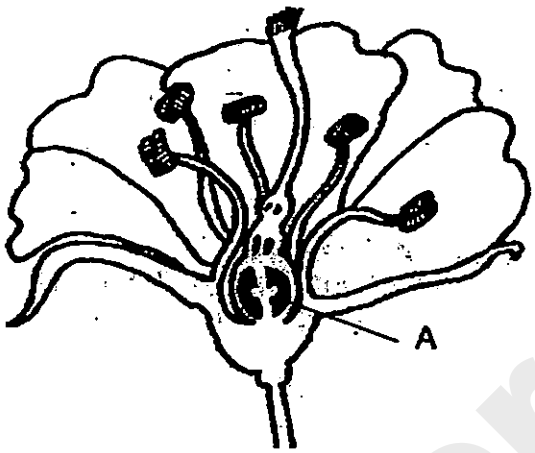
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_____

Score	2

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22. Mrs. Lee noticed that some bees were attracted to the big and brightly-coloured flower in her balcony as shown in the diagram below.



(a) A few days later, her daughter told her that the petals of the flower had dropped off and part A had swelled.

State 2 reproductive processes that took place in the flower before part A swelled. [1]

i) _____

ii) _____

(b) Give a reason why the petals of the flower are brightly-coloured. [1]

_____

_____

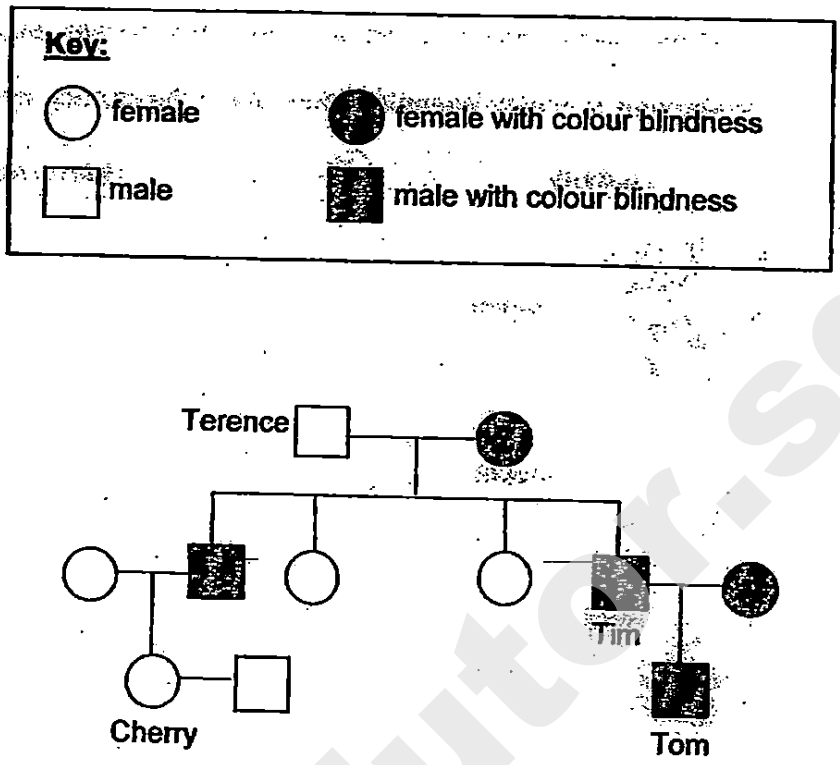
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Score	
	2

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23. Study Tom's family tree below.



(a) How is Tom related to Terence? [1]

(b) Explain why Tim has colour blindness. [1]

(c) Tom's cousin, Cherry, is married to John. John has colour blindness.

Use the symbols provided in the box to add and label John to the family tree. [1]

Score 3

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24 Kenneth received a heart rate monitoring device from his father. He measured his heartbeat when he was walking, reading and sleeping.

The pictures below show the three activities which he was engaged in.

(a) Draw lines to match Kenneth's heart rate to the correct activity. [1]

Activity		Heart rate (bpm)
 walking	•	• 70
 sleeping	•	• 80
 reading	•	• 65

(b) When Kenneth was walking, would his breathing rate be faster or slower than when he was sleeping? Explain your answer. [2]

_____

_____

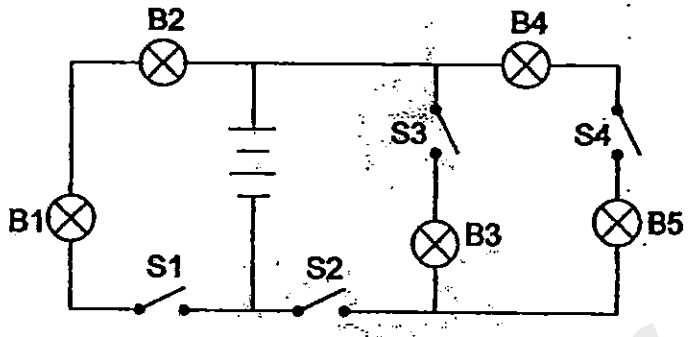
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Score	
	3

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25. Study the circuit diagram below carefully. The bulbs are labelled B1, B2, B3, B4 and B5. The switches are labelled S1, S2, S3 and S4.



(a) What is the least number of switch(es) that need(s) to be closed in order to light up the number of bulbs as indicated in the table below.
Write down the switches, S1, S2, S3 and/or S4. [2]

Number of bulbs lit	The switch(es) to be closed
1	
2	

(b) When only switch S2 is closed, what happen to the bulbs?
Explain your answer. [1]

_____

_____

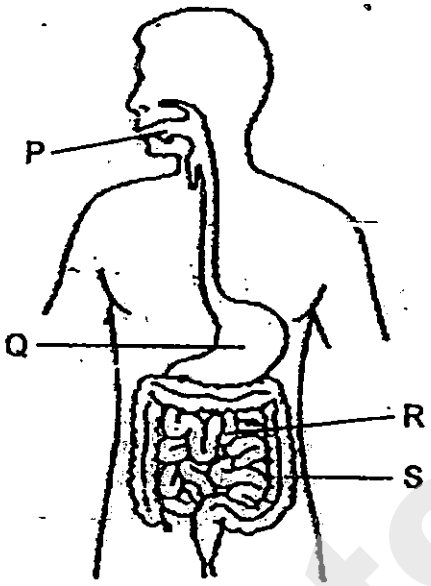
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Score 3

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26. The diagram below shows a human digestive system.



The parts P, Q, R and S are organs in the digestive system.

However, one part of the digestive system is not identified in the diagram.

(a) On the diagram above, label the missing part that belongs to the digestive system. [1]

(b) What is the function of the part identified in part (a) above? [1]

_____

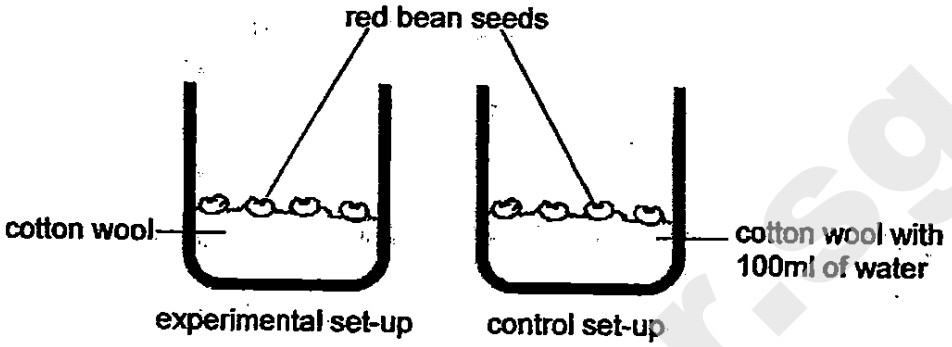
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Score	/ 2

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27. George set up an experiment as shown below. He wanted to find out if the red bean seeds need water to germinate. He placed four red bean seeds each in the experimental set-up and the control set-up in a room of 26°C. Then, he poured 100 ml of water in the control set-up.



(a) What is the purpose of the control set-up in George's experiment? [2]

_____

_____

(b) Suggest two changes that George should make to the experimental set-up if he wants to find out if the red bean seeds need warmth to germinate. [2]

_____

_____

_____

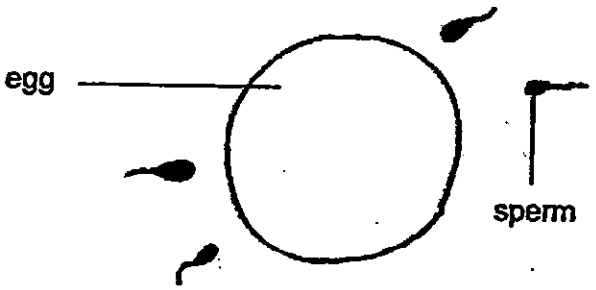
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Score	
	/4

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28. Study the diagram below.



(a) Based on the diagram, describe what must happen for fertilisation to take place. [1]

_____

_____

In-vitro fertilisation (IVF) is a process by which an egg is fertilised by a sperm outside the body. This process is used for the treatment of infertility, a condition when the female is unable to reproduce naturally. Once the egg is fertilised outside the body, the fertilised egg is transferred to the female reproductive system.

(b) In which part of the female reproductive system is the fertilised egg transfer to? [1]

_____

(c) Give a reason for your answer in (b). [1]

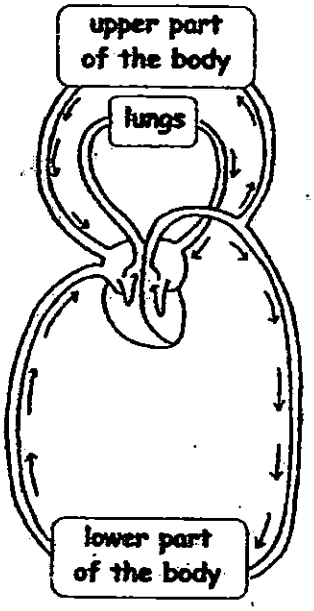
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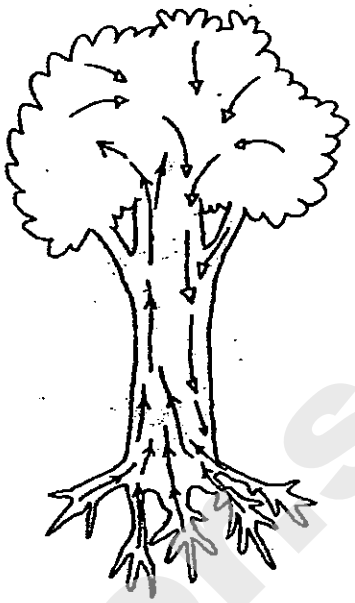
_____

Score	
	3

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29. The diagrams below show the plant and human transport systems.





The arrows in both diagrams show the flow of materials that are being transported in both systems.

(a) Write down three materials that are transported round the human transport system (do not mention blood). [1]

_____

(b) Write down one material that is transported: [1]
i) upwards from the roots in the plant transport system.

_____

ii) downwards from the leaves in the plant transport system.

_____

(c) When a branch of a tree is cut, the plant transport system continues to function with no risk of the plant dying. However, if the human suffers a deep cut and keeps bleeding, there is a risk that the entire human transport system could fail and the human might die.
Explain why this is so. [2]

_____

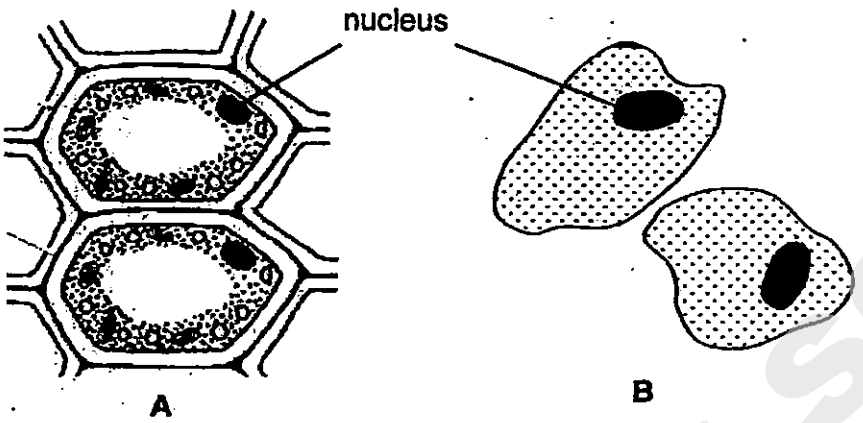
_____

_____

Score 4

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30. Jamie observed two cells, A and B, under the microscope as shown in the diagrams below.



Jamie could clearly identify the nucleus of both cells as labelled in the diagrams. However, she observed that the shapes of both cells were different.

(a) Based on the shapes of the cells observed, how can she tell that A is a plant cell and not B? [1]

_____

_____

(b) Jamie removed a part from both cells A and B which caused the cells to be unable to reproduce.
What is the part that was removed and what is its function? [1]

_____

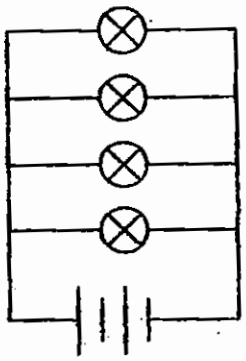
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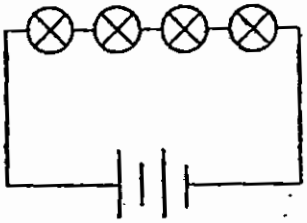
Score	
	2

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31. (a) Study the circuit diagrams, P and Q, below. All the bulbs are lit.



Circuit P



Circuit Q

In the table below, write down the number of bulbs that would remain lit when one of the bulbs in each circuit is blown. [1]

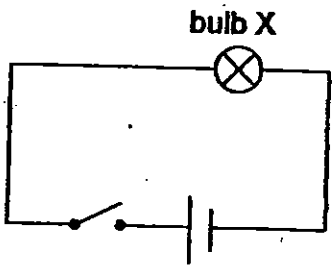
	Circuit P	Circuit Q
Number of bulbs remaining lit		

(b) You are given two switches, two batteries, four bulbs and some wires. Draw a circuit diagram that will allow two bulbs to be switched on or off at any one time. [2]

Score	
	3

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32. Amir conducted an experiment using the setup shown below.
He measured the brightness of bulb X.



Amir added one battery at a time to the circuit and measured the brightness of the bulb X. He recorded the measurements in the table below.

Number of batteries	2	3	4	5	6
Brightness of the bulb X (lux)	1000	1500	2000	0	0

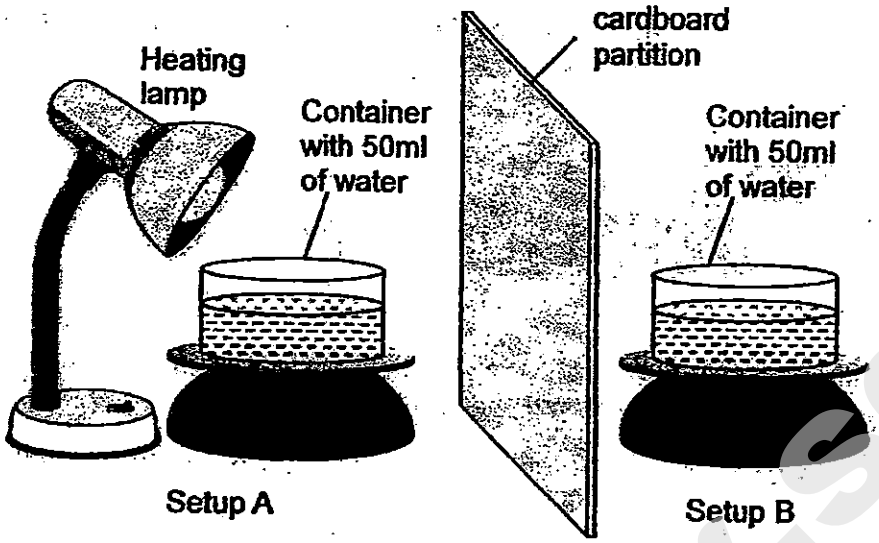
(a) What is the relationship between the number of batteries and the brightness of bulb X?
[2]

(b) What do you think happened to bulb X when the 5th battery was added to the circuit? Give a reason.
[1]

Score	
	3

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33. Study the experimental setup shown below.



Azmi wanted to find out if heat increases the rate of evaporation. Two setups, A and B, were placed in the same room with a cardboard partition between them. He filled two identical containers with 50ml of water and placed them on two identical weighing machines as shown above.

(a) What data should Azmi collect and record over the duration of the experiment? [1]

_____

(b) Explain how he could use the data collected in part (a) to help him to reach a conclusion? [2]

_____

_____

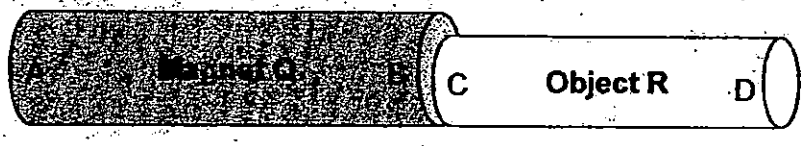
_____

_____

Score 3

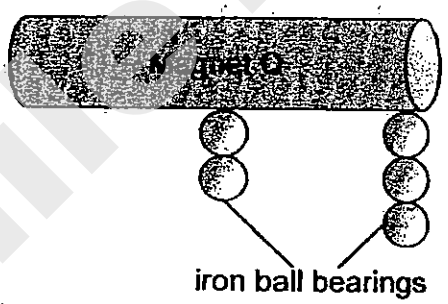
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34. Chang brought Magnet Q close to Object R and found that they were attracted as shown below. He then concluded that Object R is made of a magnetic material.



(a) Using only Magnet Q and Object R, what could Chang do to confirm whether Object R is a magnet or not? [2]

Using the same Magnet Q, Chang added identical iron ball bearings one at a time at two different parts of the magnet as shown in the diagram below. He added iron ball bearings until the two different parts of the magnet could not attract anymore iron ball bearings.



(b) From the observation made by Chang above, what can you conclude about the magnetic strength of Magnet Q? [1]

END.

Score 3

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : NAN HUA PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : CA2

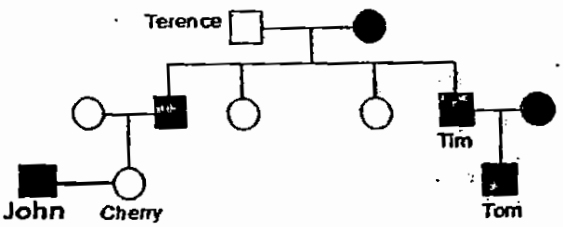
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	1	3	4	2	2	2	3	4	2
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	3	2	4	1	4	3	2	4	2

Q21A to Q34B – SEE ATTACHED NOTE.

THE END

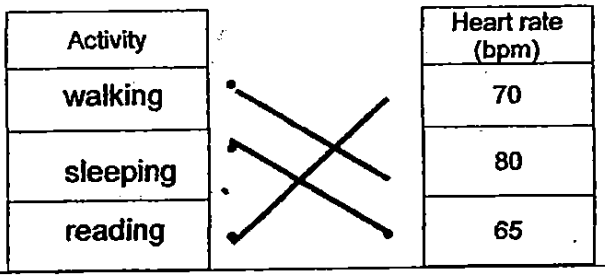
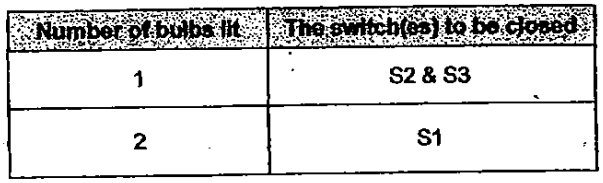
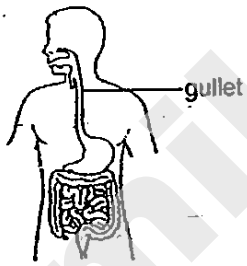
32b.	The bulb has fused. The electrical current is too high and the filament melted.	
33a.	He should record the mass of the container **with water** of both set-ups at the beginning and at the end of the experiment. OR He should record the mass of the container **with water** of both set-ups at regular /fixed intervals.	- mass of container (x) - mass of water (x) - volume of water (x)
33b.	If set-up A shows lower mass than set-up B at the end of the experiment, the results show more water had evaporated in set-up A. He can conclude that heat had increased evaporation.	- Aim has stated that "if heat will increased evaporation", and set-up A is given heat source. So answer can state look at set-up A .
34a.	He should put part A to touch part C. If both repels, then magnet Q and object R are magnets.	- He should put part A to touch part C to see if they repel each other (x) No idea on if both objects _ . , then confirm they are magnets.
34b.	The magnetism is stronger at the poles but weaker at the middle of the magnet	- The magnet is stronger at the poles but weaker at the middle (x) Strong can refer to of material. - magnetic strength is stronger (√)

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Qn:	Answer:	Discussion
21a	Dispersed **by animals.**	
21b	**-Increase the number of seeds dispersed/germinating.** **-Increase the chance of (more) seeds germinating/dispesring.**	- ...higher chance of survival ' - ...seeds indigestible and tiny...pass out in the waste...far away from parent plt...avoid competition for .....
22a	(i) Pollination (ii) Fertilisation	- "state" is not - "process" is
22b	**-To attract the pollinators.** **-To attract the bees/insects/animals to pollinate the flower.**	- ..to pollinate the plant - ....to fertilise the flower
23a	Tom is **Terence's grandson/Terence is Tom's grandfather.**	
23b	**Tim's mother passed this characteristic to Tim.** **Tim inherited colour blindness from his mother.** **Tim's parents/parent passed this characteristic to Tim [½].** **Tim inherited colour blindness from parent/parents [½].**	-...from father Diagram - Tim inherited the characteristic fro his mother. Tom inherited from Tim
23c		- ▨ must follow - "label" means

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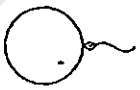
24a		- refer to notes given
24b	Faster. Walking needs <u>more energy</u> than sleeping so he needs to breathe faster to inhale/ take in <u>more oxygen / oxygen more quickly/faster.</u>	- Faster. His heart needs to beat faster to transport oxygen faster to all parts to the body. Then the cells can respire faster to provide energy faster. Qn is asking for
25a		- some gave number of switches instead for the
25b	No bulbs will light up. Switches S1, S3 and S4 are open so the <u>circuit is open</u>. / The <u>electrical current cannot flow through the circuit</u>	- <u>Nothing will happen</u> because the circuit is open.
26a		
26b	The <u>gullet channels / transfers / moves food</u> from the <u>mouth(P)</u> to the <u>stomach/to Q</u>.	-The gullet connects the mouth to the stomach (no concept of

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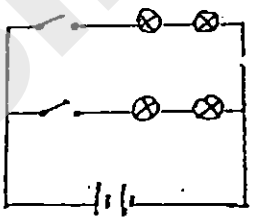
Name :

CA2 Science 2015

Qn	Answer	Discussion
27a.	The control is for **comparison** with the experimental set-up tc **confirm** that water is needed for germination.	- The control is to find out if water is needed for germination (x)
27b.	-Add 100 ml of water to the experimental set-up -Placed the experimental set-up in the freezer	Put one of the set-ups in the freezer (x). The qn ask for
28a.	The sperm must fuse with the egg.	  - sperm must come into contact with the egg (x) . Must still mention about fusing after in contact
28b.	Womb/ uterus	
28c..	The womb is where the fertilised egg will developed for 9 months	- ..where the fertilized egg is stored (x) Store does not include the idea that food is received and the parts of foetus are formed.
29a.	Oxygen /carbon dioxide/ digested food/ water	-food (x)
29b.	i) water/ dissolved minerals ii) food	- dissolved minerals (is better) Bec minerals in the soil need to be

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Qn	Answer	Discussion
29c.	Blood transport oxygen to all parts of the body. If keep bleeding, we will not have enough blood so very little oxygen for us to respire/ carry out life processes. OR We will not have enough blood rich in oxygen to respire.	- Blood transport food ....(x) Should be digested food , more importantly -must mention blood carries oxygen, in part (a) though oxygen is given as the answer, it does not include the meaning that
30a.	Cell A has a regular shape but not Cell B.	- must mention - Cell A has cell wall but not Cell B (x) Qn ask about
30b.	It is the nucleus. It controls all the activities including reproduction of the cell.	- better to include reproduction to avoid writing only general statement and to application of
31a.	3 , 0	
31b.		- many ~~make error~~ on symbol of switch
32a	When the number of batteries increased, the brightness of bulb increased until 4 batteries. The bulb did not light up when more than 4 batteries are added.	- When the number of batteries increased, the brightness of bulb increased This relationship is not true when

END.

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Anglo-Chinese School (Junior)

SEMESTRAL ASSESSMENT 2 (2015)

PRIMARY 5

SCIENCE

BOOKLET A

Wednesday **4 November 2015** **1 hr 30 min**

Name: _____ Class: 5.( )

INSTRUCTIONS TO PUPILS

1 Do not turn over the pages until you

2 Follow all instructions carefully.

3 There are 25 questions in this booklet.

4 Answer ALL questions.

5 Shade your answers in the Optical Answer Sheet (OAS) provided.

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This question paper consists of 18 printed pages (inclusive of cover page).

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Booklet A (50 marks)

For each question from 1 to 25, four options are given. One of them is the correct answer. Choose the correct option (1, 2, 3 or 4) and shade the correct oval on the Optical Answer Sheet (OAS). (25 x 2 marks)

---

1 Three living things, X, Y and Z were observed over a period of time. Michael recorded his observations in the table below:

Characteristics	X	Y	Z
Make its own food	No	Yes	No
Move from place to place	No	No	Yes
Respond to changes around it	Yes	Yes	Yes

Which one of the following could be X, Y and Z?

	X	Y	Z
(1)	Balsam Plant	Toadstool	Lion
(2)	Toadstool	Balsam Plant	Whale
(3)	Rain tree	Bactena	Yeast
(4)	Squirrel	Grass	Mushroom

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2 Suhaimi observed the life cycles of a cockroach and a mosquito over 2 months, September and October. Each time the animals changed from one stage to the next, he kept a record in his calendar as shown below.

September 2015						
		1 *Cockroach Egg laid (Stage 1)*	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30 *Mosquito Egg laid (Stage 1)*			
October 2015						
				1	2 *Mosquito (Stage 2)*	3
4	5	6 *Mosquito (Stage 3)*	7 *Cockroach (Stage 2)*	8	9 *Mosquito (Stage 4)*	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

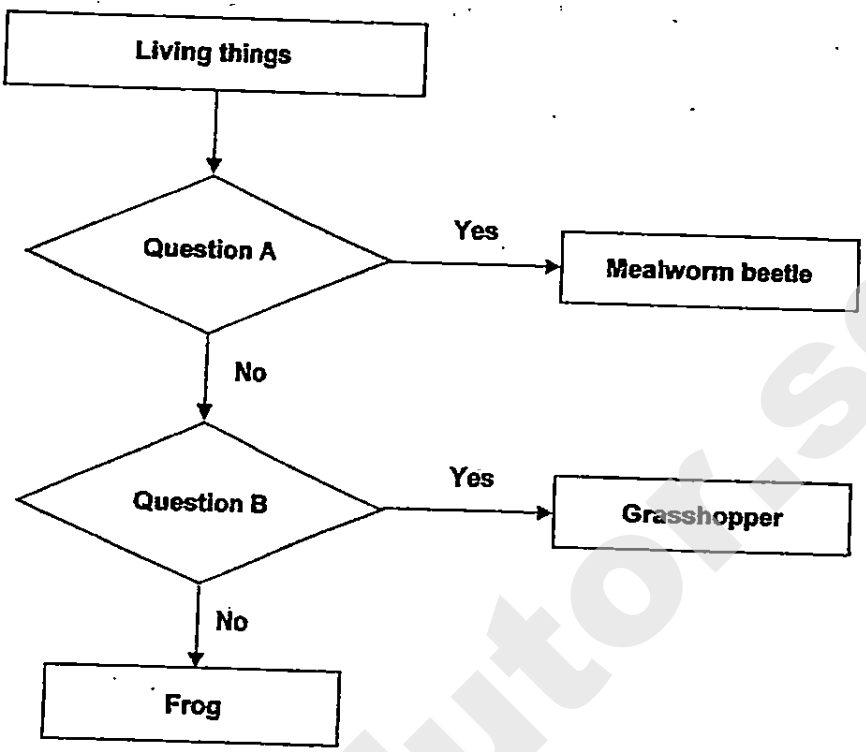
On which day would Suhaimi see both a nymph and a pupa?

1) 30 September
2) 3 October
3) 8 October
4) 11 October

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3 Study the flow chart below carefully.

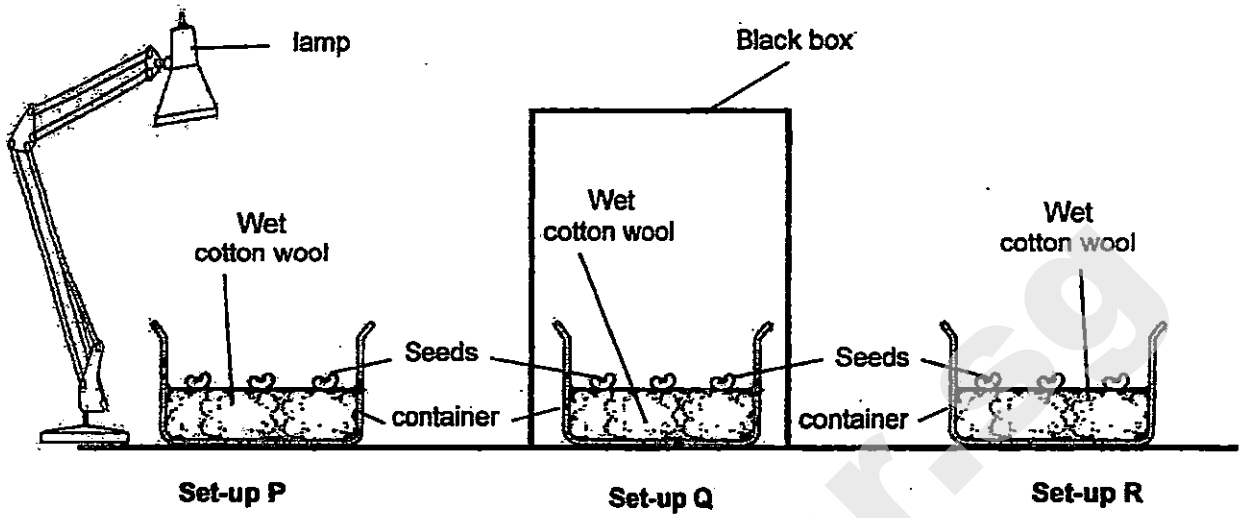


What are Questions A and B?

	Question A	Question B
(1)	Does the young have wings?	Does it go through a three-stage life-cycle?
(2)	Does the young resemble the adult?	Does it go through a four-stage life-cycle?
(3)	Does it go through a four-stage life-cycle?	Does the young resemble the adult?
(4)	Does it go through a four-stage life-cycle?	Can the young fly?

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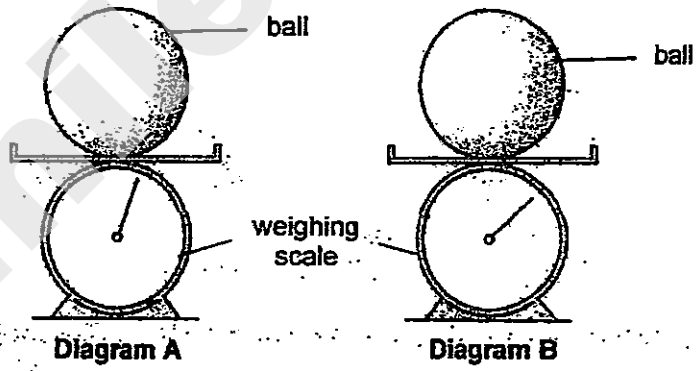
4 Marcus prepared three set-ups to investigate the conditions needed for seed germination. All the set-ups were placed in the classroom at constant room temperature.



In which of the above set-up(s) would the seeds germinate?

(1) P only
(2) P and Q only
(3) Q and R only
(4) P, Q and R

5 George inflated a rubber ball and measured its mass as shown in Diagram A. He pumped more air into the ball and measured its mass as shown in Diagram B.



What can he conclude from this experiment?

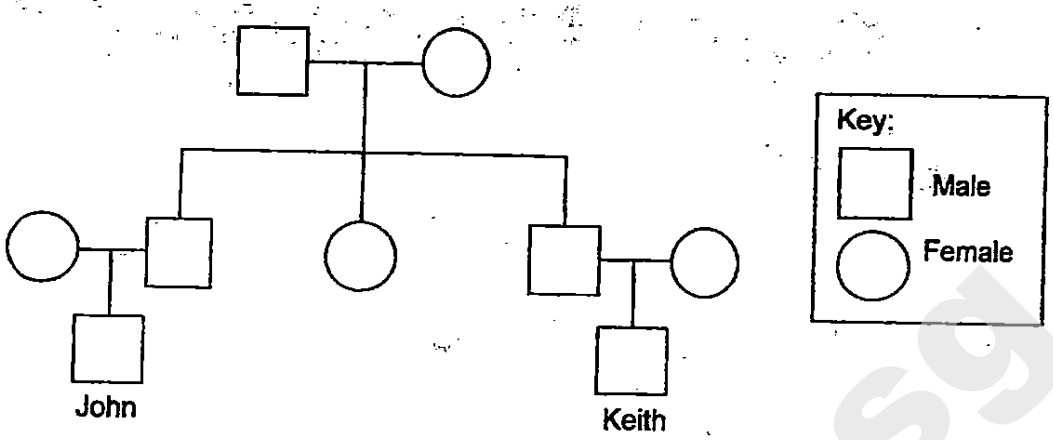
A Air has mass
B Air can be compressed.
C Air has a definite shape.
D Air does not occupy space.

Which of his conclusion(s) is/are correct?

(1) A and B only
(2) B and C only
(3) A, C and D only
(4) A, B and D only

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6 The following shows a family tree.



John and Keith shared similar physical characteristics. Based on the family tree, this is because _____.

1) their mothers are sisters
2) they have the same parents
3) they have the same grandparents
4) John's father and Keith's mother are related

7 Which of the following substances are carried away from the foetus blood to the mother's blood through the umbilical cord?

A oxygen
B digested food
C carbon dioxide
D waste materials

1) A and C only
2) C and D only
3) A, B and C only
4) A, B and D only

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8 The statements A, B, C and D describe the different stages of the life cycle of a flowering plant.

A The fruits start to grow.
B The flowers are pollinated.
C The flowers start to appear.
D The shoots start to grow from the seed.

Diagram 1 below shows and describes the life cycle of a flowering plant.

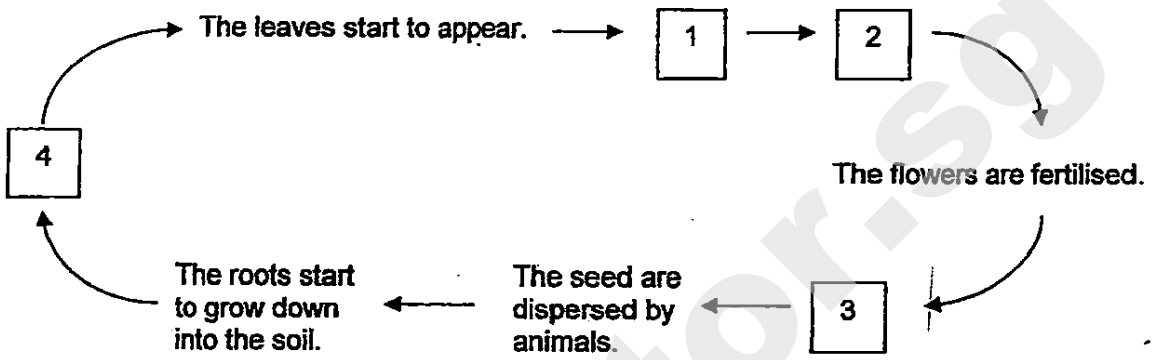


Diagram 1

Which of the following correctly describes the complete life cycle of a flowering plant?

	Position in Diagram 1			
	1	2	3	4
(1)	D	A	B	C
(2)	A	C	B	D
(3)	B	C	D	A
(4)	C	B	A	D

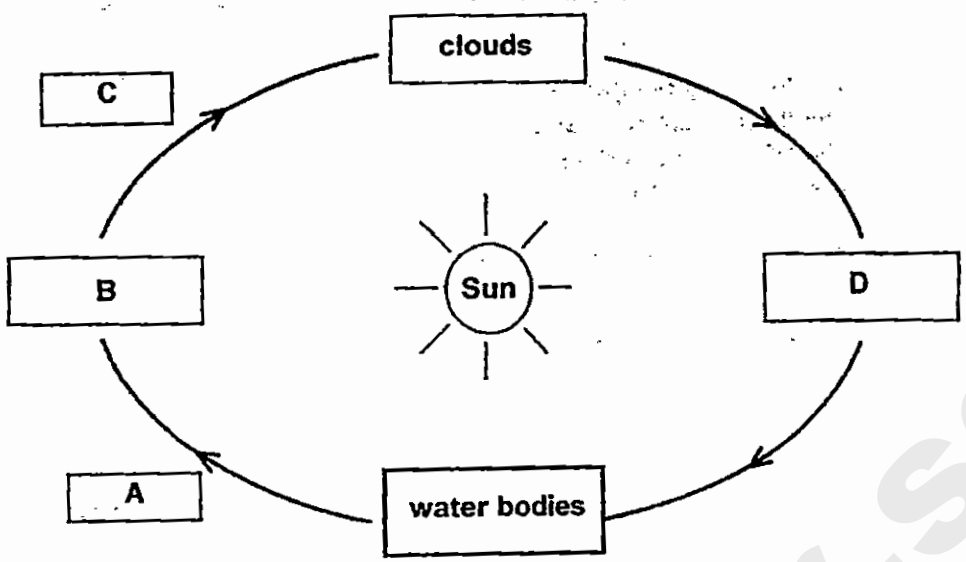
9 Which of the following is/are true about water vapour, water or/and ice?

A Ice has definite shape.
B Water and water vapour are in the same state.
C Water vapour, water and ice have definite volume.
D Water vapour, water and ice are in different states of matter.

1) A and D only
2) B and C only
3) C and D only
4) A, B and C only

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10 Study the water cycle below carefully.



Which are the correct words to be placed in boxes A, B, C and D?

	A	B	C	D
(1)	evaporation	water vapour	melting	rain
(2)	condensation	rain	evaporation	water vapour
(3)	condensation	rain	melting	water vapour
(4)	evaporation	water vapour	condensation	rain

11 Tristan listed ways to conserve water at home.

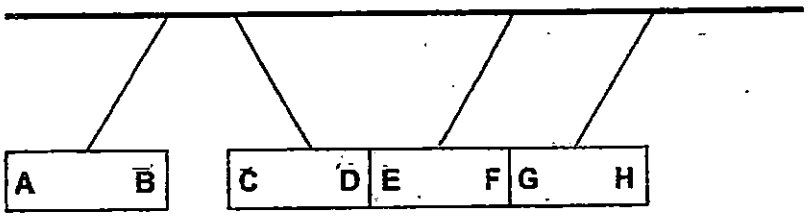
A Washing the car with a water hose.
B Using water from a running tap to brush teeth.
C Using the washing machine to wash only a pair of jeans.
D Watering plants with the same water that was used to wash rice.

Which of the ways stated above did **not** help with the conservation of water at home?

1) B and C only
2) B and D only
3) A, B and C only
4) A, C and D only

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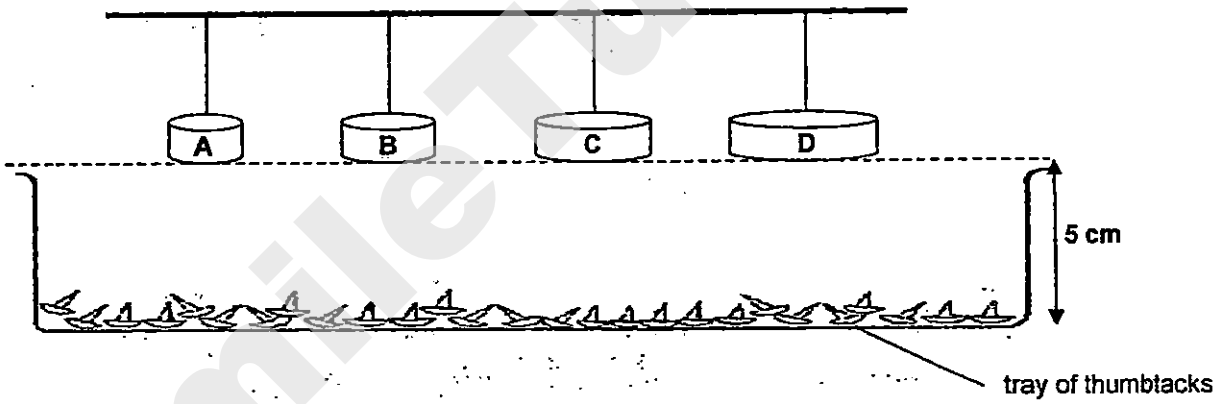
12 An experiment was set up with four magnets as shown below.



Which of the following correctly identifies the poles A, B, E and H?

	A	B	E	H
1)	South	North	South	South
2)	South	North	North	North
3)	North	South	South	North
4)	North	South	North	South

13 The diagram below shows four magnets, A, B, C and D of different sizes. Each of the magnets was placed at an equal distance of 5 cm from some thumbtacks. The number of thumbtacks attracted by each magnet was recorded in the table below.



Magnet	A	B	C	D
Number of thumbtacks attracted	12	18	9	14

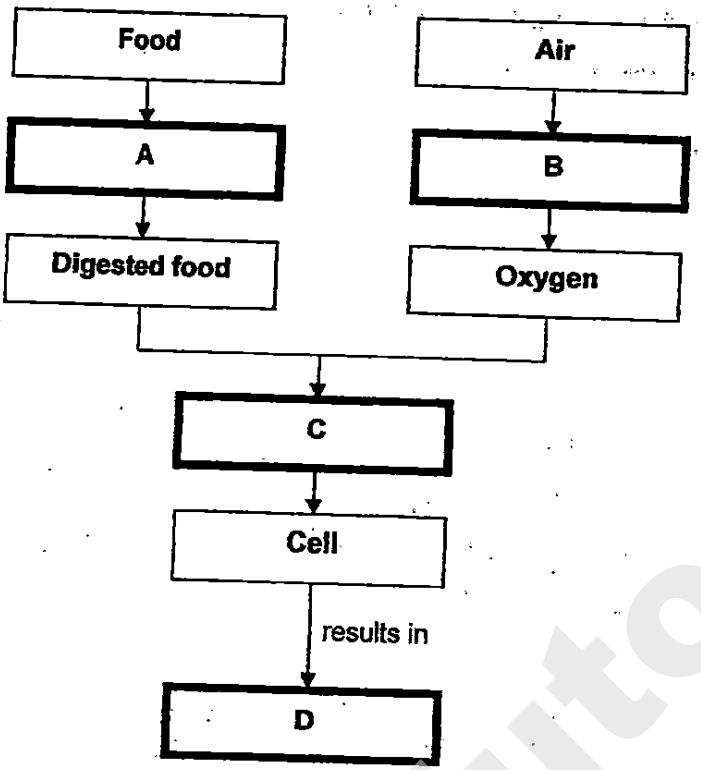
Which one of the following conclusions can be drawn from the results above?

A Magnet C is the weakest magnet.
B Magnet B is as strong as magnet D.
C Magnet A is stronger than Magnet C.
D The strength of the magnet is not affected by its size.

1) A and B only
2) C and D only
3) A, B and C only
4) A, C and D only

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14 Study the diagram below.



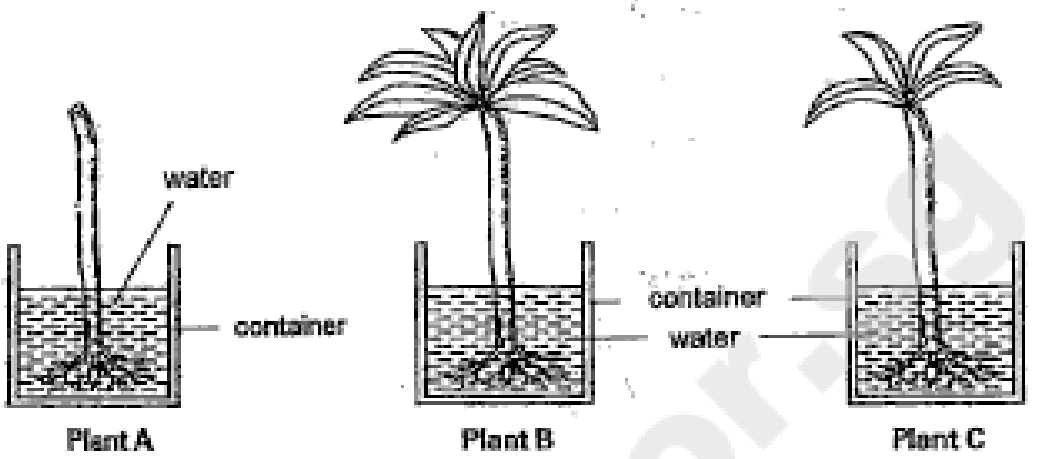
A, B and C represent systems in the human body while D represents a process in the human body. Which of the following is most likely A, B, C and D?

	A	B	C	D
(1)	Circulatory	Respiratory	Digestive	Digestion
(2)	Digestive	Circulatory	Respiratory	Respiration
(3)	Circulatory	Digestive	Respiratory	Digestion
(4)	Digestive	Respiratory	Circulatory	Respiration

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15 Nathan used three similar plants, A, B and C, to conduct an experiment. He trimmed off all the leaves from Plant A, and some leaves from Plant C. He then put the 3 plants in 3 identical containers and placed them in the same location. Each container was given the same amount of water each day.



After 4 days, Nathan measured the height of the water in each container.
The aim of his experiment is to find out if _____

1) the leaves of the plant absorb water
2) the plant needs roots to absorb water
3) the number of leaves affect the rate of absorption of water by the plant
4) the stem of the plant help to transport water from the roots to the leaves

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16 Michael wants to find out the conditions that plants need to survive. He used 4 identical bell jars, J1, J2, J3 and J4 and 4 identical plants for his experiment. He placed each plant in a bell jar and put them under the specific set of conditions stated in the table below.

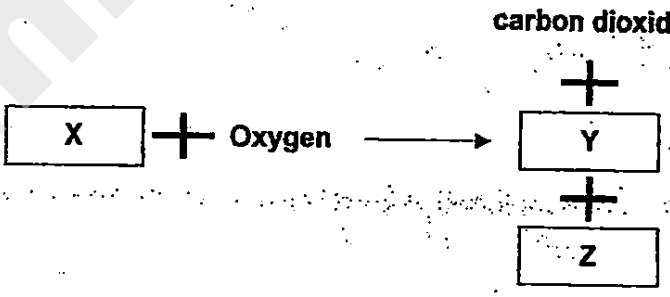
Bell Jar / Conditions	J1	J2	J3	J4
Sunlight	×	✓	✓	×
Water	✓	✓	✓	✓
Fertilizer	✓	×	✓	×
Carbon dioxide	✓	✓	×	✓
Oxygen	✓	✓	✓	✓

Key : × - not present
✓ - present

Which 2 bell jars would he need to monitor if he wants to show that sunlight is needed by plants to make food?

(1) J1 and J3
(2) J1 and J4
(3) J2 and J3
(4) J2 and J4

17 The diagram shows the process of respiration in plants.



Which of the following X, Y and Z can be correctly placed in the diagram?

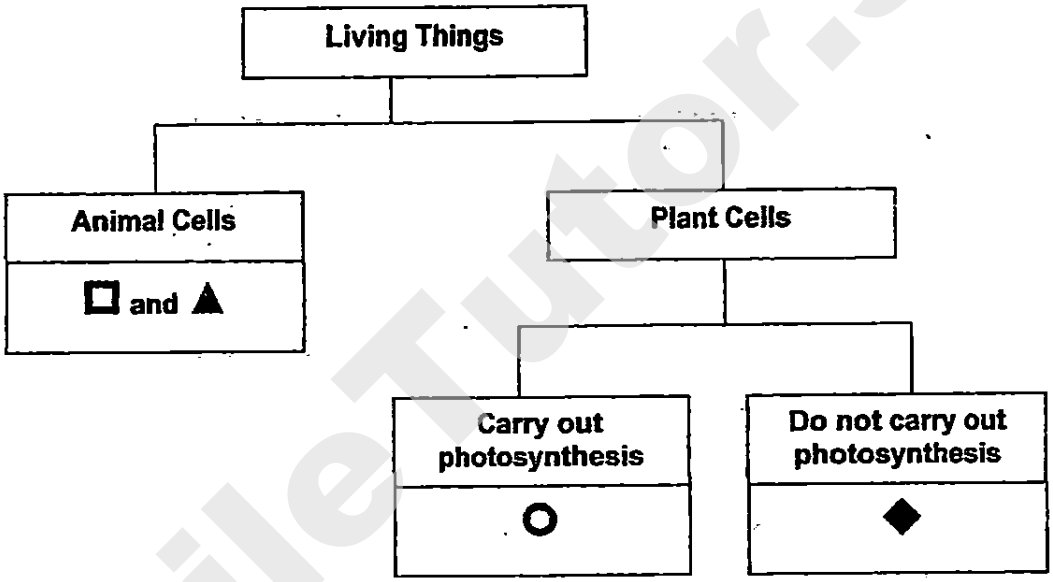
	X	Y	Z
1)	glucose	water	light
2)	water	light	energy
3)	glucose	water	energy
4)	light	energy	glucose

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18 The table below shows the various parts present in 4 different cells, A, B, C and D. A tick (✓) shows the part present in the cell.

Part of cell	Cell A	Cell B	Cell C	Cell D
Nucleus	✓	✓	✓	✓
Cell Wall	✓		✓	
Cytoplasm	✓	✓	✓	✓
Chloroplasts	✓			
Cell Membrane	✓	✓	✓	✓

The chart below shows how the 4 cells, □ ▲ ○ ◆, can be classified.



Based on the above information, which of the following correctly represents cells A, B, C and D?

	□	▲	○	◆
1)	Cell C	Cell B	Cell A	Cell D
2)	Cell B	Cell D	Cell C	Cell A
3)	Cell B	Cell D	Cell A	Cell C
4)	Cell A	Cell B	Cell D	Cell C

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19 Six metal clips, A, B, C, D, E and F were fixed on a circuit card as shown in Figure 1. Figure 2 shows a circuit tester with a battery and a bulb connected to two wires X and Y.

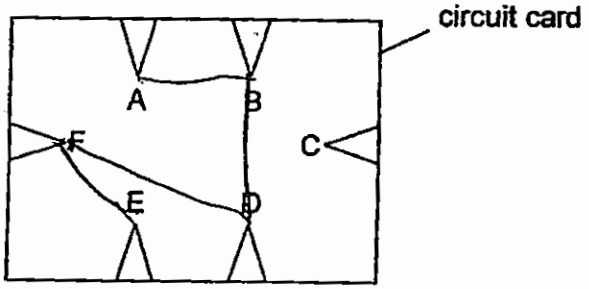


Figure 1

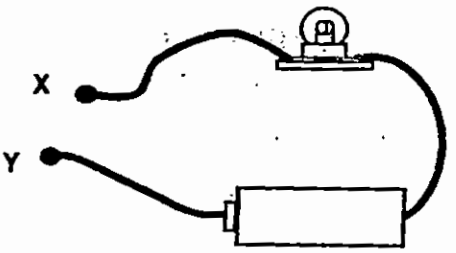


Figure 2

Malcolm connected some but not all of the clips on the circuit card in Figure 1 with wires X and Y. He then connected X and Y across different pairs of clips in turn. He recorded his results in the table below.

Clips connected to circuit tester	Bulb of circuit tester
A and B	Lights up
B and D	Lights up
D and F	Lights up
D and C	Does not light up
E and F	Lights up

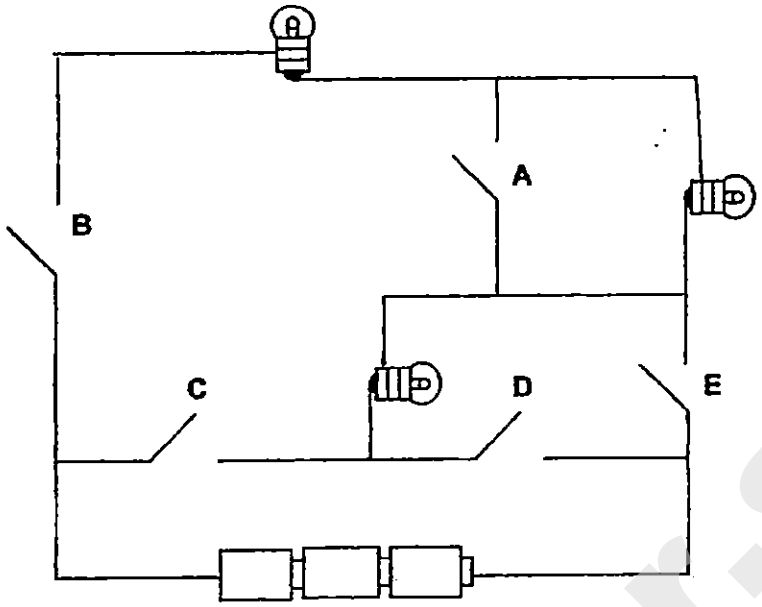
The bulb will **not** light up when clips _____ are connected.

1) A and F
2) A and D
3) B and C
4) B and E

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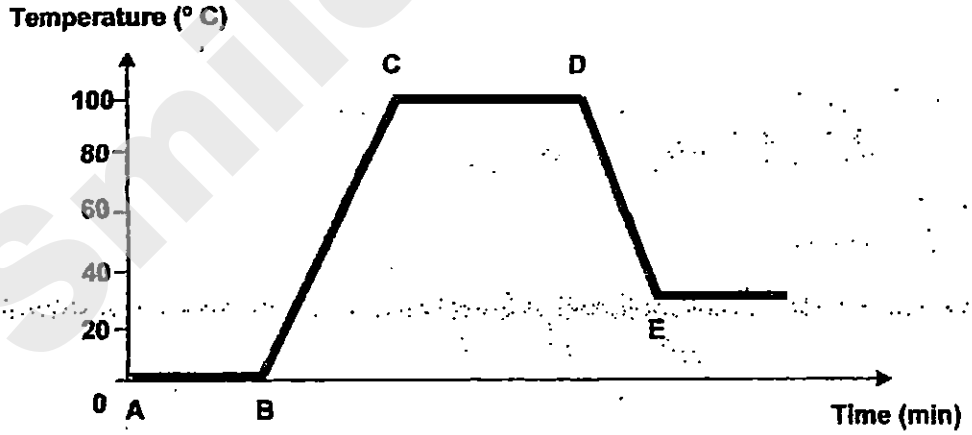
20 Study the circuit shown below.



What is the least number of switches that must be closed for all the bulbs to light up?

1) 2 switches only
2) 3 switches only
3) 4 switches only
4) 5 switches only

21 A beaker of ice cubes was heated over a fire at point A and left to cool to room temperature. Daniel recorded its temperature over time in the graph below.

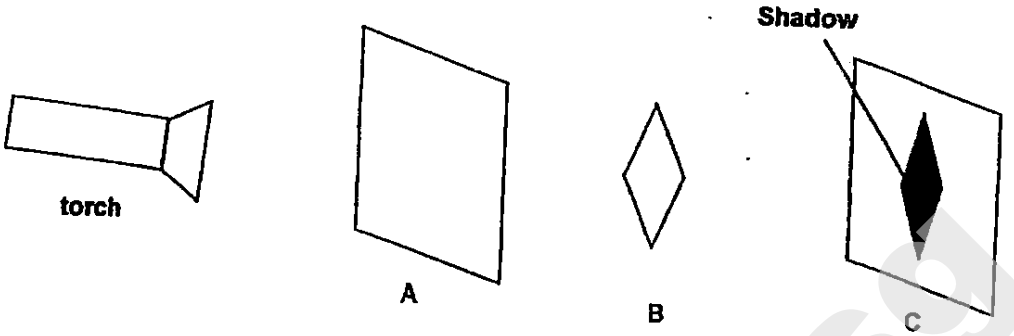


Based on the graph above, which of the following shows the time period(s) of heat gain?

1) BC only
2) AB and BC only
3) CD and DE only
4) AB, BC and CD only

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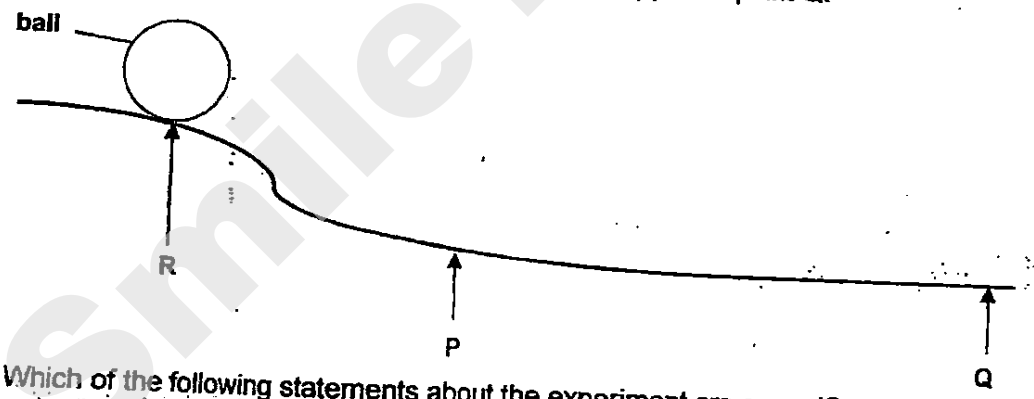
22 The experiment below was set up in a dark room. Objects A, B and C were lined up in a straight line. When the torch was switched on, a shadow was seen on object C.



Which of the following materials are objects A, B and C made of?

	A	B	C
(1)	Rubber	Clear plastic	Wood
(2)	Clear plastic	Wood	Rubber
(3)	Wood	Clear plastic	Rubber
(4)	Clear plastic	Clear plastic	Wood

23 Donald set up an experiment as shown below. He released the ball at point R. The ball rolled down the slope, slowed down and finally stopped at point Q.



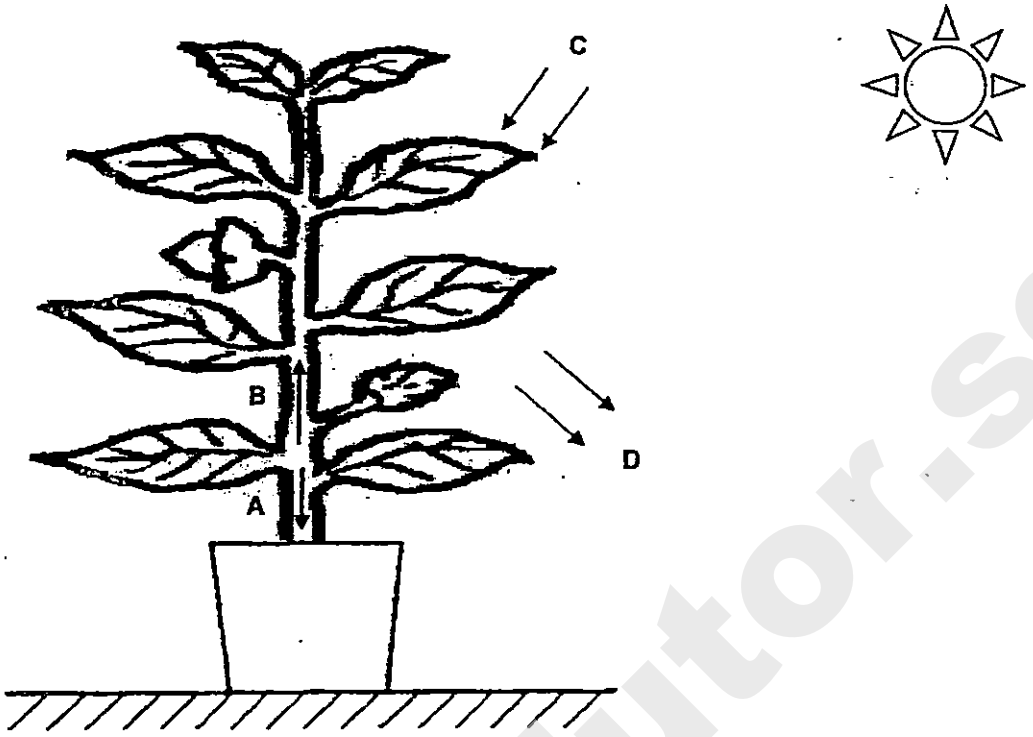
Which of the following statements about the experiment are correct?

A The ball had kinetic energy at point P.
B The ball had gravitational potential energy at point R.
C The kinetic energy of the ball decreased as it moved from R to Q.
D The ball had the highest amount of gravitational potential energy at point Q.

1) A and B only
2) B and D only
3) A, C and D only
4) B, C and D only

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24 The diagram below shows a plant in a garden. A, B, C and D represent substances involved in photosynthesis.



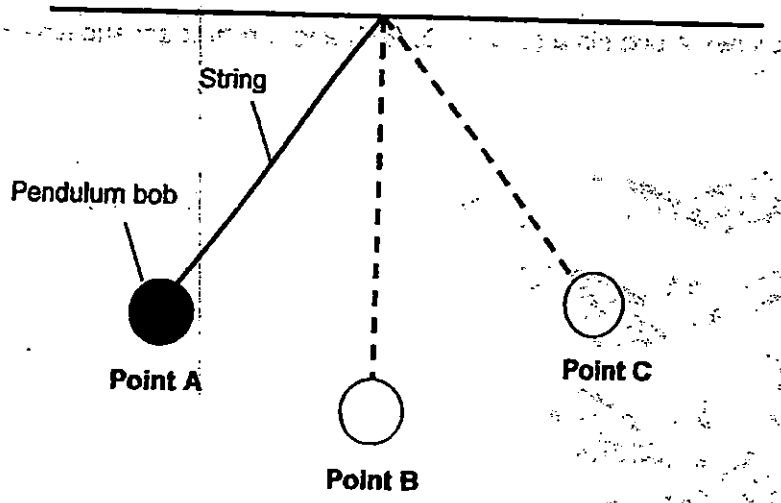
Which of the following substances do A, B, C and D represent?

	A	B	C	D
(1)	Food	Water	Carbon dioxide	Oxygen
(2)	Food	Water	Oxygen	Carbon dioxide
(3)	Water	Food	Oxygen	Carbon dioxide
(4)	Water	Food	Carbon dioxide	Oxygen

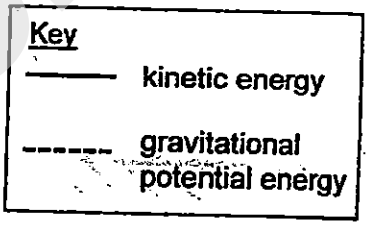
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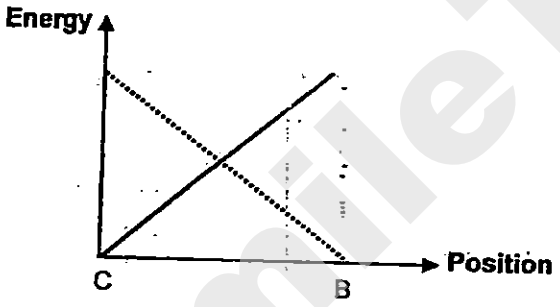
the diagram below. It then swings back to Point B and finally to around Point A.



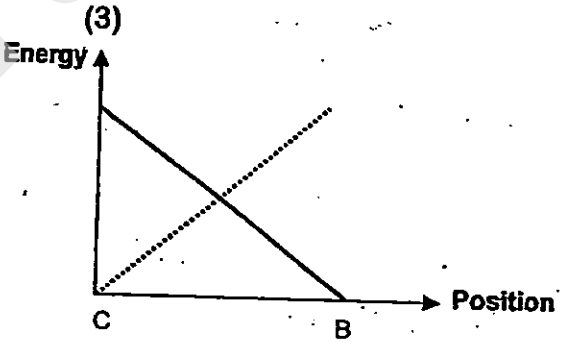
Which of the following graphs shows the change in kinetic energy and gravitational potential energy of the pendulum bob as it swings from Point C to Point B?



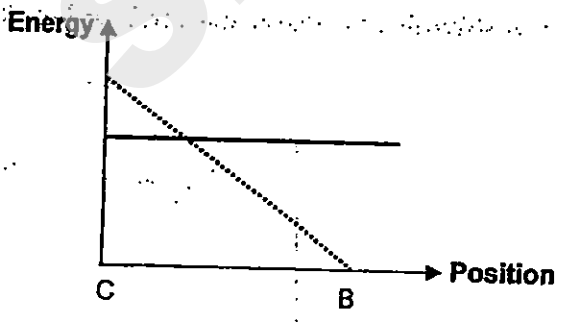
(1)



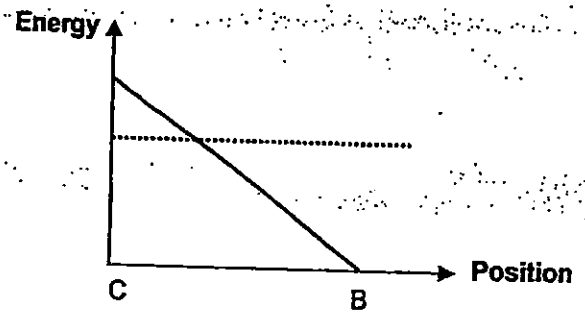
(3)



(2)



(4)



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Anglo-Chinese School (Junior)

SEMESTRAL ASSESSMENT 2 (2015)

PRIMARY 5

SCIENCE

BOOKLET B

Wednesday **4 November 2015** **1 hr 30 min**

Name:_____ Class: 5.( ) Parent's Signature:_____

INSTRUCTIONS TO PUPILS

1 Do not turn over the pages until you are told to do so.

2 Follow all instructions carefully.

3 There are 14 questions in this booklet.

4 Answer ALL questions.

5 The marks are given in the brackets [ ] at the end of each question or part question.

Booklet	Possible Marks	Marks Obtained
A	50	
B	40	
PBA	10	
Total	100	

This question paper consists of 15 printed pages (inclusive of cover page).

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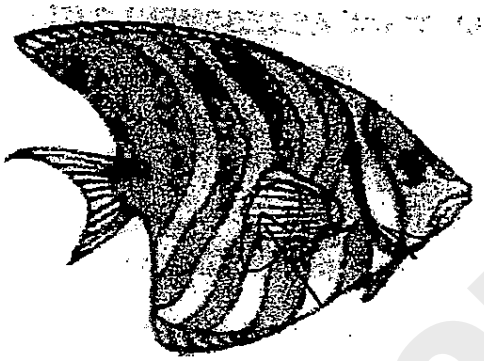
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Booklet B (40 marks)

For questions 26 to 39, write your answers in this booklet.
The number of marks awarded is shown in the brackets [ ] at the end of each question or part question.

---

26 The diagram below shows Animal M.



Animal M

(a) Mickey said that Animal M is a fish. Tick (✓) the statement(s) that support(s) what Mickey said. [2]

Statement	Put a tick (✓) if the statement(s) is/are true.
It lives in water.	
It has 3 body parts.	
It uses gills to breathe.	
It uses its fins to swim.	
It is covered with scales.	

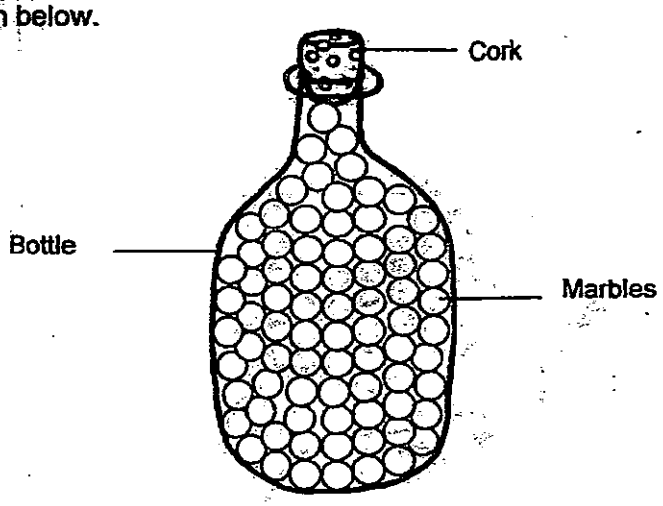
(b) Draw an arrow (⟶), in the diagram above, pointing to the part of Animal M where the absorption of oxygen occurs. [1]

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SCORE	
	3

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27 Mary wanted to find out the volume of the bottle. She filled it to the brim with 300cm^3 of marbles as shown below.



(a) Tick (✓) the box that shows the most likely volume of the bottle. [1]

Volume of bottle	Tick (✓) the most likely volume
Less than 300cm^3	
Is equal to 300cm^3	
More than 300cm^3	

(b) Explain your answer in (a). [1]

_____

_____

(c) Mary uncorked the bottle above and tried to squeeze 10 more marbles into it. Did she succeed? Explain your answer in terms of property of matter. [1]

_____

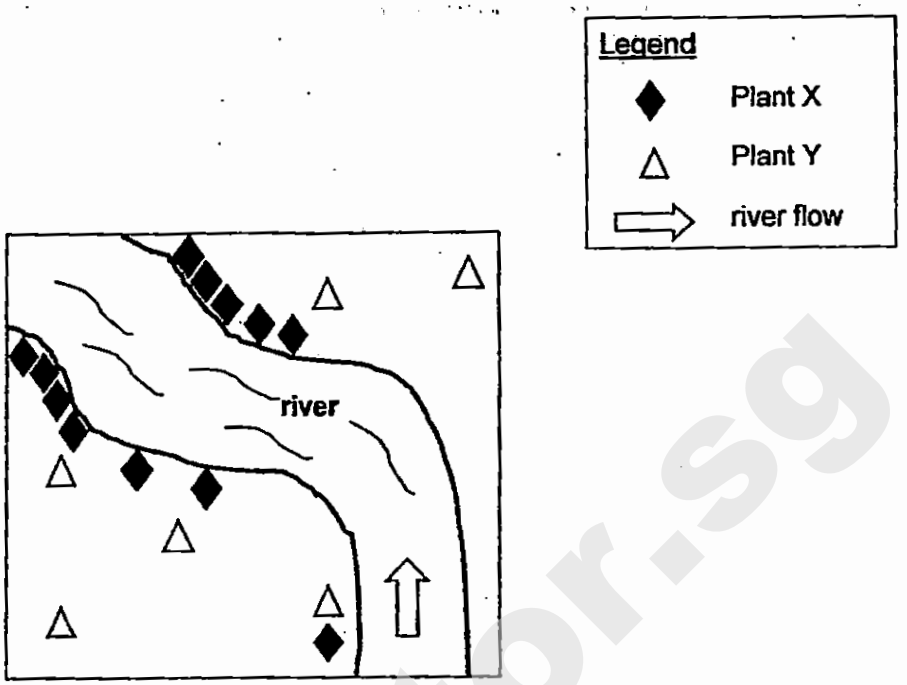
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SCORE	/ 3

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28 The diagram shows parts of a river where two types of plants (♦ and △) are growing.



(a) State the method of dispersal for plants X and Y. [1]

(i) X: _____

(ii) Y: _____

(b) Give a reason for your answer to (a)(i). [1]

_____

_____

(c) Name two characteristics of the fruit of plant X. [1]

_____

_____

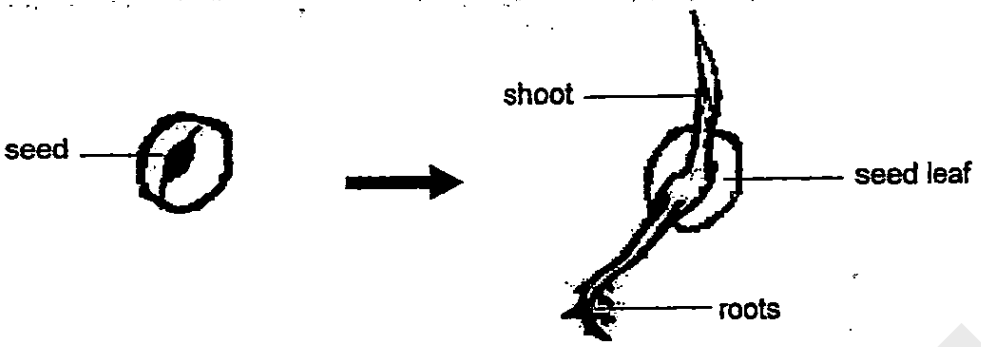
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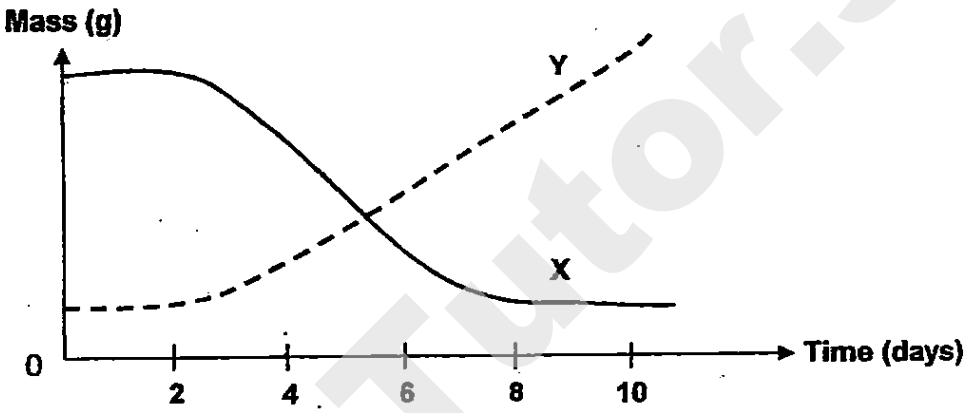
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29 John carried out an experiment on germination of a seed as shown below.



Seed **Seedling**

In the graph below, the two lines, X and Y, show changes in the mass of the seed leaf and the shoot of the seedling during the period of germination.



(a) Which line, X or Y, shows how the mass of the seed leaf changes during the experiment? Explain your answer. [1]

(b) What would happen to the seed if there were no sunlight throughout the first eight days? Explain your answer. [1]

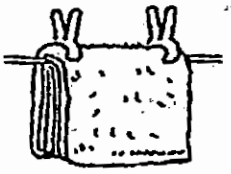
(c) Using the information from the graph, how will the seedling survive after day 8 onwards? [1]

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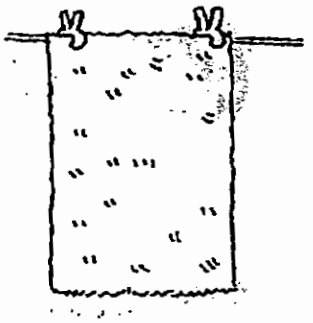
SCORE	
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30 Kieran wanted to find out if the exposed surface area of a towel affects the rate of evaporation of water from the towel. He soaked two towels, T1 and T2 in water for one minute and hung them at different locations.



Towel T1 placed under the shade in a garden



Towel T2 placed in an open field

(a) Kieran's teacher commented that the experiment was not a fair test. What was the mistake that Kieran had made? [1]

_____

_____

(b) Put a tick (✓) against the variables that are to be kept the same for the test to be a fair one. [1]

	Variables to be kept the same	Indicate with a tick (✓)
(i)	Type and material of the towels.	
(ii)	Amount of water each towel is soaked in.	
(iii)	Mass of the towels after the experiment.	
(iv)	The exposed surface area of both towels.	

(c) Name two other factors that affect the rate of evaporation. [1]

_____

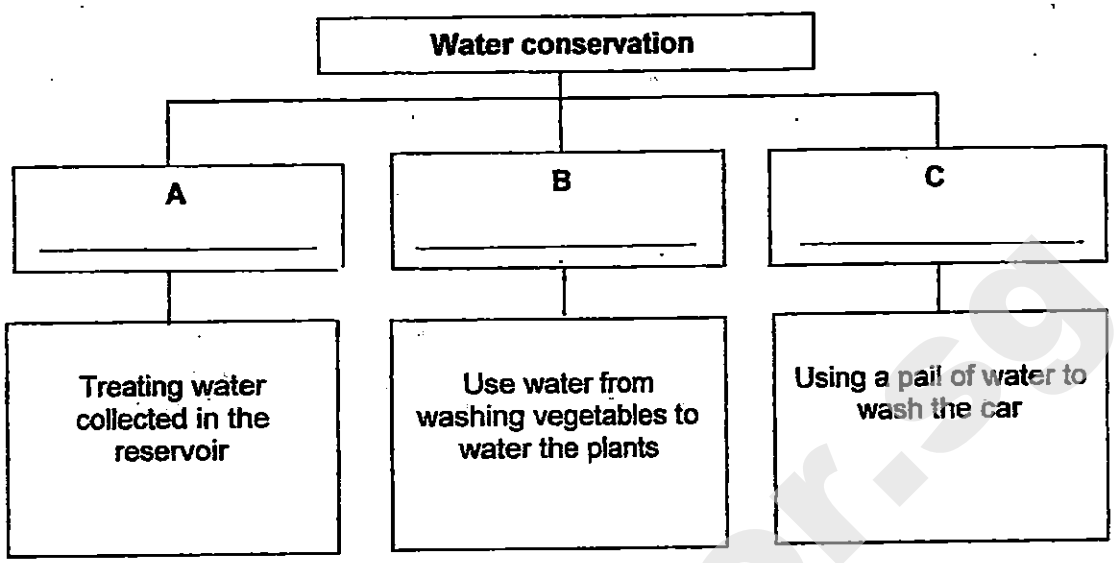
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31 The classification chart below shows the different ways of conserving water.



(a) Based on the examples given, write **'Reuse'**, **'Reduce'** and **'Recycle'** for the sub-headings A, B and C in the chart above. [1]

(b) List two man-made activities that are harmful to water sources. [1]

_____

_____

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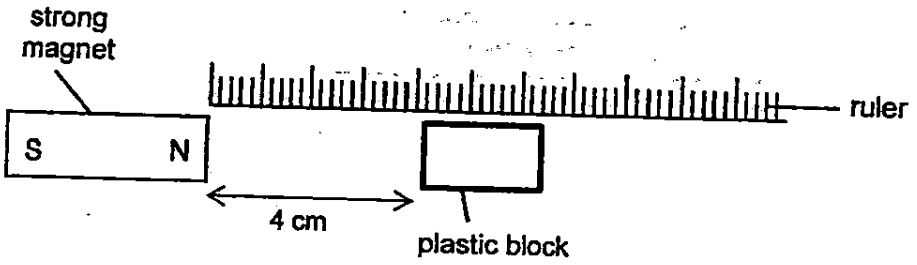
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32 David set up an experiment as shown below. He placed a strong magnet and a plastic block 4 cm apart on the table.



He recorded his observation in the table below. He repeated the experiment by replacing the plastic block with Blocks B and then Block C which are of the same size.

His results are shown below.

	Observation
Plastic Block	Did not move.
Block B	Moved towards the magnet
Block C	Moved away from the magnet

(a) David said that Block B is made from aluminum. Is he correct? Explain your answer.

[2]

(b) What can Block C be? Explain your answer.

[1]

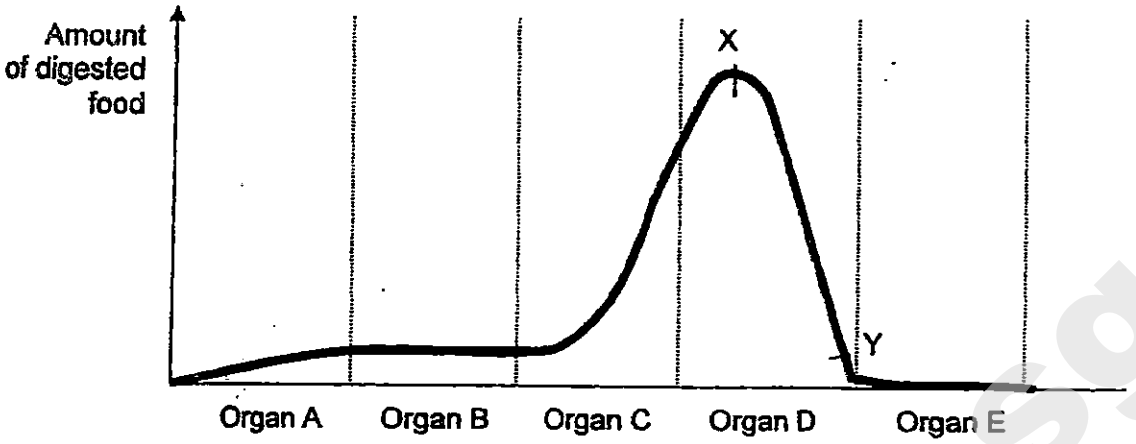
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SCORE 3

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33 The graph below shows the path of food through different organs in the digestive system.



(a) What can Organ E possibly be? Explain your answer. [1]

(b) Identify Organ B. [1]

(c) Explain the decrease in the amount of digested food between points X and Y. [1]

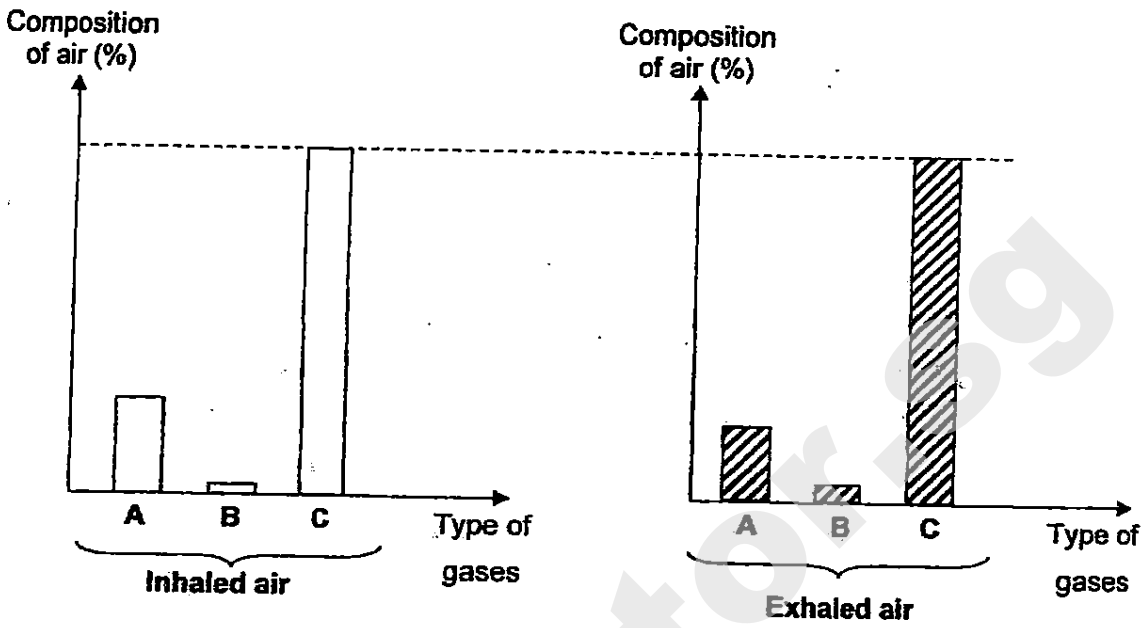
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SCORE 3

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34 The graph below shows the difference between the compositions of inhaled air and exhaled air.



(a) Choose the correct words from the box to fill in the blanks below. [2]

nitrogen	carbon dioxide	oxygen

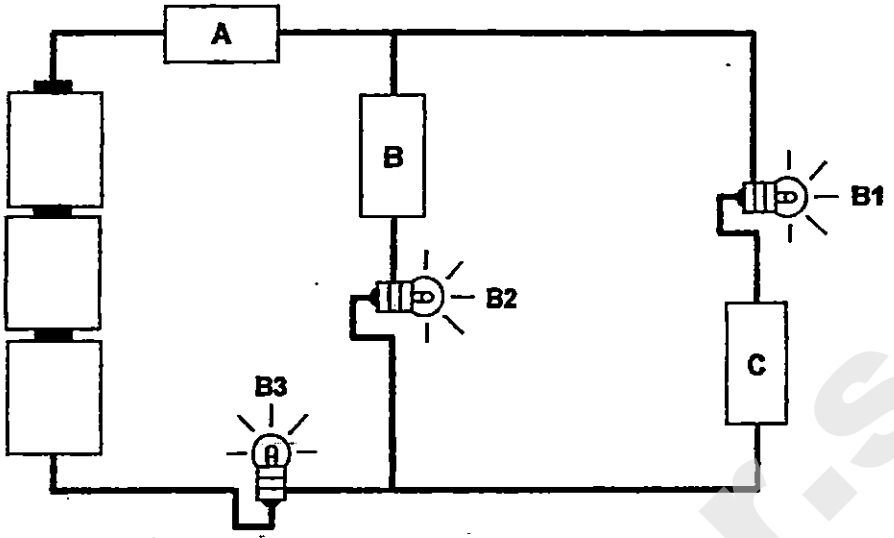
Types of Gases	
A	
B	
C	

(b) Based on the graph, there is no change in the percentage of Gas D when inhaled and exhaled. Explain why there is no change in Gas D [1]

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35 Matthew had three rods, R1, R2 and R3, made of different materials. He placed them at various positions, A, B and C, of the circuit shown below.



Rods R2 and R3 are electrical conductors while Rod R1 is an electrical insulator. Matthew arranged the rods in three different combinations as shown below.

(a) In the table below, only put ticks (✓) in the boxes for the bulbs that will light up. [2]

Combination	Positions where the rods were placed			Would the bulbs light up?		
	A	B	C	B1	B2	B3
1	R2	R3	R1			
2	R1	R2	R3			
3	R3	R1	R2			

(b) What would happen to bulbs B1 and B2 in the circuit if bulb B3 is being replaced with Rod R1? Explain your answer. [1]

_____

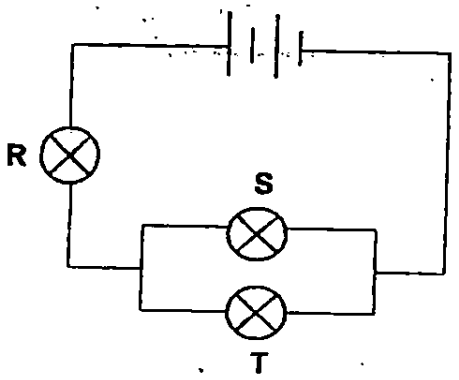
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SCORE	/ 3

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36 Jasper set up an electric circuit as shown in the circuit diagram below.



(a) What will happen to Bulb R if Bulb T is fused? [1]

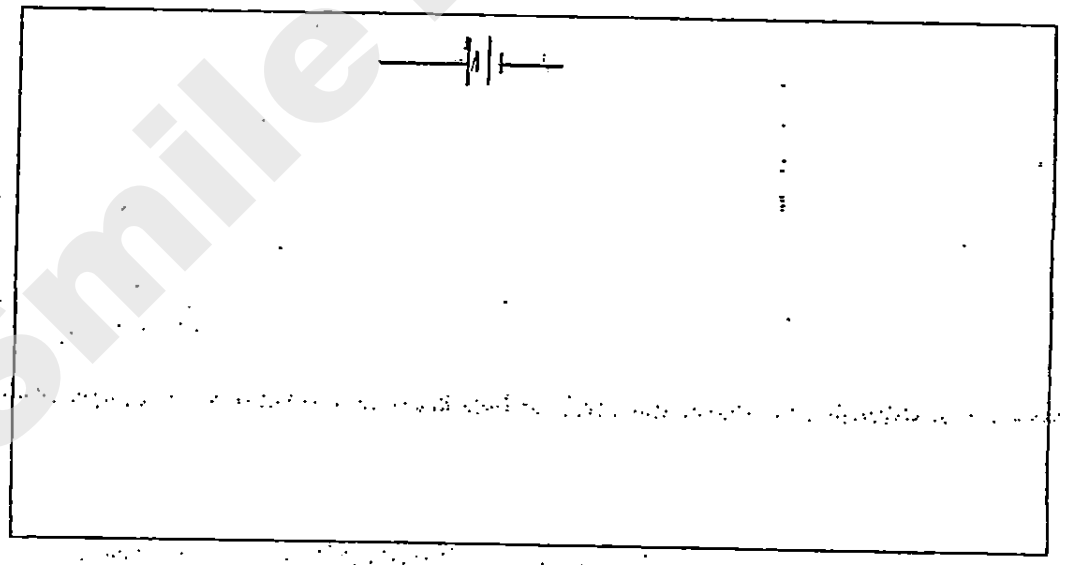
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_____

(b) Jasper removed one of the bulbs from the circuit and the remaining bulbs did not light up. Which bulb did he remove? [1]

_____

(c) In the box provided below, draw a circuit diagram to show how Jasper can connect 2 batteries, 3 bulbs and some wires such that all the bulbs will shine with the same brightness. [1]



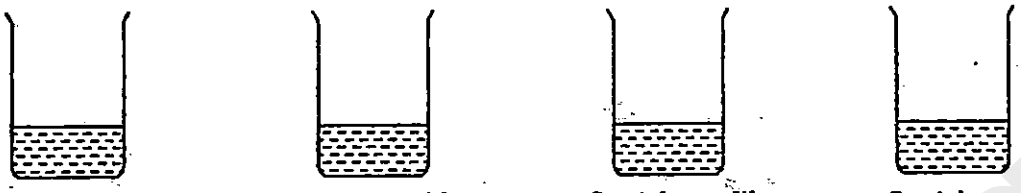
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37 Liquid W helps in digestion by speeding up the breaking down of starch into simple sugars. John set up an experiment, as shown below, to investigate the effects of temperature of liquid W on the speed at which liquid W breaks down starch. He poured equal amounts of starch, water and liquid W into each of the 4 containers.



Container with starch, water and liquid W at 20^{0}C | **Container with starch, water and liquid W at 40^{0}C** | **Container with starch, water and liquid W at 60^{0}C** | **Container with starch, water and liquid W at 80^{0}C**

After 10 minutes, John put a few drops of iodine solution into each container and recorded his observations below.

Temperature of content in container / (^{0}C)	**20**	**40**	**60**	**80**
Colour of solution in container after iodine is added in	Brown	Brown	Blue-black	Blue-black

(a) What is the changed variable in the experiment above? [1]

_____

_____

(b) State two variables that John needs to keep constant to ensure that the experiment is a fair test. [1]

_____

_____

(c) Based on the results above, what can John conclude about his experiment? [1]

_____

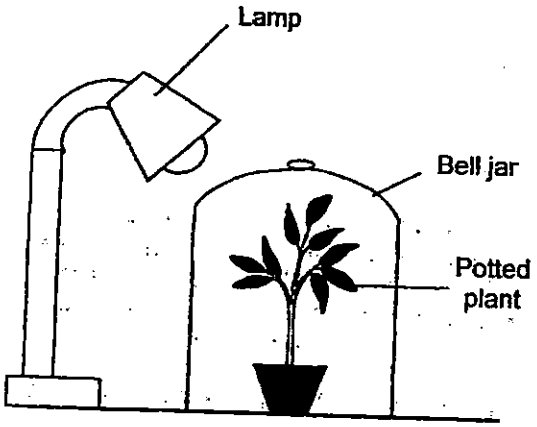
_____

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SCORE	
	3

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38 John set up an experiment in a dark room as shown below to find out if plants need light for photosynthesis.



Set-up A

Control

(a) Draw and label the control set-up in the space given above. [1]

(b) John moved the lamp further and further from the potted plant and measured the amount of oxygen produced by the plant in the table below.

Distance of lamp away from the potted plant / cm	Amount of oxygen produced / units
0	18
5	15
10	11
15	7
20	4

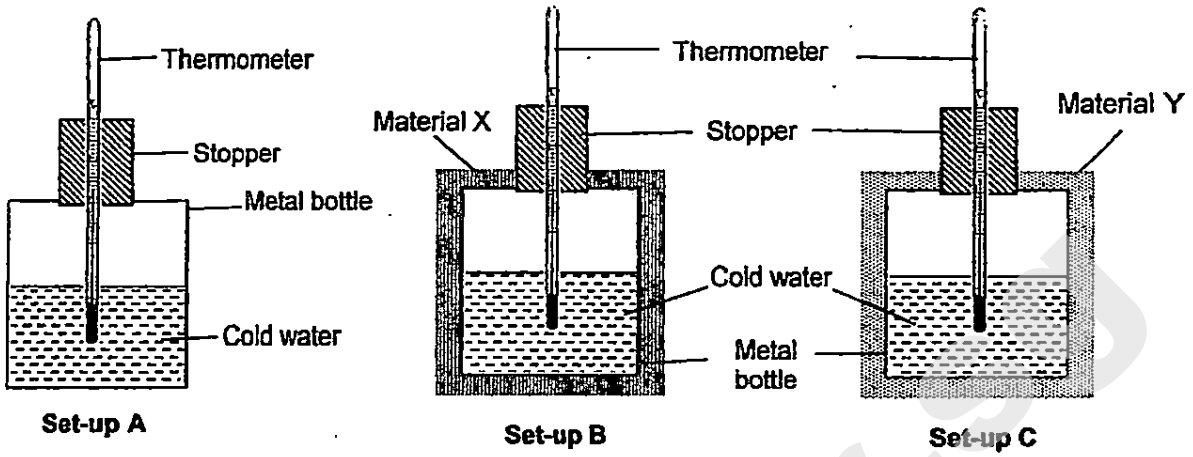
From the results, describe the relationship between the distance of the lamp from the potted plant and the amount of oxygen produced. [1]

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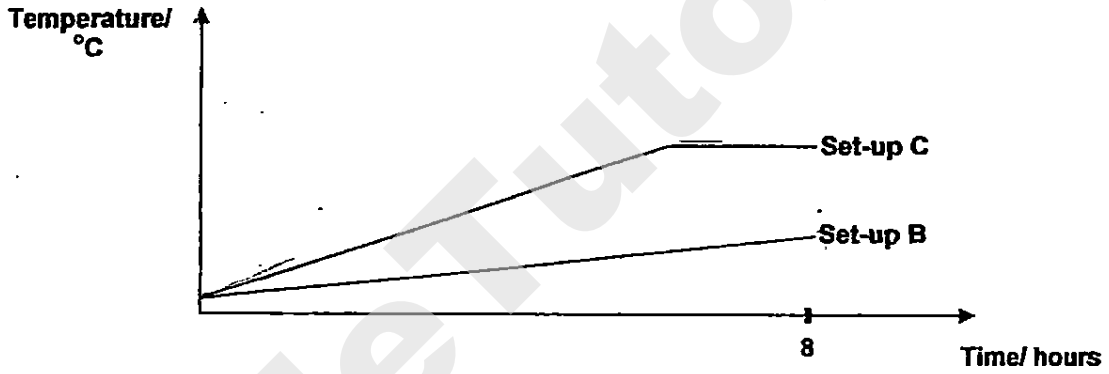
SCORE 2

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39 Johnny set up an experiment as shown below. An equal volume of cold water at 2 °C was added to all 3 set-ups. Set-up B and Set-up C were wrapped around with Material X and Material Y respectively.



Johnny recorded the temperature of the water in Set-up B and Set-up C over 8 hours in the graph below.



(a) Draw and label a line on the graph above to indicate the change in temperature of set-up A over 8 hours. [1]

(b) Compare the rate of heat gain between the water in set-up B and set-up C. [1]

(c) Johnny wanted to go for a picnic and needed a container to keep drinks cold for the longest period of time. Which material, X or Y, is more suitable for the container to be made of? Explain why. [1]

End of Paper

SCORE	
	3

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LEVEL : PRIMARY 5
SCHOOL : ANGLO – CHINESE SCHOOL (JUNIOR)
SUBJECT : SCIENCE
TERM : SA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
2	**3**	**3**	**4**	**1**	**3**	**2**	**4**	**1**	**4**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
3	**3**	**4**	**4**	**3**	**4**	**3**	**3**	**3**	**1**
Q21	Q22	Q23	Q24	Q25					
4	**2**	**1**	**1**	**1**					

Q26a. It lives in water. Q26a. It uses 3 body parts.
Q26a. It uses its fins to swim. Q26a. It is covered with scales

Q26b. See Picture - Answer (arrow) in question sheet.

Q27a. More than 300cm^3

Q27b. As many filled the bottle with 300cm^3 of marbles in it, the air spaces between them causing the volume of the bottle to be more than 300cm^3

Q27c. No. As marble are solids, they cannot be easily compressed to squeeze in another 10 more marbles.

Q28ai. X: Water Q28aii. Y: Animals

Q28b. The off springs of Plant X has a fibrous husk and it is waterproof.

Q28c. The frit of Plant X has a fibrous husk and it is waterproof.

Q29a. Line X. The seed leaf provides nutrients for the seedling as it grows causing its mass to decrease overtime.

Q29b. The seed would continue to grow. The seed does not need sunlight for growth as it has its seed leaf to provide nutrients for it.

Q29c. The seedling's true leaves would appear and would make its own food during photosynethesis if sunlight is present.

Q30a. He had made an extra variable changed which B the location of the two experiments.

Q30b. Type and material of the towels
Q30b. Amount of water each towel is soaked in

Q30c. The presence of wind and the humidity.

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Q31a. A – Recycle Q31a. B – Reuse Q31a. Reduce

Q31b. Throwing excess fertilisers into rivers and throwing unwanted items into the sea such as empty bottles, used tissue paper and empty cans.

Q32a. No. Aluminum is a non-magnetic material and it should not be attracted to the magnet.

Q32b. A magnet. Only magnets with like poles can move away from each other.

Q33a. Digestion does not take place here.

Q33b. Gullet.

Q33c. Digested food at Point X have been absorbed into the bloodstream to be transported to other parts of the body causing there to be a decrease in amount of digested food between Points X and Y.

Q34a. A – Oxygen
Q34a. B – Carbon dioxide
Q34a. C – Nitrogen

Q34b. Gas C is neither produced nor used in the body causing there not to be change in Gas C.

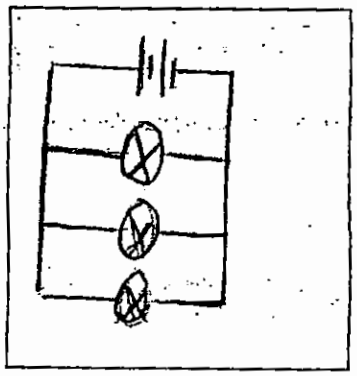
Q35a. 1- B2 n B3 Q35a. 3 – B1 n B3

Q35b. Bulbs B1 and B2 would not light up. As Rod R1 is an electrical insulator, it does not allow electricity to pass through causing an open circuit to be formed and Bulbs B1 and B2 not to light up.

Q36a. Bulb R would remain lits.

Q36b. Bulb R

Q36c. See Picture



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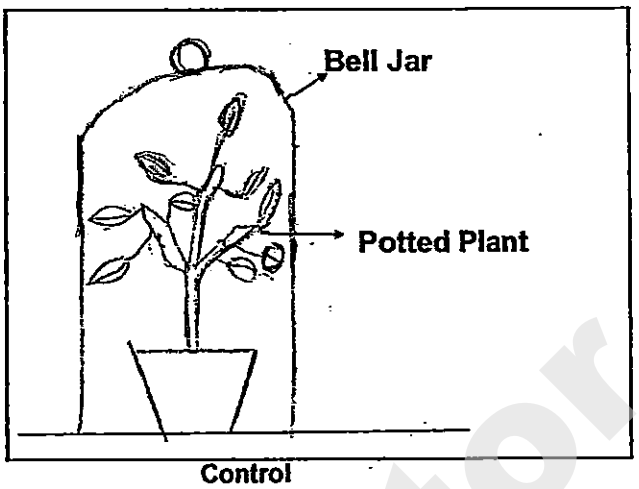
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Q37a. The temperature of Liquid W.

Q37b. The material of the containers. The number of drops of iodine solution added in each container.

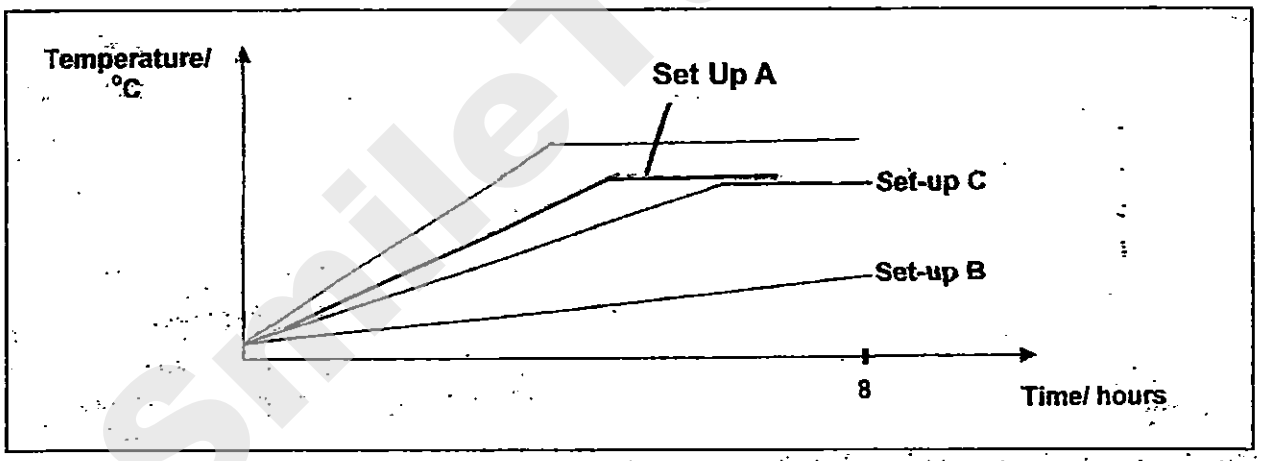
Q37c. Liquid W break down starch at 20 degree and 40 degree Celsius.

Q38a. **See picture**



Q38b. As the distance of the lamp from the potted plant increases, the amount of oxygen produced decreases.

Q39a. **See picture**



Q39b. The water in Set up B gained heat slower than the water in Set up C.

Q39c. Material X. As material X gained heat the slowest, it is more suitable for the container to be made of material X to keep cold drinks cold for the longest period of time.

THE END

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CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 2
2015
PRIMARY FIVE

SCIENCE

BOOKLET A

Name: _____ ( )

Class: Primary 5 - _____

Date: 3rd November 2015

30 questions

60 marks

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

This booklet consists of 21 printed pages, excluding the cover page.

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Booklet A (30 × 2 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade your answer on the Optical Answer Sheet. (60 marks)

---

1 Bob found organism X in the school garden and noted down some characteristics of the organism as shown below:

- needs air
- cannot fly
- can reproduce
- can make its own food

Which one of the following could organism X be?

(1) elephant

(2) cockroach

(3) rose plant

(4) mushroom

2 The diagram below shows two plants.



sunflower plant bird's nest fern

What is/are the similarity/similarities between the two plants?

A Both reproduce from seeds.
B Both can make their own food.
C Both cannot move freely from place to place.

(1) A only

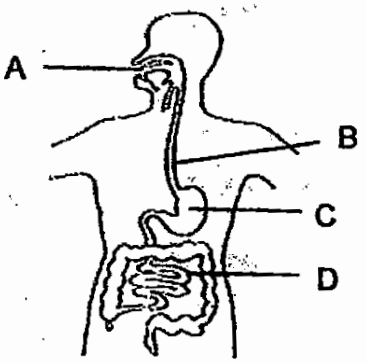
(2) B only

(3) A and C only

(4) B and C only

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3 The diagram below shows the human digestive system.



Which one of the following shows the changes in the amount of undigested food when it passes through parts A, B, C and D?

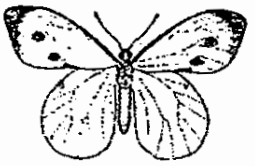
	A	B	C	D
(1)	decrease	no change	decrease	decrease
(2)	decrease	decrease	increase	increase
(3)	increase	no change	increase	no change
(4)	no change	no change	decrease	decrease

4 Amy wrote some descriptions of the young of organism Z as shown below.

- feeds on plants only
- moults several times
- looks like its adult in many ways

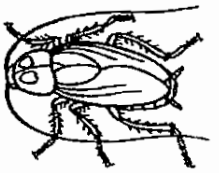
Which of the following could be organism Z?

(1)



butterfly

(2)



cockroach

(3)



mealworm beetle

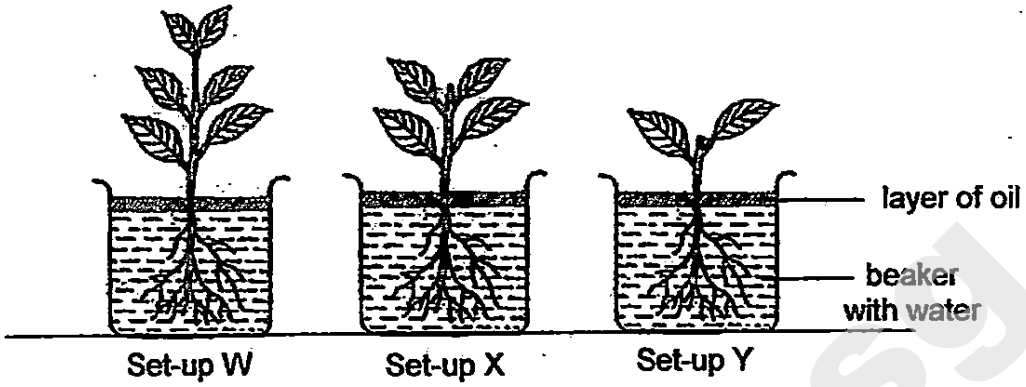
(4)



grasshopper

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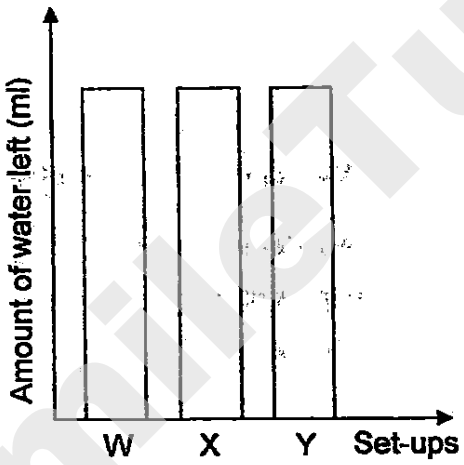
5 Lucien placed three similar plants in identical beakers. Each beaker contained an equal amount of water as shown below. The three set-ups W, X and Y were placed near a window for a day.



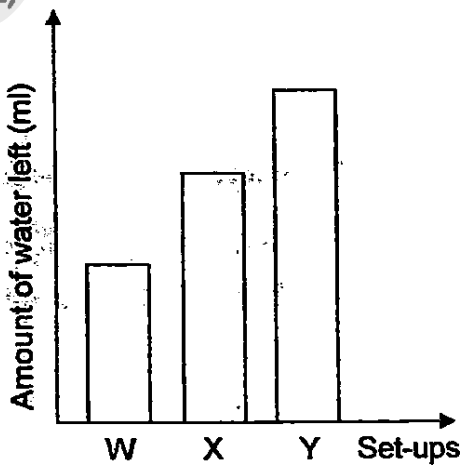
He then recorded the amount of water left in each beaker at the end of the experiment.

Which one of the following graphs below shows the amount of water left in set-ups W, X and Y at the end of the experiment?

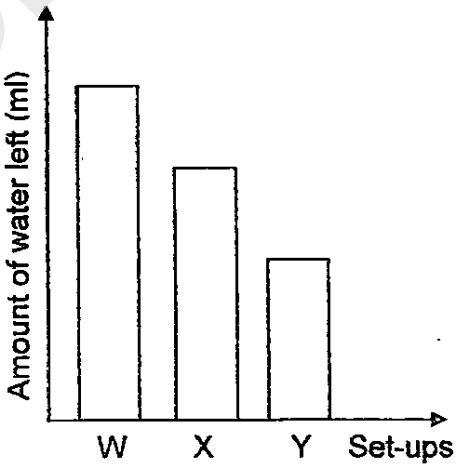
(1)



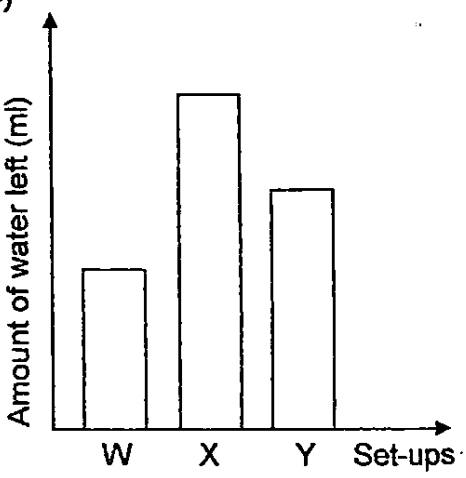
(2)



(3)

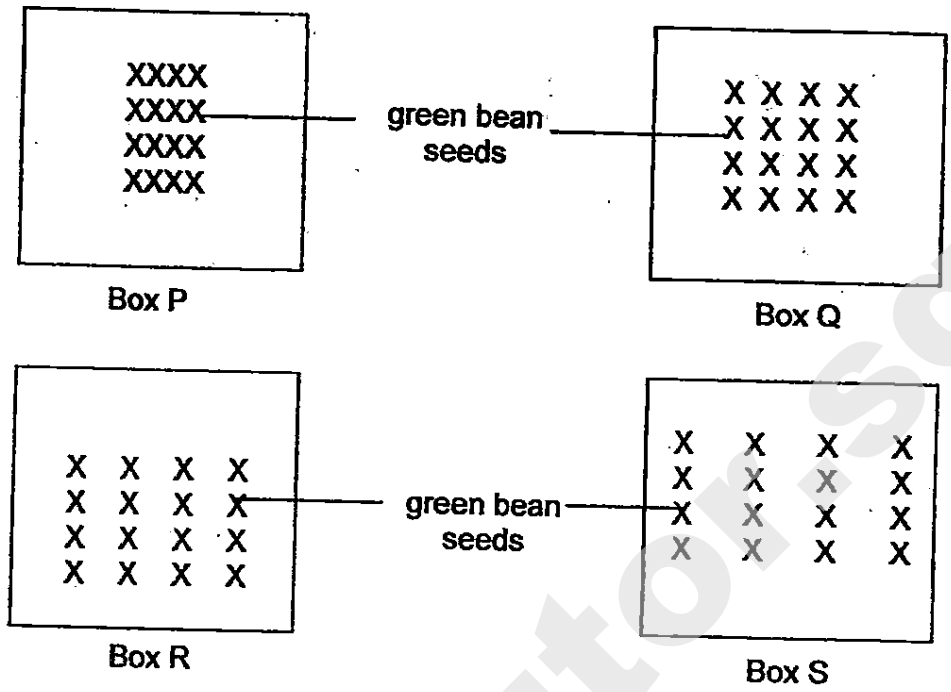


(4)



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6 Sanjiv placed an equal number of green bean seeds in 4 identical boxes with garden soil as shown below.



The seeds were given the same amount of water daily. After a few weeks, he noticed that the plants had grown.

What will be the possible observation about the plants in the boxes?

(1) The plants in Box Q will have the weakest stems.

(2) The height of the plants in Box S will be the shortest.

(3) The plants in Box Q will be taller than those in Box P.

(4) The plants in Box P will have thicker stems than those in Box R.

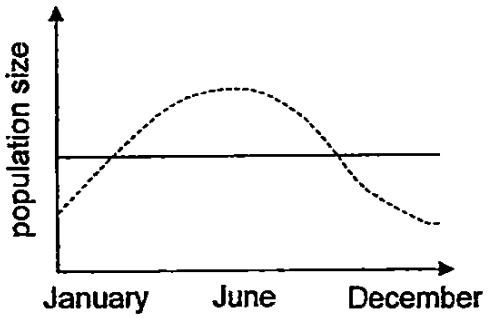
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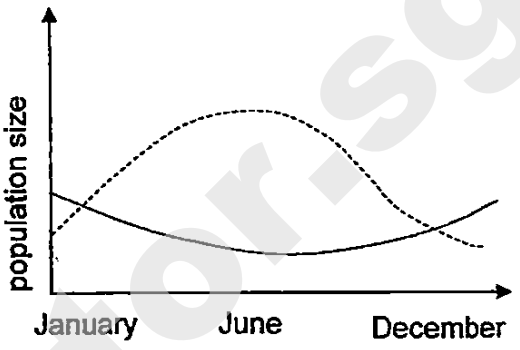
7 The graphs below show how the population size of plant X and the population size of butterfly Y change throughout the year.

Given that butterfly Y only feeds on the nectar of the flowers of plant X, which one of the following graphs is correct?

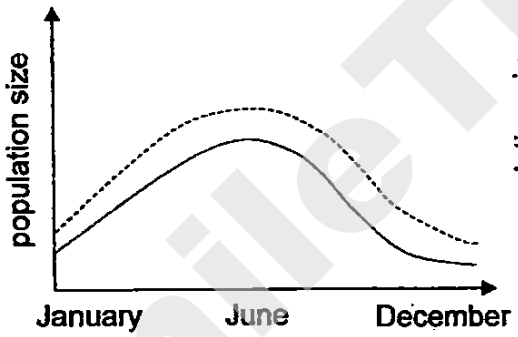
(1)



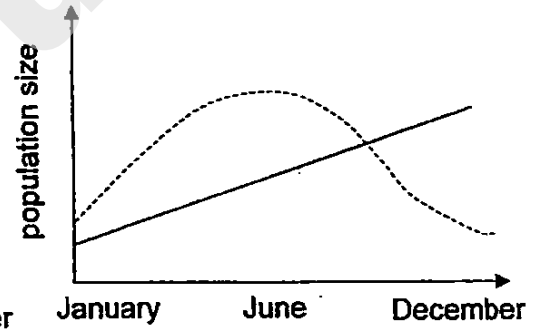
(2)



(3)



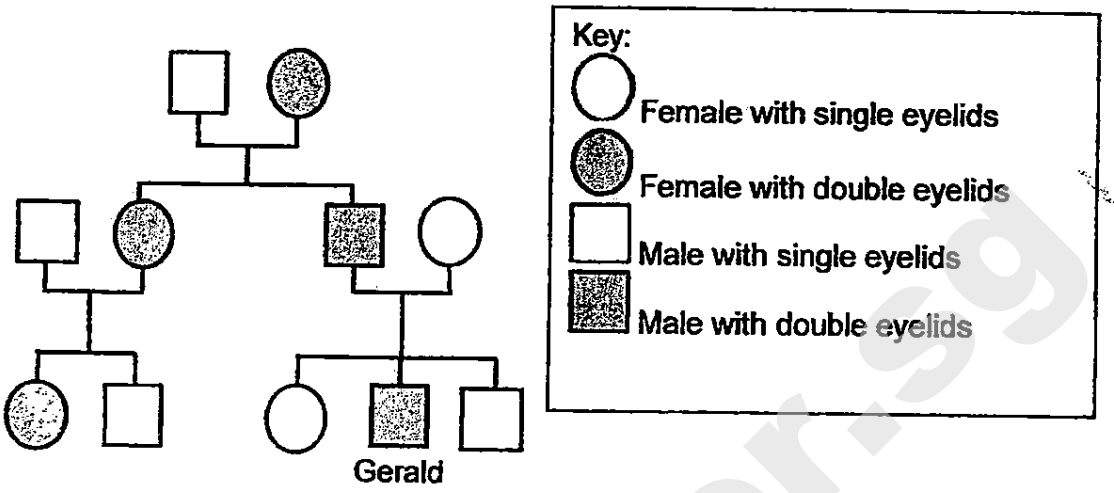
(4)



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8 The diagram below shows 3 generations of Gerald's family that carry the genetic trait of double eyelids.



Based on the family tree above, which of the following statements is/are correct?

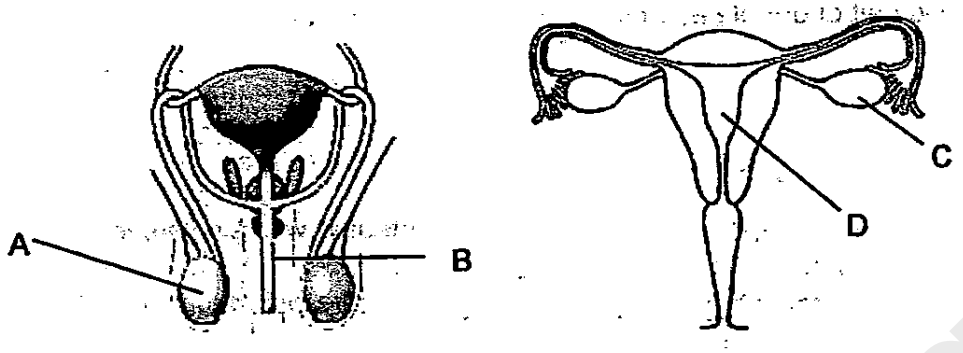
A Gerald has a cousin who has double eyelids.
B Gerald's mother inherited the double eyelids from his grandmother.
C This trait of double eyelids is passed on to only the female members of the family.

(1) A only
(2) C only
(3) B and C only
(4) A, B and C

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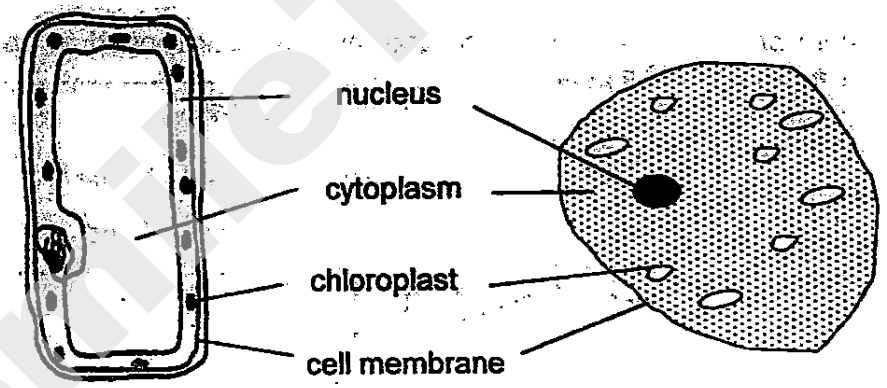
9 The diagram below shows the human reproductive systems.



Which parts of the reproductive systems produce cells that have to be fused to produce a fertilised egg?

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

10 The diagram below shows two cells.



Rajiv labelled the 2 cells as shown above. Which of the following parts did Rajiv label correctly for both cells?

(1) nucleus
(2) cytoplasm
(3) chloroplast
(4) cell membrane

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11 Four pupils observed some plant and animal cells under a microscope. They recorded their observations and their findings in the table below.

Name of pupil	Observations on cell parts seen	Function of mentioned cell parts
Ian	Both the plant and animal cells have cell membranes.	Place where many activities of the cell takes place.
Lucas	The plant cell has a cell wall but an animal cell does not have a cell wall.	Controls the movement of substances in and out of the cell.
Callum	Both the plant and animal cells have cell membranes.	Controls the movement of substances in and out of the cell.
Nathan	Both the plant and animal cells have cytoplasm.	Place where many activities of the cell takes place.

Which of the children made the correct conclusions?

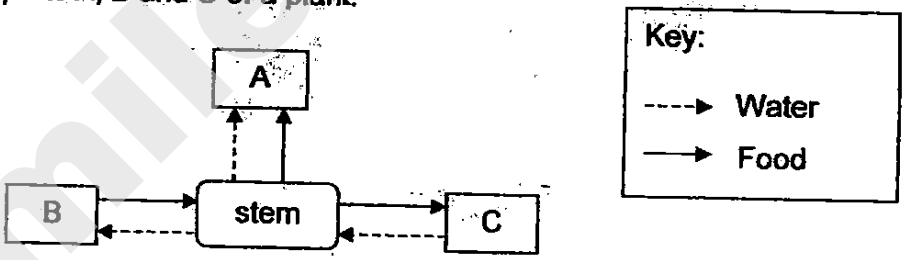
(1) Ian and Lucas only

(2) Callum and Nathan only

(3) Nathan, Ian and Lucas only

(4) Nathan, Callum and Lucas only

12 The diagram below shows how water and food are transported to and from parts A, B and C of a plant.



Which one of the following correctly represents the parts A, B and C?

	A	B	C
(1)	roots	flowers	fruits
(2)	flowers	leaves	roots
(3)	flowers	roots	flowers
(4)	leaves	flowers	roots

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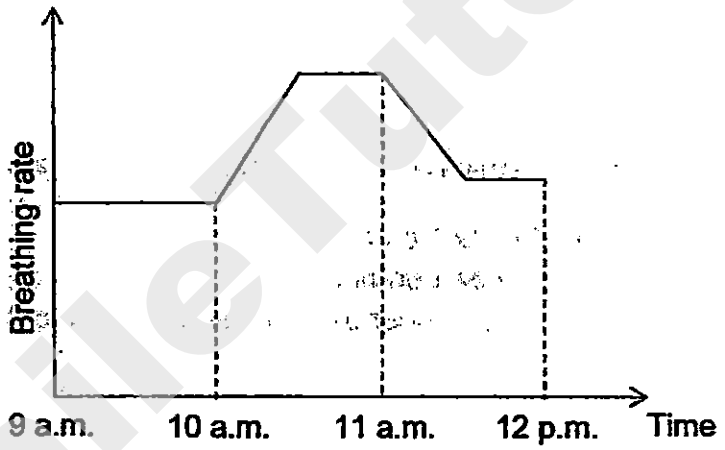
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13 In what ways are the plant transport system and human transport system similar?

A Both systems transport food and water.
B Both systems have tubes to transport materials.
C Both systems transport oxygen and carbon dioxide.
D Both systems need an organ to pump the materials in the tubes to different parts.

(1) A and B only
(2) B and D only
(3) A, B and C only
(4) A, C and D only

14 Mei Hui engaged in several activities and monitored the changes in her breathing rate. She then plotted her readings in the graph as shown below.



Which of the following explains why Mei Hui's breathing rate increased between 10 a.m. to 11 a.m.?

(1) Her heart needed to pump blood slower because she was exercising.
(2) Her body needed more oxygen-rich blood because she was sleeping.
(3) She needed to take in more oxygen because she was mountain-climbing.
(4) She needed less oxygen because she was resting after a vigorous activity.

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15 Figures 1 and 2 shows the blood flow in some parts of a human and a fish respectively.

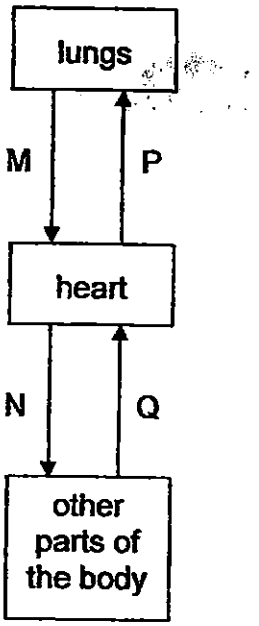


Figure 1
(human)

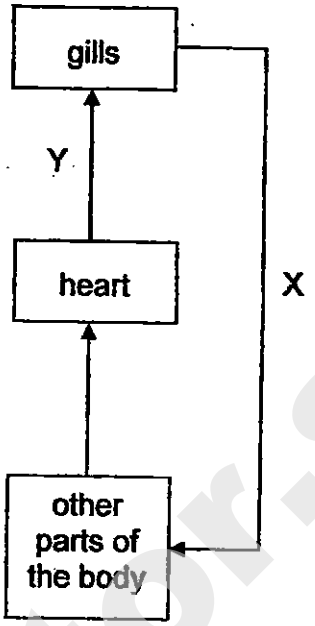


Figure 2
(fish)

Based on the figures above, which of the following statements is/are correct?

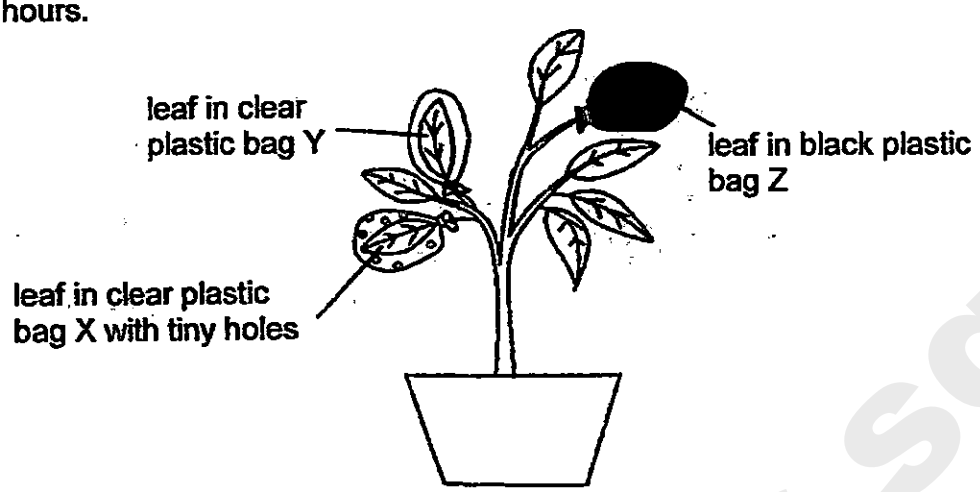
A Blood at M, N and X are oxygen-rich.
B Blood at P, Q and Y are oxygen-poor.
C Oxygen-rich blood from the other parts of the body flow to the heart of the fish.

(1) B only
(2) C only
(3) A and B only
(4) A and C only

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16 Amanda wrapped three similar leaves on a plant in different types of plastic bags X, Y and Z as shown in the diagram below. The plastic bags were of the same size. She left the plant under bright light for several hours.



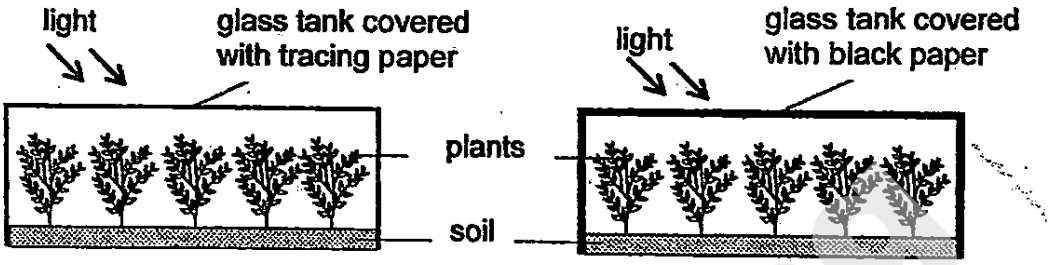
What would be the likely change in the amount of carbon dioxide in the plastic bags after several hours?

	Amount of carbon dioxide in plastic bag		
	X	Y	Z
(1)	increase	decrease	no change
(2)	decrease	no change	increase
(3)	no change	increase	decrease
(4)	no change	decrease	increase

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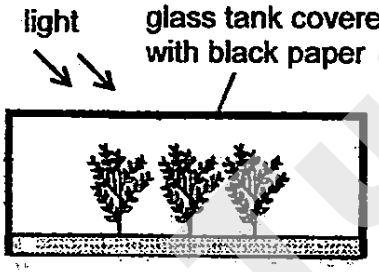
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17 Raju wants to investigate how the amount of light affects the growth of a type of plant. The diagram below shows each of his set-ups in a clear glass tank.

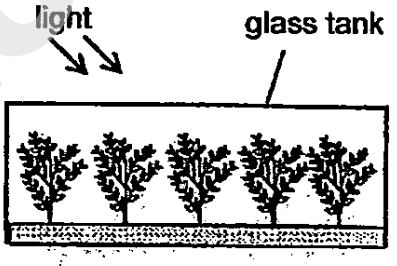


Which one of the following set-ups can he use as a control for his experiment?

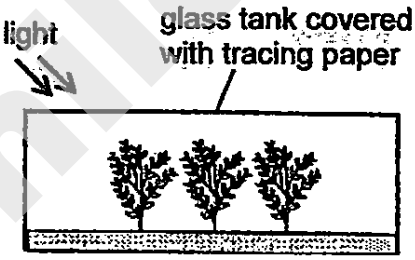
(1)



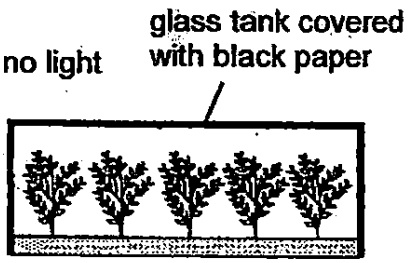
(2)



(3)



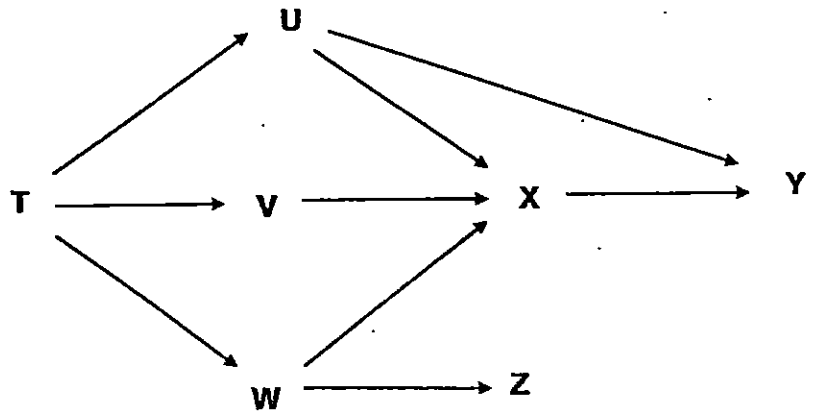
(4)



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Study the food web below and answer questions 18 and 19.



18 How many food chains are there in the food web above?

(1) 4
(2) 5
(3) 6
(4) 7

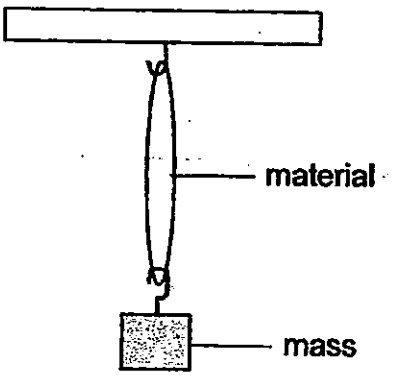
19 Which one of the following changes will have a direct and immediate impact on organism Z?

(1) An increase in the hunting of organism W.
(2) A disease reducing population of organism Y.
(3) An increase in the reproduction of organism V.
(4) A prolonged period of drought affecting population of organism T.

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20 4 different types of materials, A, B, C and D, were tested to find out which was the most suitable to make object X which had to be able to withstand a mass of 35 kg.



The table below shows the results of the experiment.

Material	Mass at which material began to break (kg)
A	12
B	25
C	6
D	50

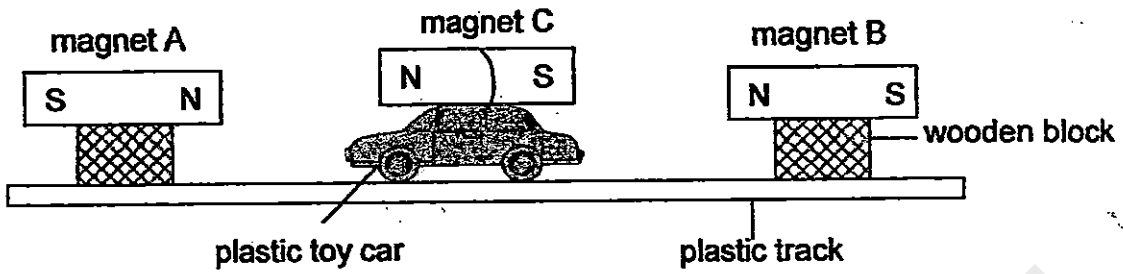
Which type of material is most suitable for making object X?

(1) Material A
(2) Material B
(3) Material C
(4) Material D

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21 A plastic toy car with a magnet was placed on a plastic track as shown below. The toy car was then given a push towards Magnet B.



Which of the following is a possible observation of the above experiment?

(1) The car was attracted by Magnet A.

(2) The car was repelled by Magnet B and pushed away.

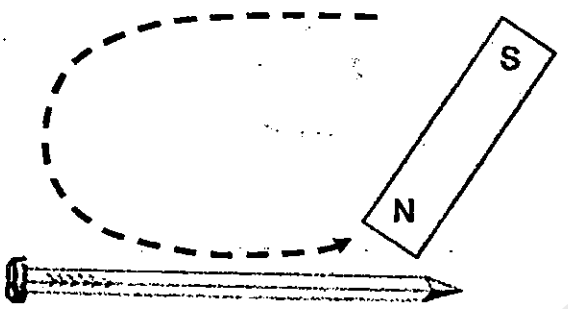
(3) The car stopped moving once it was attracted to Magnet B.

(4) The car moved continuously between Magnet A and Magnet B.

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22 Sally conducted an experiment with 4 identical iron nails, W, X, Y and Z, to find out how the number of strokes made by a magnet would affect the magnetic strength of an iron nail. She stroked each nail with a magnet in the same direction as shown below.



She observed the number of pins attracted by each magnetised nail and recorded her results in the table below.

Nail	Number of strokes	Number of pins attracted by magnetised nail
W	40	10
X	30	8
Y	20	6
Z	10	4

Based on her results above, which one of the following statements is false?

(1) If Nail Y were given more strokes, it could attract only 6 pins.

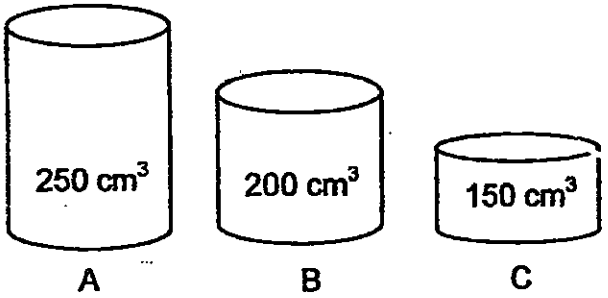
(2) An iron nail can become a magnet after stroking it with a magnet 10 times.

(3) Nail W had become the strongest magnet after stroking it 40 times with a magnet.

(4) The number of pins picked up by a magnetised nail is dependent on the number of times the nail was stroked with a magnet.

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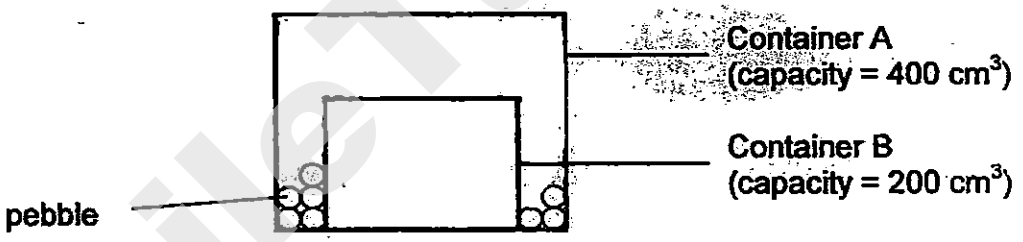
23 Zachary wants to transfer 200 cm^3 of air from a gas tank into a container.



Which of the above containers can he use to hold the air?

(1) A only
(2) A and B only
(3) B and C only
(4) A, B and C

24 The diagram below shows 2 containers, A and B. Container B is placed inside Container A. Some pebbles, with a total volume of 70 cm^3, are also placed in Container A.



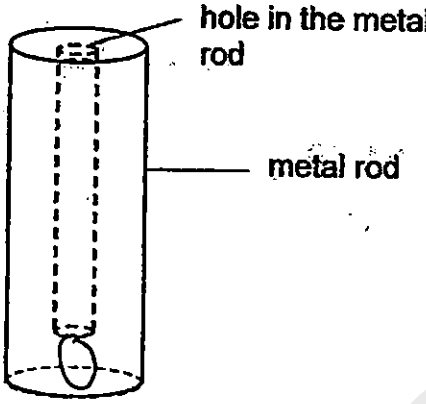
From the diagram above, what is the total volume of air in both containers?

(1) 330 cm^3
(2) 400 cm^3
(3) 530 cm^3
(4) 600 cm^3

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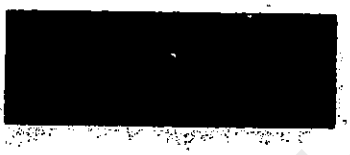
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25 Sean carried out an experiment to investigate the shadows formed by the metal rod as shown below.



Which of the following are possible shadows that can be cast by the metal rod?

A



B



C



D



(1) A and B only

(2) B and C only

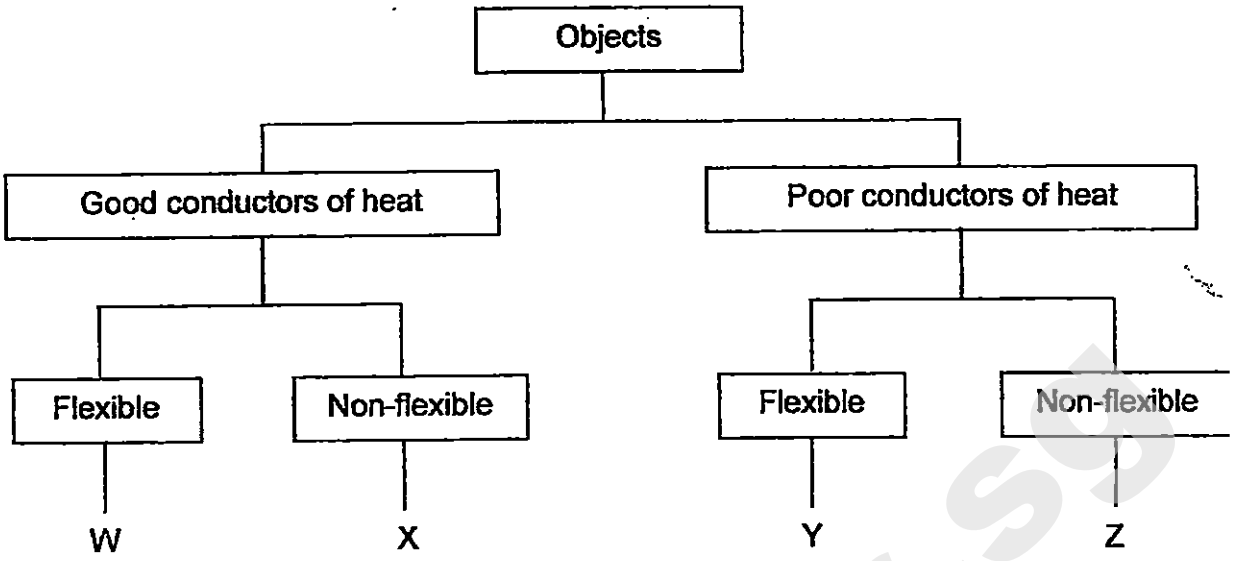
(3) A, B and D only

(4) A, C and D only

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26 Study the classification chart below.



Which of the following could possibly be objects W, X, Y and Z?

	W	X	Y	Z
(1)	silver wire	rubber hose	steel pipe	glass bowl
(2)	silver wire	steel pipe	rubber hose	clay pot
(3)	copper wire	iron nail	metal spring	ceramic mug
(4)	aluminium wire	metal spring	iron nail	ceramic mug

27 The table below shows the freezing points of three substances, A, B and C.

Substance	Freezing point (°C)
A	10
B	40
C	160

Based on the above information, which one of the following statements is correct?

(1) A is a solid at 8°C.

(2) A and B are both liquids at 35°C.

(3) B and C are both solids at 170°C.

(4) C can be a liquid or a gas at 160°C.

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28 Amirah wanted to find out how the temperature of the surrounding air affects the rate of evaporation of water in a container. The following shows the variables in four set-ups W, X, Y and Z.

	Set-ups			
	W	X	Y	Z
Amount of water in container (cm^3)	100	200	100	200
Exposed surface area of water in the container (cm^2)	50	50	50	25
Temperature of water (°C)	5	28	5	28
Temperature of surrounding air (°C)	15	30	30	15

Which 2 set-ups should she choose for her investigation?

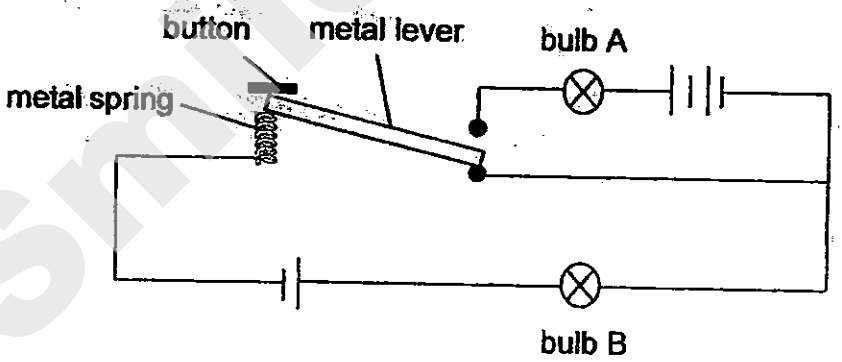
(1) W and Y

(2) W and Z

(3) X and Y

(4) Y and Z

29 Study the circuit below. Bulbs A and B are identical and the three batteries are identical. At first, bulb A is not lit while bulb B is lit with a brightness of 10 units.

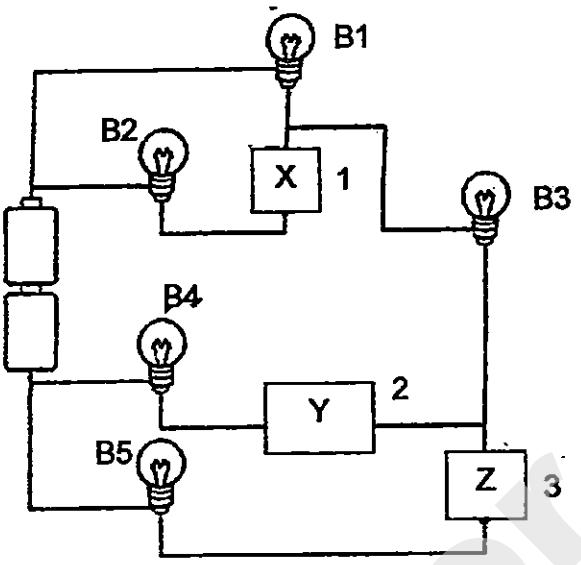


If the button is pressed and held down, what can you conclude about the brightness of bulbs A and B?

	bulb A	bulb B
(1)	as bright as 10 units	unlit
(2)	brighter than 10 units	unlit
(3)	as bright as 10 units	dimmer than 10 units
(4)	brighter than 10 units	brighter than 10 units

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30 Ian carried out an experiment to find out which materials, X, Y or Z, can conduct electricity. He connected materials X, Y and Z to the circuit at positions 1, 2 and 3 respectively as shown in the diagram below.



He observed that only bulbs B1, B3 and B4 lighted up.

He then rearranged the materials to different positions and recorded his observations.

Which one of the following connections and observations is possible?

	Position 1	Position 2	Position 3	Bulbs lit up
(1)	Y	Z	X	B1, B2 and B3
(2)	Z	X	Y	B1, B3 and B5
(3)	X	Z	Y	B2, B3 and B4
(4)	Y	X	Z	B1 and B2

End of Booklet A

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CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 2
2015
PRIMARY FIVE

SCIENCE

BOOKLET B

Name: _____ ( )

Class: Primary 5 - _____

Date: 3rd November 2015

Parent's Signature: _____

Booklet A	60
Booklet B	40
Total	100

14 questions

40 marks

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

This booklet consists of 14 printed pages, excluding the cover page.

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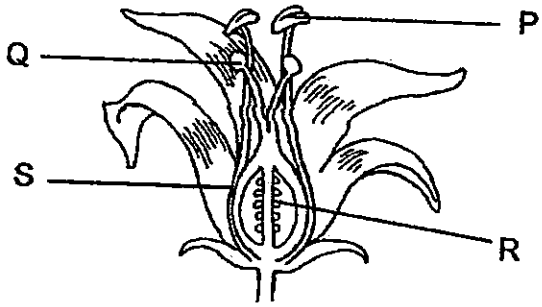
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Booklet B (40 marks)

For questions 31 to 44, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

(40 marks)

31 The diagram below shows the cross section of a flower.



(a) Which part, P, Q, R or S, performs a similar function as the testis in the human reproductive system? [1]

(b) What would happen to part S when the nucleus of the male reproductive cell fuses with the nucleus of the female reproductive cell? [1]

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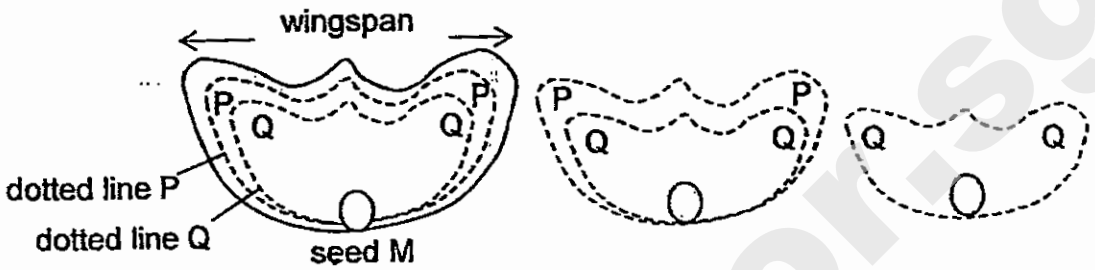
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SCORE / 2

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32 Jude found seed M as shown below. He carried out the following steps.

1) He measured the wingspan of seed M and dropped it from a height.
2) He recorded the distance travelled by the seed.
3) He cut the same seed along dotted line P and repeated steps 1 and 2.
4) He then cut the same seed along dotted line Q and repeated steps 1 and 2.
5) He recorded the distance travelled by the seed with different wingspans in the table below.



Wingspan of seed (cm)	Distance travelled by the seed (cm)
8	49
6	38
4	27
2	

(a) If the wingspan of Seed M is 2 cm, would the distance travelled by Seed M be less than, equal to or more than 27 cm? [1]

_____

(b) Based on the results above, what is the relationship between the wingspan of the seed and the distance travelled by the seed? [1]

_____

_____

(c) State the dispersal method of Seed M. Explain your answer. [1]

_____

_____

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SCORE	/ 3

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33 The table below shows some information about parts of cells A, B and C. Each of these cells has been taken from different organisms.

A tick (√) in the box indicates a part which is found in the cell.

Cell	Nucleus	Cell membrane	Cell wall	Chloroplast
A	√	√	√	
B	√	√	√	√
C	√	√		

(a) Which of the cells A, B and/or C matches the descriptions in the table below?
Write your answers A, B and/or C in the boxes provided. Each letter may be used more than once. [2]

	Description	Cell(s)
(i)	The cell(s) which is/are most likely to belong to that of an animal.	
(ii)	The cell(s) which is/are most likely to be found in a plant.	
(iii)	The cell(s) which is/are most likely to be able to produce oxygen.	
(iv)	The cell(s) which is/are most likely to be able to carry out life processes.	

(b) Other than the nucleus and cell membrane, what is another cell part which all 3 cells A, B and C have in common? [1]

_____

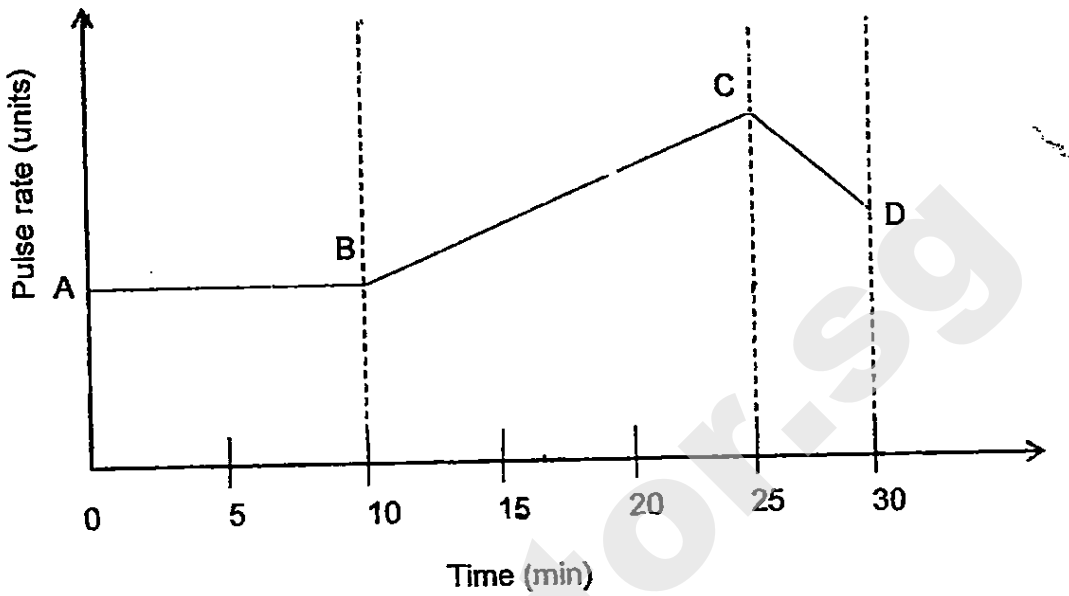
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SCORE	/ 3

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34 The graph below shows how Jessica's pulse rate changed over a period of 30 minutes.



(a) Match the activity given below to the graph above by filling in the blanks with the period, AB, BC or CD. [1]

Activity	Period in the graph
resting before a frisbee game	

(b) Jessica's pulse rate increased while playing frisbee with her friends. Explain why this happened. [2]

_____

_____

_____

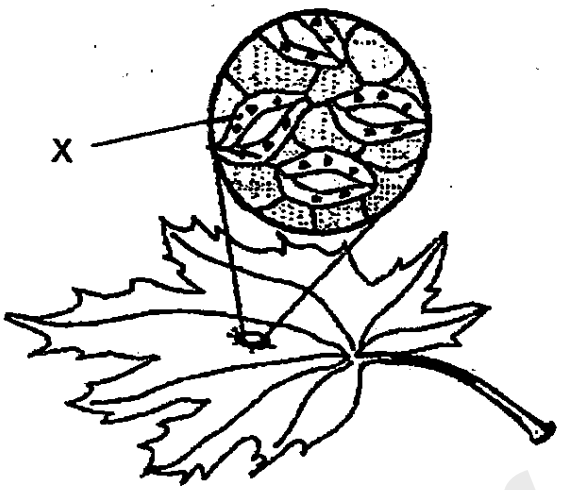
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SCORE	3

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35 Rose examined a leaf under a microscope and found tiny openings on the underside of the leaf. The picture below shows what she saw.



(a) Name structure X and state one of its functions. [1]

Structure X: _____

Function of X: _____

_____

Rose did a study on the behaviour of structure X during the day and night. She noticed that the tiny openings of structure X became larger during the day and smaller during the night.

(b) Why do you think the tiny openings of structure X were smaller in size during the night? [1]

_____

_____

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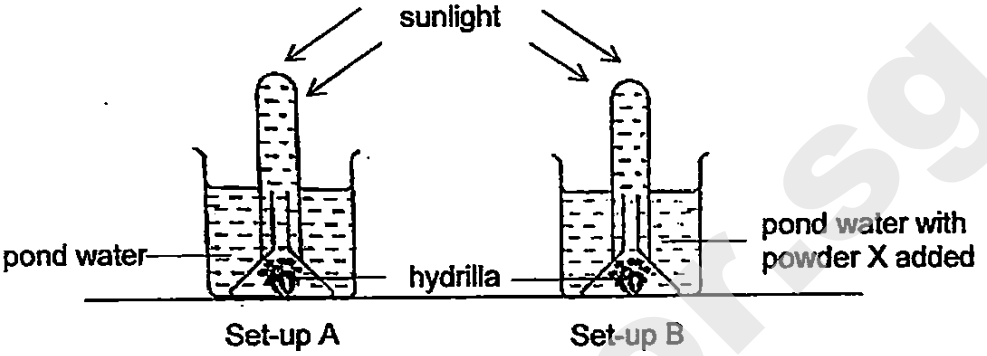
SCORE	/ 2

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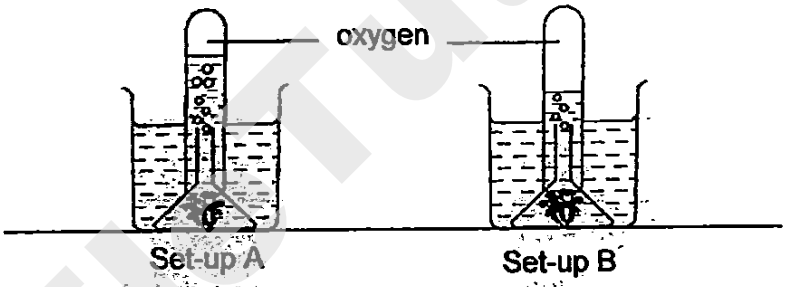
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36 Ben set up an experiment to find out if adding powder X to pond water has any effect on the rate of photosynthesis of the hydrilla.

Set-up A contained hydrilla in water collected from a pond while set-up B contained hydrilla with powder X added to the water collected from the same pond. Both set-ups were then placed under the sun, at the same location for a few hours.



After a few hours, he observed the amount of gas produced in the two test tubes as shown below.



(a) Set-up A acts as a control. Why was it necessary to have a control set-up in the experiment? [1]

_____

_____

(b) What could Ben conclude from the experiment above? [1]

_____

_____

(c) Adding powder X increased the amount of a matter needed for photosynthesis. What was the matter? [1]

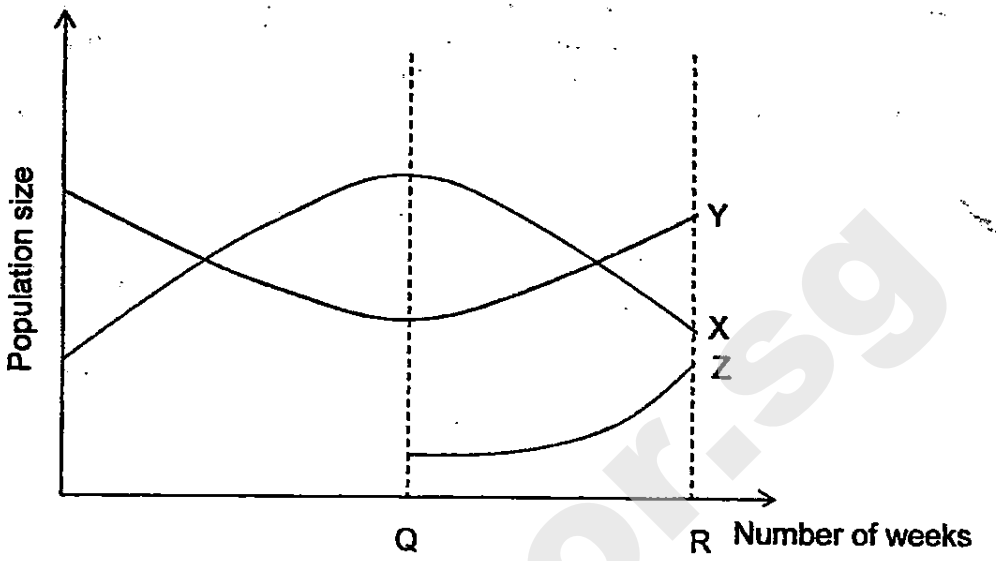
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SCORE 3

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37 The graph below shows the population size of 3 organisms X, Y and Z living in the grassland. Organism X feeds on Organism Y.



(a) At point Q, some organism Z was introduced to the grassland. Explain how the population of organism X was affected by the introduction of organism Z. [1]

(b) Using the above information, construct a possible food chain if the 3 organisms X, Y and Z were placed together with a plant during period QR.

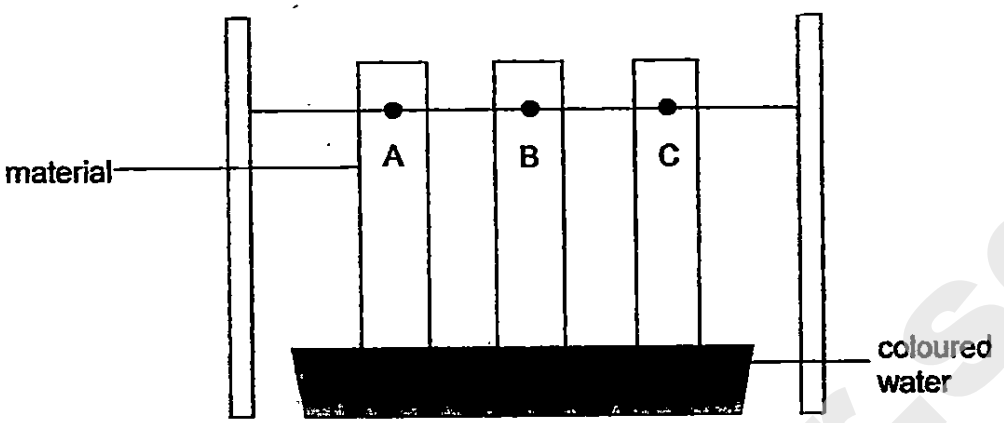
(c) From point R onwards, there was illegal hunting of organism Z. How would this illegal hunting activity affect the population of organisms X, Y and Z in the habitat? [2]

(Go on to the next page)

SCORE / 4

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38 Razak wanted to find out which material absorbs the most amount of water. He dipped three strips of different materials A, B and C with the same thickness into a basin of coloured water as shown in the diagram below.



He recorded his results in the table below after 10 minutes.

Material	Height of coloured water observed on each strip after 10 minutes (cm)
A	15
B	5
C	8

(a) If Razak wants to choose one of the materials to make a kitchen towel to wipe away water, which material A, B or C should he choose? Give a reason for your answer. [1]

_____

_____

(b) Give a reason why using the same thickness of materials helps him to make his experiment fair. [1]

_____

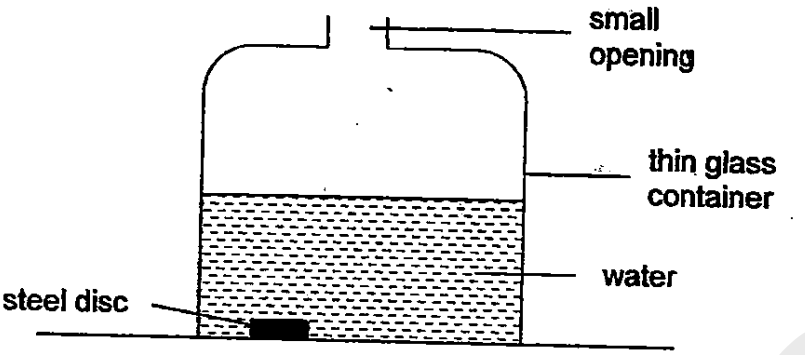
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SCORE	/ 2

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39 Henry accidentally dropped a steel disc into a thin glass container half filled with water, as shown in the diagram below.



(a) How could Henry remove the steel disc using a magnet only, without moving the glass container or putting the magnet into the container? [1]

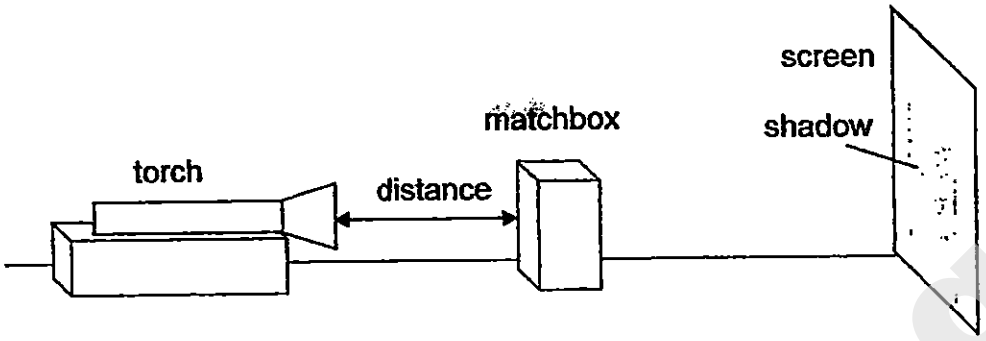
(b) If an aluminium disc was accidentally dropped into the thin glass container, would Henry still be able to remove the aluminium disc using only the magnet as mentioned in part (a)? Explain your answer. [1]

(Go on to the next page)

SCORE 2

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40 Ramu set up an experiment as shown below. He recorded the distance between the torch and the matchbox and the size of the corresponding shadow cast on the screen.



The table below shows the results of Ramu's experiment.

Shadow	Distance between torch and matchbox (cm)	Size of shadow (cm)
A	5	25
B	10	20
C	15	15
D	20	10

(a) Based on the results above, what is the relationship between the distance between the torch and the matchbox and the size of the shadow? [1]

_____

_____

(b) State the property of light that causes the formation of a shadow. [1]

_____

_____

(c) Using the same apparatus, how could Ramu make the shadow appear bigger, without moving the screen? [1]

_____

_____

(Go on to the next page)

SCORE	/ 3

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41 Lijie conducted an experiment by heating three similar rods made of metals P, Q and R for 15 minutes. He recorded the lengths of each rod before and after heating in the table below.

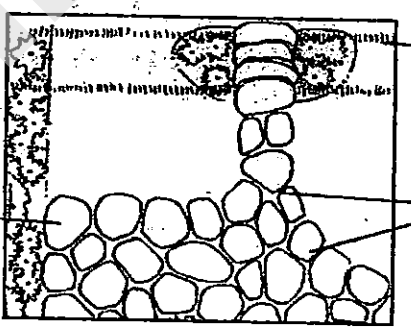
Metal	Length before heating (mm)	Length after 15 min of heating (mm)
P	300	305
Q	300	308
R	300	303

(a) Based on the results of the experiment, what could Lijie conclude about the effect of heating different materials? [1]

(b) In another experiment, Lijie heated a thicker rod made of metal R of length 300 mm for 15 minutes.

Would the length of this rod after the heating be less than, equal to, or more than 303 mm? Give a reason for your answer. [1]

Lijie noticed that there were gaps in between the concrete slabs in his garden as shown below.



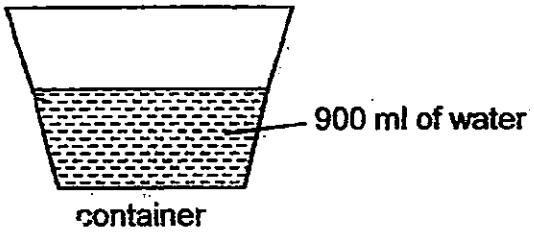
(c) What would happen to the concrete path on a very hot day if there were no gaps? Give a reason for your answer. [1]

(Go on to the next page)

SCORE 3

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42 Rachel wanted to find out the rate of evaporation at different times of a day. She filled 3 similar containers with 900 ml of water each and placed each container in a garden at different time periods of the day.



At the end of each time period, the amount of water left in the container was recorded in the table below.

Time period	7 a.m. – 9 a.m.	1 p.m. – 3 p.m.	7 p.m. – 9 p.m.
Amount of water left in the container (ml)	840	780	860

(a) Based on the results of the experiment, what is the relationship between the surrounding temperature and the rate of evaporation? [1]

(b) Based on the results above, state an appropriate time period to hang your wet clothes out to dry.



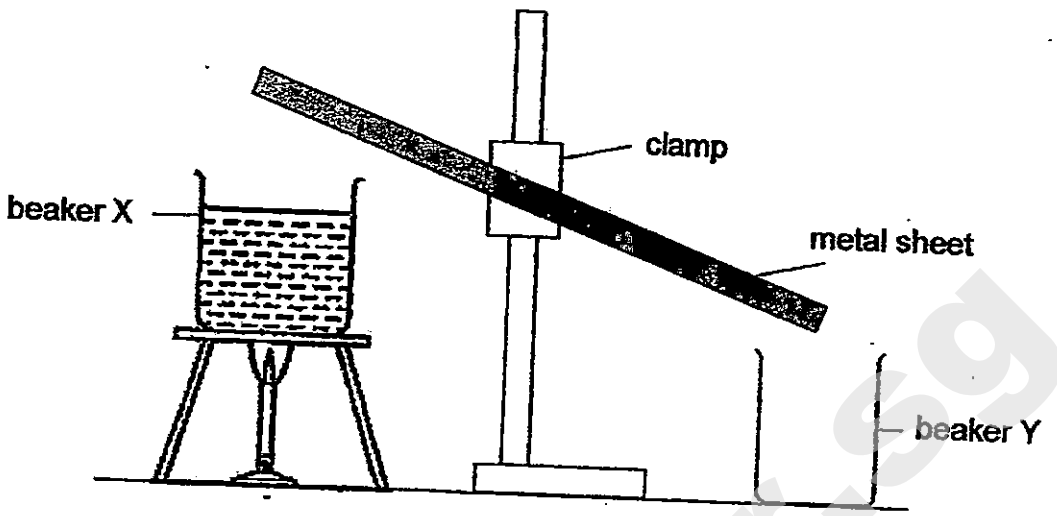
Explain your answer. [2]

(Go on to the next page)

SCORE	3

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43 Phoebe set up an experiment to transfer water from beaker X to beaker Y as shown below. Beaker X contained 80 ml of water at first.



(a) Based on the set-up above, explain how the water was transferred from beaker X to beaker Y. [2]

(b) After some time, beaker X was empty but there was only 45 ml of water in beaker Y. Explain her observation. [1]

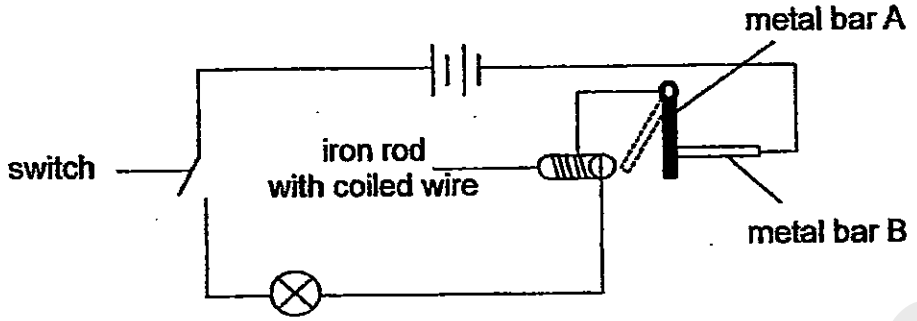
(c) Suggest one change that would allow Phoebe to collect more water in beaker Y in a shorter time. [1]

(Go on to the next page)

SCORE / 4

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44 Diane set up a circuit as shown below. The wire was coiled around the iron rod. When she closed the switch, the bulb lit up. Metal bar A moved away from metal bar B and touched the iron rod.



(a) Explain why metal bar A touched the iron rod after Diane closed the switch. [1]

_____

_____

(b) What would happen to the bulb when metal bar A came into contact with the iron rod? Give a reason. [1]

_____

_____

(c) Diane replaced metal bar A with bar C. Bars A and C are made of different materials. When she closed the switch, the bulb lit up and bar C did not move at all.
Based on the above results, state two properties of the material of bar C. [1]

(i) _____

(ii) _____

SCORE	3

End of Booklet B

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LEVEL : PRIMARY 5
SCHOOL : CATHOLIC HIGH SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
3	**4**	**1**	**4**	**2**	**2**	**3**	**1**	**1**	**4**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
2	**2**	**1**	**3**	**3**	**4**	**2**	**2**	**1**	**4**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	**1**	4	**1**	**1**	**2**	**1**	**1**	**4**	

Q31a. Part P Q31b. It would swell and develop into a fruit.

Q32a. Less than 27cm

Q32b. As the wingspan of the seed decreases, the distance travelled by the seed decreases.

Q32c. Wind. It has a wing-like structure that helps it to stay in the air for a longer period of time.

Q33ai) C Q33aii) A and B Q33aiii) B Q33aiv) A B and C

Q33b. Cytoplasm Q34a. A ,B

Q34b. As she played Frisbee with her friends with her friends her heart has to beat faster to pump blood faster to the muscles to supply them with more oxygen and more digested food so that more energy can be released through respiration.

Q35a. Structure X: Stoma Q35b. Function of X: To allow gaseous exchange to take place.

Q35b. It is to reduce water loss to the surrounding air when the leaf is not phtosynthesising.

Q36a. To ensure that the amount of oxygen produced at the end of the experiment is solely due to the presence of powder X and not any other factors.

Q36b. Adding Powder X to pond water increases the rate of photosynthesis of the hydrilla.

Q36c. Carbon dioxide.

Q37a. The population of organism X decreases once organism Z was introduced to the area because organism Z preys on organism X.

Q37b. Plant → Y → X → Z

Q37c. The population of organism Z will start to decrease as the illegal hunting activity began. This will lead to an increase in the population of X as there is less Z to prey on them. And population Y will decrease as a result of an increase in their predator X.

Q38a. A. Material A absorbed the most amount of water compared to materials B and C.

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thickness of the material.

Q39a. He could use the magnet and put it outside the glass container. The steel disc will be attracted to the magnet and he could now lift the steel disc towards the small opening.

Q39b. No. Steel is a magnetic material and thus could be attracted to a magnet while aluminum is not a magnetic material and cannot be attracted to a magnet.

Q40a. As the distance between the torch and the matchbox increases, the size of the shadow decreases.

Q40b. Light travels in a straight line.

Q40c. He could move the torch closer to the matchbox.

Q41a. Different metals expand at different rates.

Q41b. Less than 303mm. The rod is thicker and more heat was need to expand.

Q41c. It would crack. The concrete would expand and push against itself and hence crack.

Q42a. As the temperature of the surrounding air increases, the rate of evaporation increases.

Q42b. 1.pm to 3pm. The amount of water left in the container is the least so the rate of evaporation is the highest during this period, thus the wet clothers will dry fastest.

Q43a. The water would gain heat, evaporate into warm water vapour, rise, come into contact with the cooler underside of the metal sheet, lose heat, condense into water droplets, flow down the metal sheet and drop into beaker Y.

Q43b. Some of water in beakers X and Y evaporated into water vapor and rose into the air.

Q43c. Use a stronger flame. Put ice on the metal sheet to cool it.

Q44a. The electric current flew through the iron rod, turning it into and electromagnet and it attracted metal bar A.

Q44b. It would not light up. When the metal bar A moved towards the iron rod, it created an open circuit and electric current could not flow through and light up the bulb.

Q44c.i) It was an electrical conductor

Q44cii) It was a non – magnetic material.

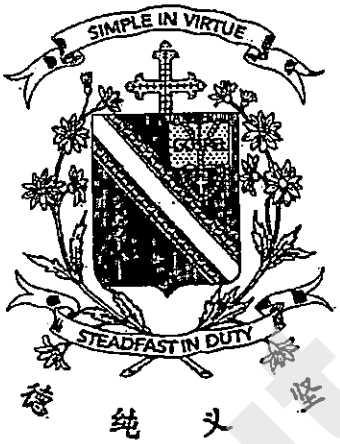
THE END

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Name: _____ ( )

Class: Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5
Semestral Assessment 2 – 2015
SCIENCE

BOOKLET A

29 October 2015

Total Time for Booklets A and B: 1 hour 45 minutes

30 questions
60 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This booklet consists of 21 printed pages.

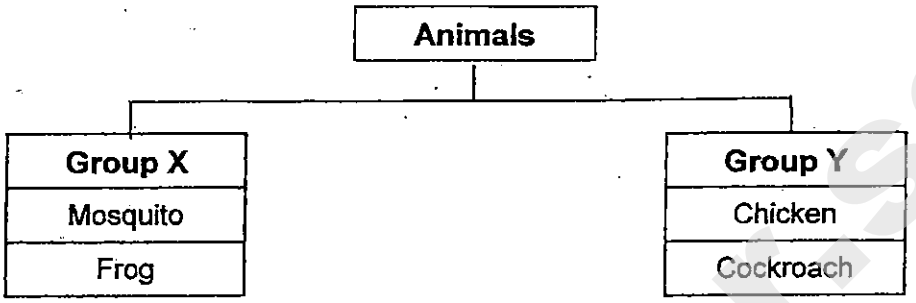
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Section A (30 x 2 marks = 60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. Study the classification chart below carefully.



Which of one of the following shows the correct headings for Group X and Group Y?

	Group X	Group Y
(1)	Lay eggs	Do not lay eggs
(2)	Have wings	Do not have wings
(3)	Three body parts	More than three body parts
(4)	Spend part of life cycle in water	Spend entire life cycle on land

2. Which one of the following is the most likely reason for the male animal to produce millions of sperms?

(1) To show that it is healthy.

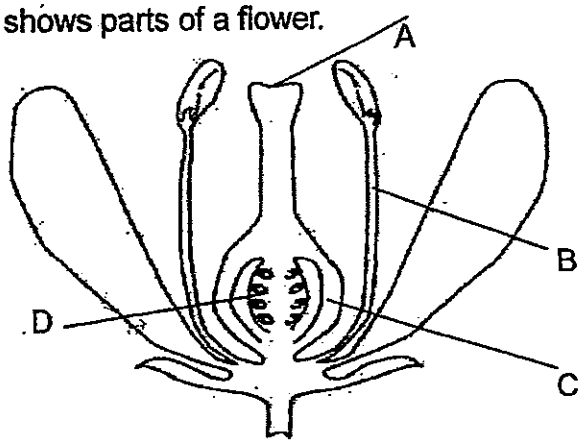
(2) To fertilise many eggs at a time.

(3) To shorten the time needed for fertilisation.

(4) To increase the chance of a sperm fertilising an egg.

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3. The diagram below shows parts of a flower.



Which part, A, B, C or D, will develop into a seed?

(1) A

(2) B

(3) C

(4) D

4. Which of the following statements about birds are true?

A All birds can fly.

B All birds lay eggs.

C All birds are meat eaters.

D All birds have wings and feathers.

(1) A and B only

(2) B and C only

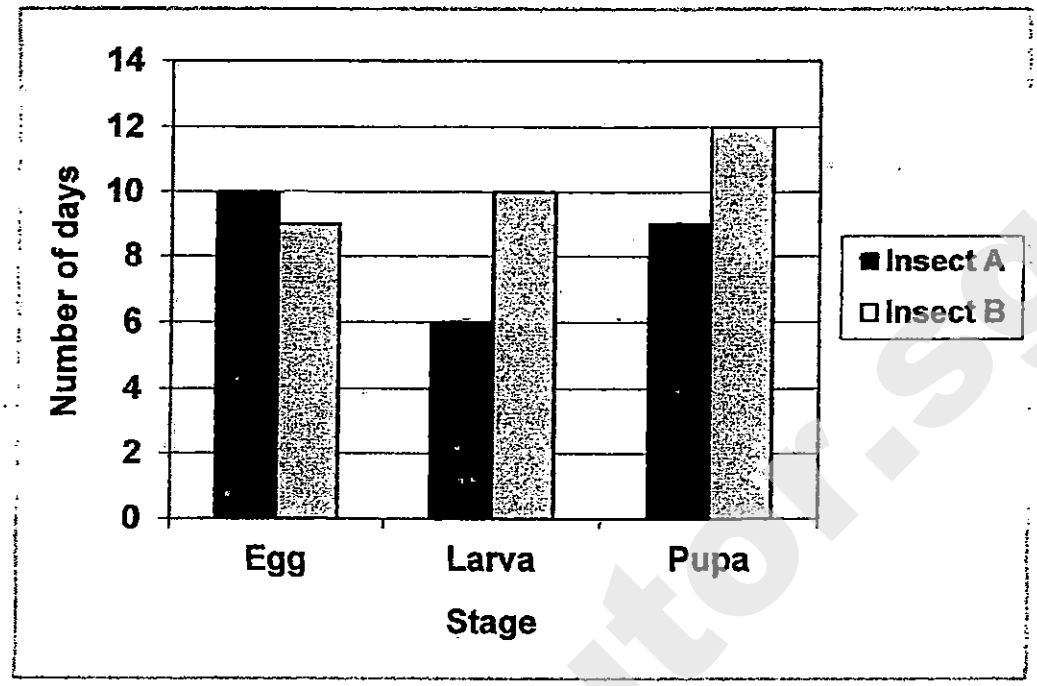
(3) B and D only

(4) C and D only

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5. The diagram below shows the duration of the first 3 stages of the life cycles of insects A and B respectively.



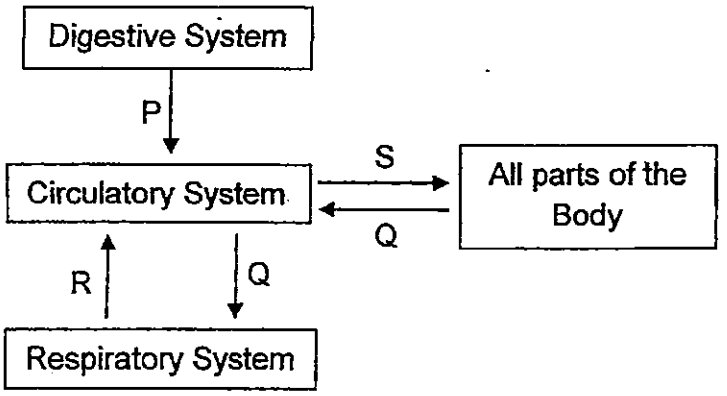
Which of the following is most likely to represent the stage of Insects A and B respectively 20 days after the eggs were laid?

	Insect A	Insect B
(1)	Pupa	Pupa
(2)	Larva	Pupa
(3)	Pupa	Adult
(4)	Larva	Larva

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6. The diagram below shows how three body systems work together to transport substances to all parts of the body.



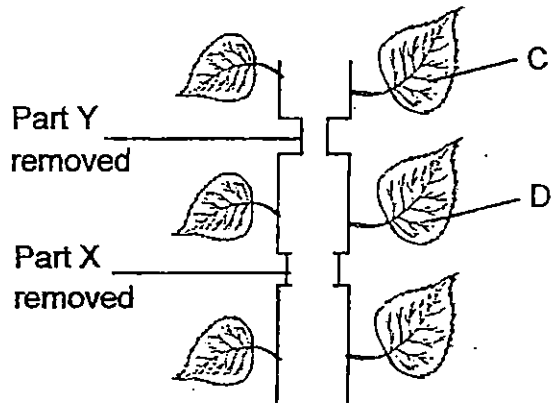
Which of the following substances could P, Q, R and S represent?

	P	Q	R	S
(1)	Undigested food	Oxygen	Carbon dioxide	Carbon dioxide and oxygen
(2)	Digested food	Carbon dioxide	Oxygen	Digested food, carbon dioxide and oxygen
(3)	Digested food	Carbon dioxide	Oxygen	Digested food and oxygen
(4)	Digested food	Oxygen	Carbon dioxide	Digested food and carbon dioxide

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7. Alice cut 2 rings of different thickness, Part X and Part Y, from a stem and removed them from the plant as shown below.



She recorded her observations of Leaves C and D after 1 week in the table below.

Leaf	Observations
C	Brown and wilting
D	Remains green and healthy

Which one of the following correctly states the parts that were removed?

	Part X	Part Y
(1)	Food-carrying tubes only	Food-carrying tubes only
(2)	Food-carrying tubes only	Food-carrying tubes and water-carrying tubes
(3)	Food-carrying tubes and water-carrying tubes	Food-carrying tubes only
(4)	Food-carrying tubes and water-carrying tubes	Food-carrying tubes and water-carrying tubes

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8. Tiffany carried out an experiment to find out if the colour of a flower would affect the number of insects it attracts. The table below shows the characteristics of four types of flower P, Q, R and S.

Flower	Petal		Smell
	Size	Colour	
P	Large	Brightly-coloured	Scented
Q	Small	white	Scented
R	Large	white	Scented
S	Small	Brightly-coloured	Unscented

Which two flowers should she choose in order to conduct a fair experiment?

(1) P and R only

(2) P and S only

(3) Q and S only

(4) S and R only

9. What will happen to the flower after fertilisation has taken place?

A The petals will fall off.

B Ovary will develop into a fruit

C Filament will remain on the fruit.

D Pollen will grow a tube down the style.

(1) A only

(2) A and B only

(3) B and C only

(4) C and D only

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10. Which one of the following statements about human reproduction is false?

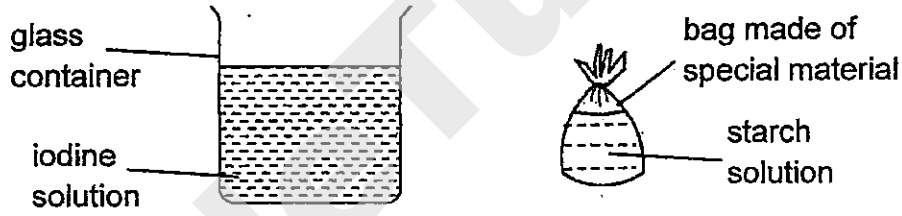
(1) All eggs produced by the ovaries develop into babies.

(2) The fertilized egg develops into a foetus in the mother's womb.

(3) The fertilized egg divides to form many cells and they form the different parts of the developing baby.

(4) During fertilization, only one sperm will fuse with the egg while the remaining sperms will eventually die.

11. Lucie made a bag from a special kind of material and filled it with a starch solution. The bag was then lowered into a glass container filled with some iodine solution. Six hours later, the starch solution in the bag turned dark blue. However, the colour of the iodine solution in the glass container remained unchanged.

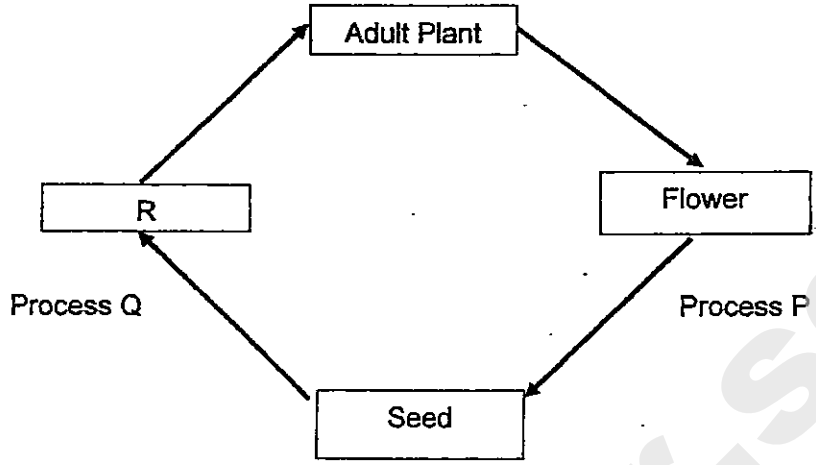


What caused the starch to turn dark blue?

(1) The material of the bag interacted with the iodine solution.
(2) The material of the bag interacted with the starch solution.
(3) The iodine solution entered the bag and interacted with the starch solution.
(4) The starch solution was able to exit from the bag and interact with the iodine solution.

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12. The diagram below shows the life cycle of a flowering plant.



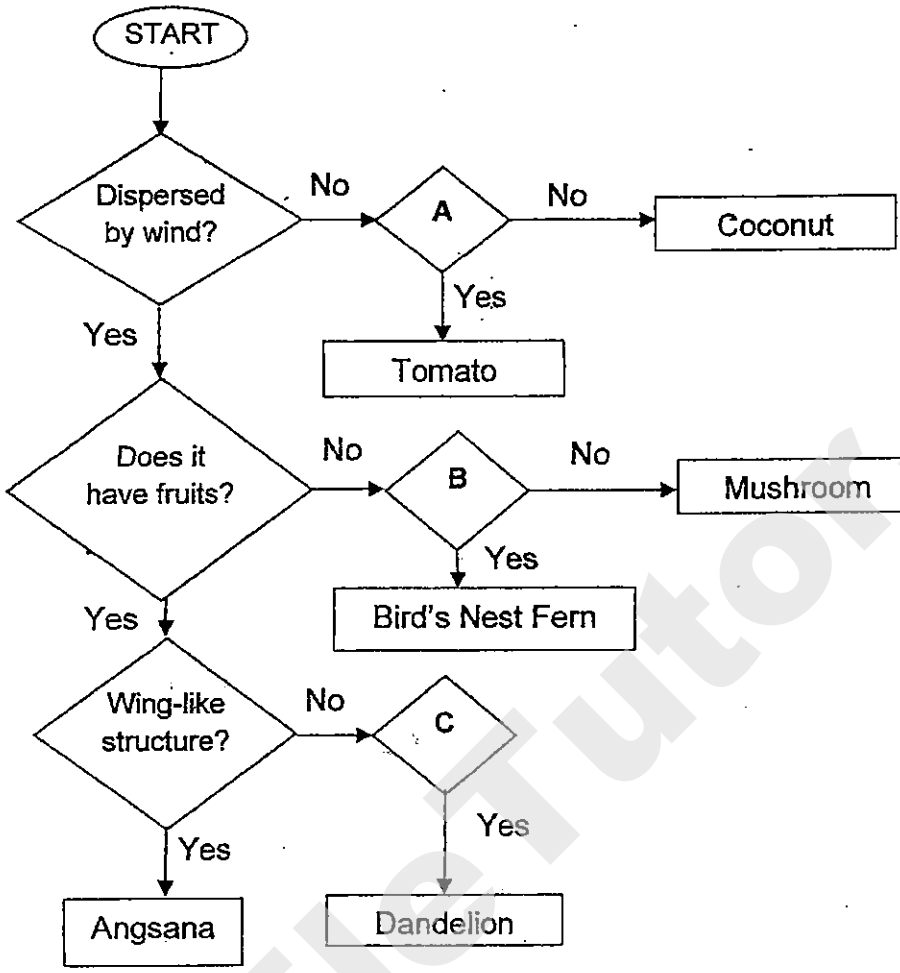
Which one of the following shows the correct representation of P, R and Q?

	P	Q	R
(1)	Germination	Fertilisation	Seedling
(2)	Fertilisation	Pollination	Fruit
(3)	Pollination	Germination	Fruit
(4)	Fertilisation	Germination	Seedling

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13. Study the flowchart below.



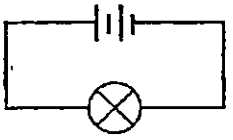
What do A, B and C in the flowchart represent?

	A	B	C
(1)	Are the leaves big?	Is the fruit edible?	Feather-like structure?
(2)	Does it grow in soil?	Is the fruit wall fibrous?	Stiff hair on fruit / seed?
(3)	Dispersed by animal?	Spore bags under leaves?	Hair-like structure?
(4)	Dispersed by wind?	Does it bear flower?	Is the plant edible?

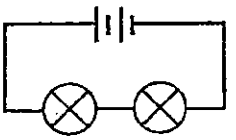
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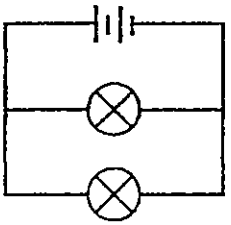
14. Jane set up four electrical circuits, P, Q, R and S, using identical batteries and bulbs.



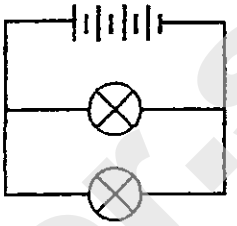
Circuit P



Circuit Q



Circuit R



Circuit S

Which two of the above circuits have bulbs of equal brightness?

(1) Circuits P and R
(2) Circuits P and S
(3) Circuits Q and S
(4) Circuits R and Q

15. May wanted to find out how the temperature of the surrounding affects the rate of evaporation of water.

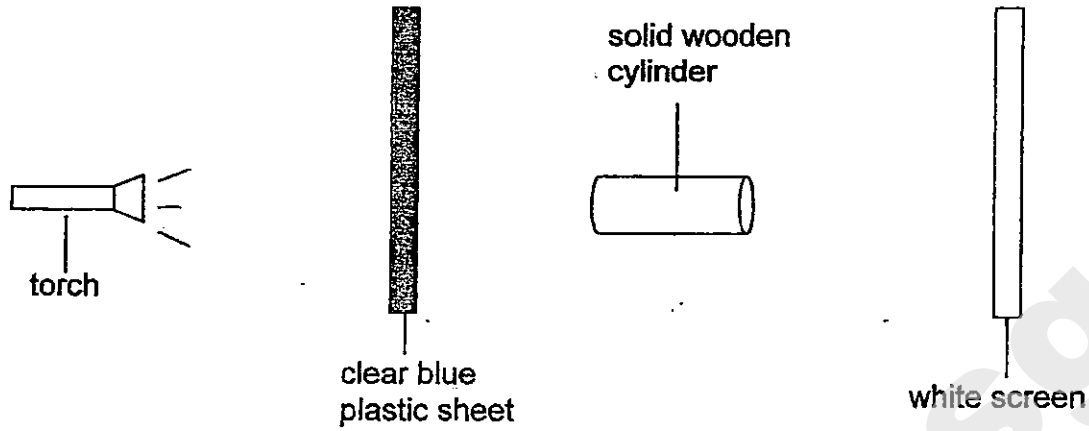
Set-up	Exposed surface area of container (cm^2)	Volume of water in container (ml)	Temperature (°C)	Wind
A	150	350	28	present
B	100	300	33	absent
C	100		28	absent
D	150	350	33	absent

Based on the table above, which two set-ups should May use to conduct her experiment?

(1) A and B
(2) A and D
(3) B and C
(4) C and D

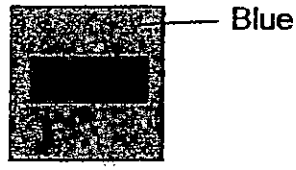
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16. The experiment shown below is carried out in a dark room.

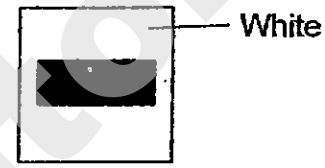


Which of the following correctly shows the shadow cast on the screen when the torch is switched on?

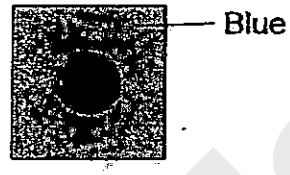
(1)



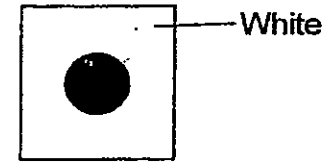
(2)



(3)



(4)



17. The table below shows the melting points and boiling points of four substances, W, X, Y and Z.

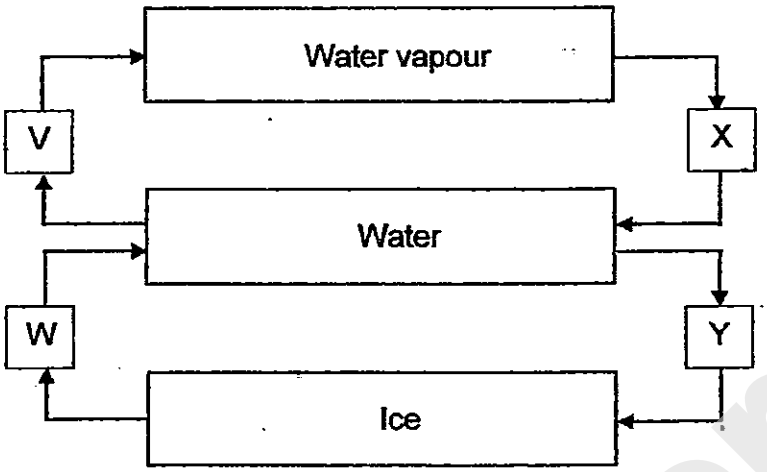
Substance	Melting point (°C)	Boiling point (°C)
W	28	54
X	45	94
Y	16	71
Z	0	100

At which temperature would only one of the 4 substances W, X, Y and Z, be in its gaseous state?

(1) 14 °C
(2) 62 °C
(3) 75 °C
(4) 98 °C

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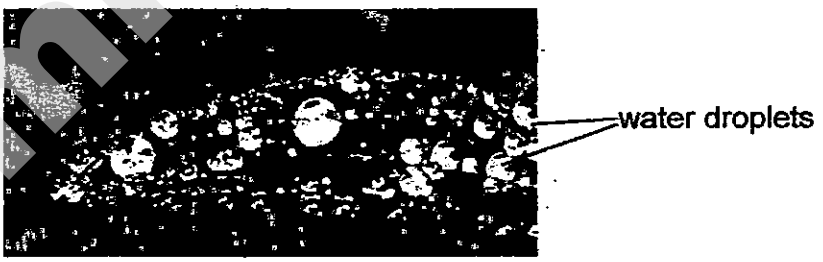
18. The diagram below represents the changes in states of water in a water cycle. V, W, X and Y represent the processes involved.



Which of the following processes, V, W, X and Y, involve heat loss to the surroundings?

(1) V and W
(2) V and X
(3) X and Y
(4) W and Y

19. In the morning, Zane noticed some water droplets on one of the leaves in her garden though it did not rain the night before.

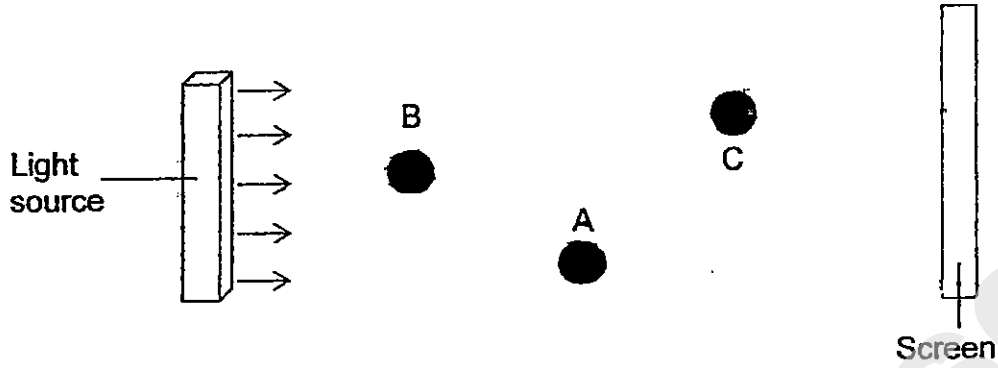


Which one of the following best explains her observation?

(1) Water from the leaves evaporated into the air.
(2) Water vapour from the surrounding air condensed on the leaves.
(3) Water droplets from the surrounding air evaporated on the leaves.
(4) Water escaped from the leaves and formed water droplets on the leaves.

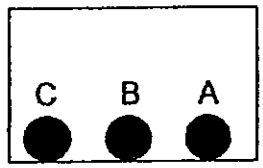
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20. Three metal balls, A, B and C, of the same size are placed at different positions between a light source and a white screen as shown in the diagram below.

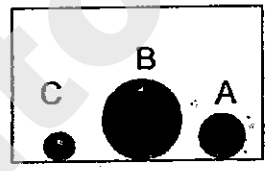


When the light source is switched on, which one of the following diagrams correctly shows the shadows cast on the screen by the metal balls?

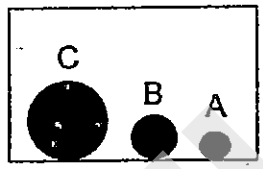
(1)



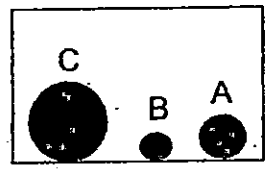
(2)



(3)



(4)



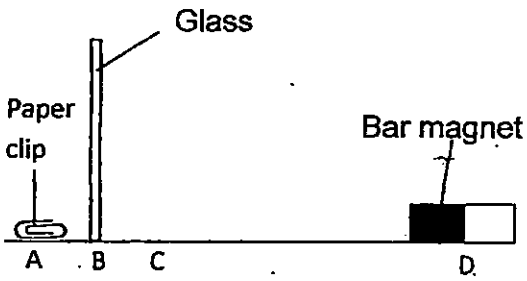
21. A block of ice was placed on a tray and left at room temperature for 3 minutes.

Which one of the following statement is true?

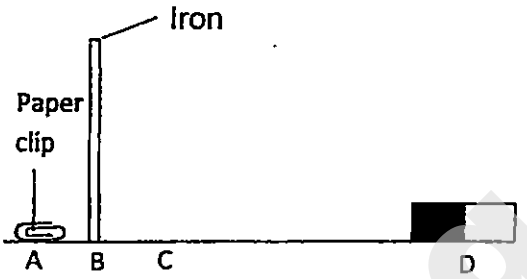
(1) The temperature of the block of ice is 0°C.
(2) The temperature of the block of ice increases.
(3) The temperature of the block of ice decreases.
(4) The temperature of the water around the block of ice is less 0°C.

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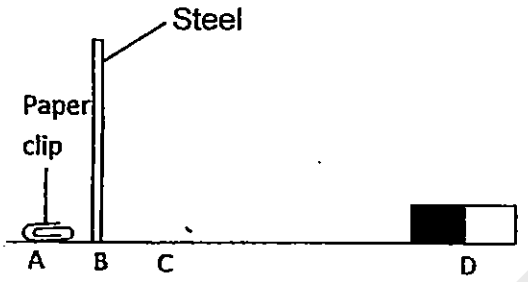
22. Study the 4 set ups, A, B, C and D, shown below.



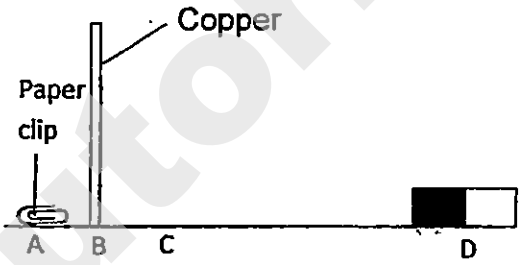
Set-up A



Set-up B



Set-up C



Set-up D

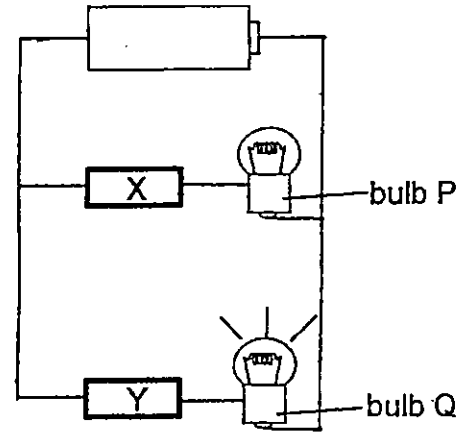
When the magnet is placed at position C, in which set-up(s) would the paper clip move towards position B?

(1) B only
(2) A and D only
(3) B and C only
(4) B, C, D only

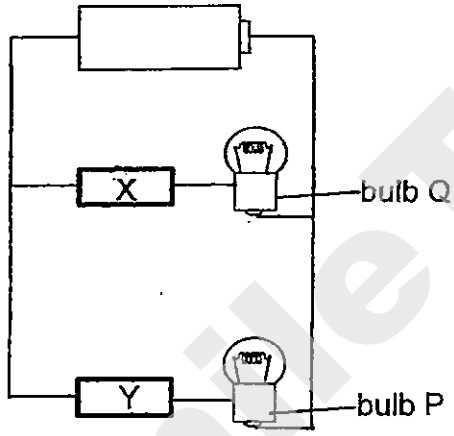
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23. Jen set up a circuit as shown below. She observed that only bulb Q lit up.



She then changed the positions of bulb Q and P as shown below, and observed that no bulb lit up.



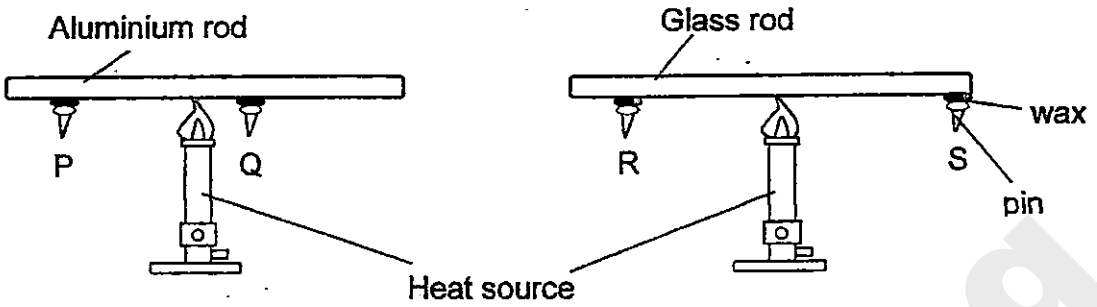
Based on her observation above, which one of the following is correct?

	Electrical insulator	Fused bulb
(1)	X	P
(2)	X	Q
(3)	Y	P
(4)	Y	Q

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24. Evelyn set up an experiment as shown below. Pins, P, Q, R and S, are held in the different positions on the rods with wax. As the rods get heated up, the pins on the rods begin to fall off one by one.



Which of the following shows the correct order of the pins that would drop from the rods?

	Fastest → Slowest			
(1)	Q	R	P	S
(2)	R	S	Q	P
(3)	P	Q	S	R
(4)	Q	P	R	S

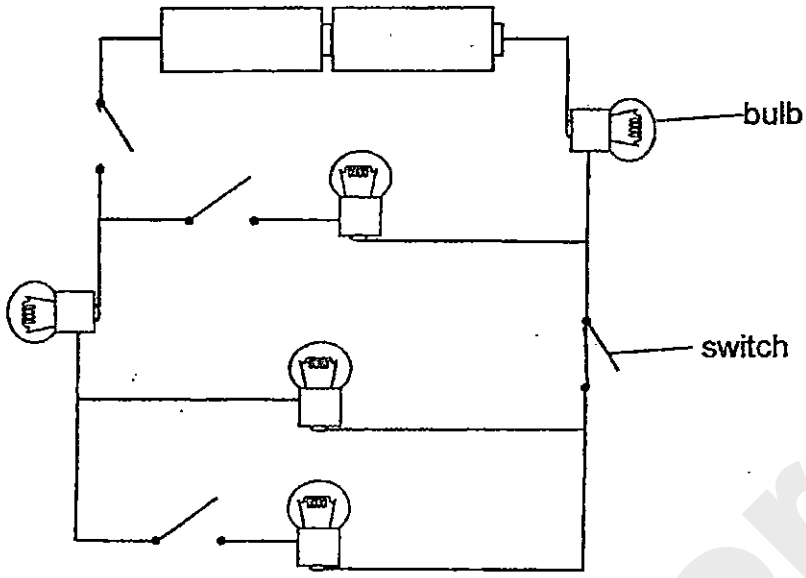
25. Which one of the following does not help in the conservation of water?

(1) Wash the car with a water hose.
(2) Turn off the tap while soaping.
(3) Wash clothes only when the washing machine has a full load.
(4) Water the plants with water that has been used to wash rice.

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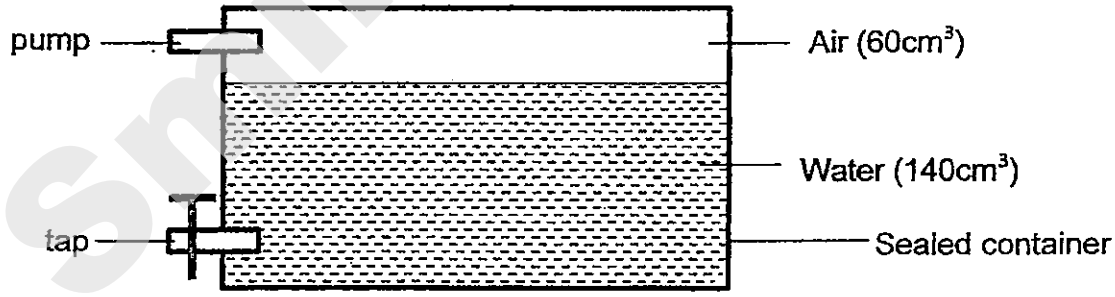
26. Joan set up a circuit as shown below.



What is the minimum number of switches to be closed in order for 3 bulbs to be lit?

(1) 1
(2) 2
(3) 3
(4) 4

27. Peter conducted an experiment using the set-up as shown below.



He used the tap to remove 30cm³ of water. He then used the pump to add 20cm³ of air into the container. What was the final volume of air in the container?

(1) 60cm³
(2) 80cm³
(3) 90cm³
(4) 110cm³

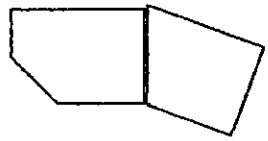
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28. A bar magnet was broken into three pieces, P, Q, and R as shown below.

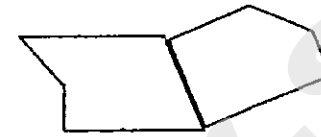


Which of the following is **not** possible when two broken pieces of magnets are brought together?

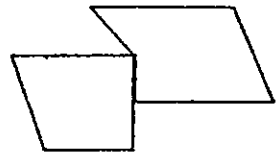
(1)



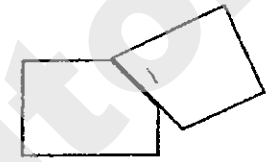
(2)



(3)



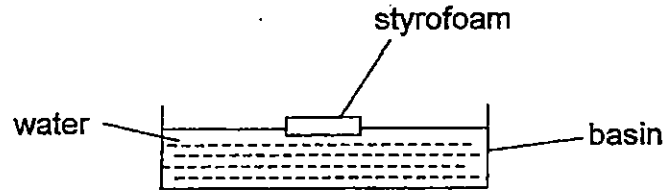
(4)



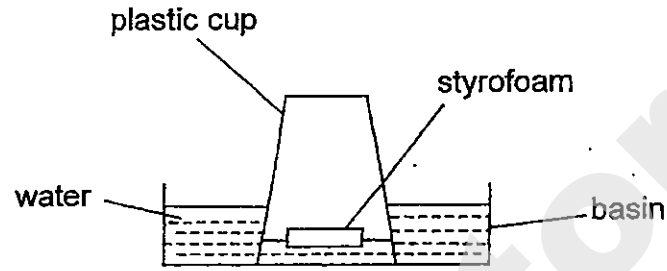
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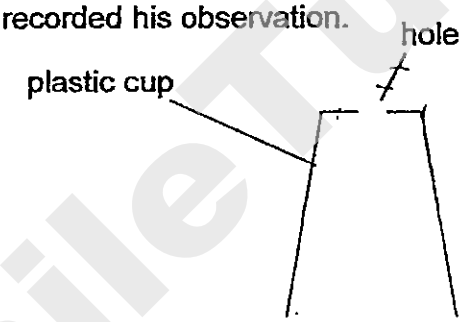
29. Simon placed a piece of styrofoam in a basin of water as shown in the diagram below. It was observed that the piece of styrofoam floated on the water.



He then inverted a transparent plastic cup over the styrofoam piece and observed the changes in the plastic cup as shown in the diagram below.

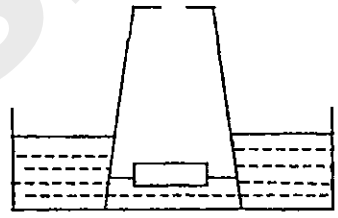


He repeated the experiment by making a hole at the base of the transparent plastic cup and recorded his observation.

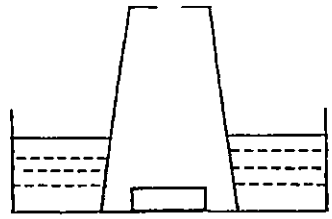


Which of the following is most likely to show his observation when he repeated the experiment?

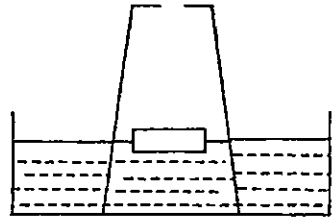
(1)



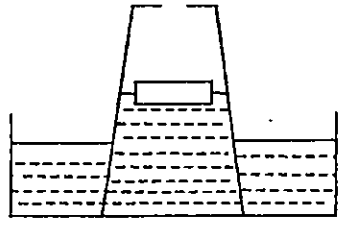
(3)



(2)

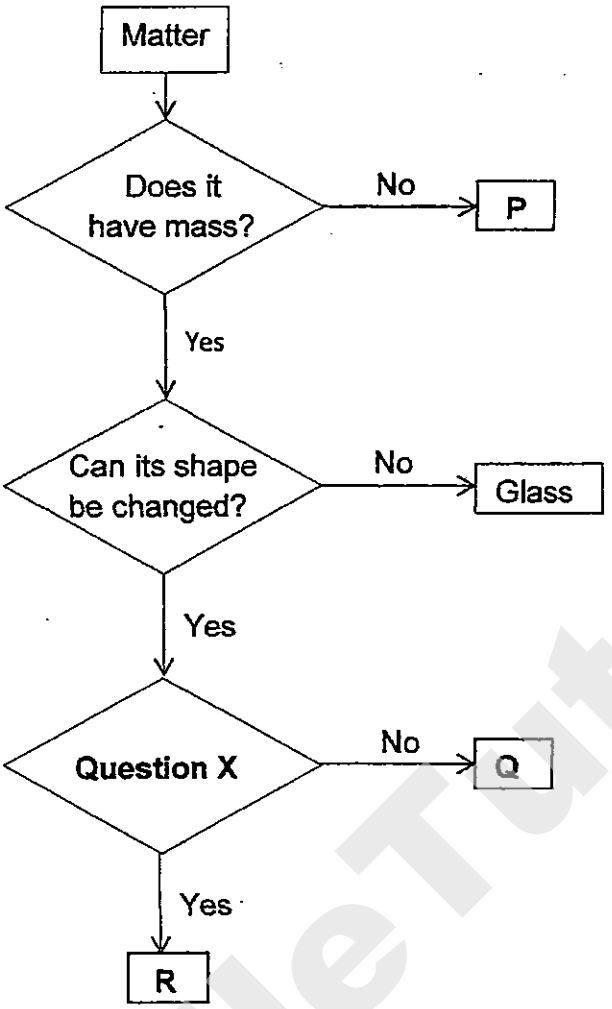


(4)



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30. Study the diagram below.



Which of the following correctly states what P, Q, R and Question X are?

	Question X	P	Q	R
(1)	Can it change state?	Steam	Sand	Ice cube
(2)	Does it occupy space?	Fire	Sound	Water
(3)	Can it be compressed?	Sunlight	Oxygen	Orange juice
(4)	Does it have a definite volume?	Shadow	Carbon dioxide	Water

End of Booklet A

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Name : _____ ( )

Class : Primary 5 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 5
Semestral Assessment 2 – 2015
SCIENCE

BOOKLET B

29 October 2015

Booklet A	60
Booklet B	40
Total	100

Total Time for Booklets A and B: 1 hour 45 minutes

14 questions
40 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This paper consists of 15 printed pages.

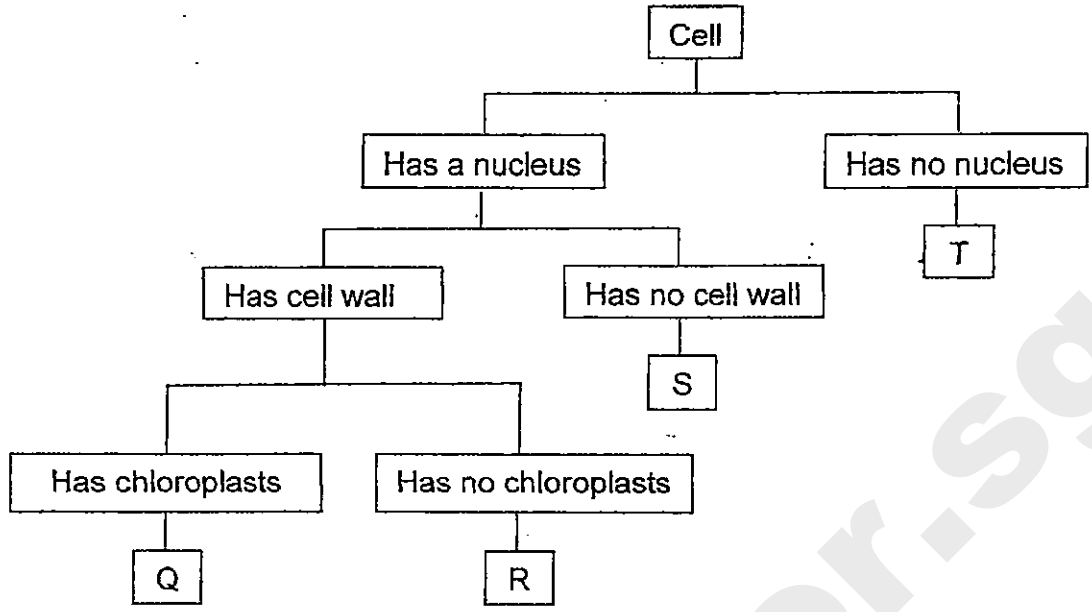
_____

Parent's Signature/Date

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31. Study the chart below.



Based on the information above, answer the following questions.

(a) State one difference between cell Q and cell S. [1]

_____

_____

(b) Which cell is likely a root cell? Explain your answer. [1]

_____

_____

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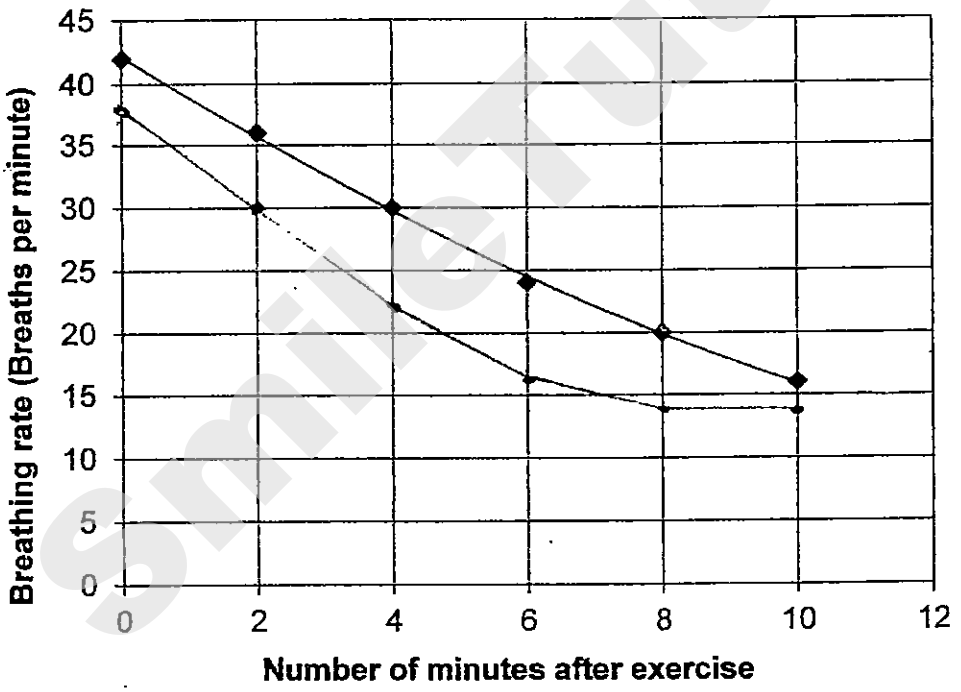
32. William and Samuel carried out an experiment to investigate the effect of exercise on their breathing rates.

They measured their breathing rates before starting their exercises. Then they did some exercises for 15 minutes and measured their breathing rates immediately after. They then measured their breathing rates again every two-minute for 10 minutes while resting.

They recorded their breathing rates before and after the exercise in the table below.

	Breathing Rate per minute						
	Before exercise	No. of minutes after exercise					
		0	2	4	6	8	10
William	14	38	30	22	16	14	14
Samuel	16	42	36	30	24	20	16

(a) The graph below shows how Samuel's breathing rate changes after the exercise. Based on the results shown above, draw a graph to show how William's breathing rate changes after the exercise. [1]



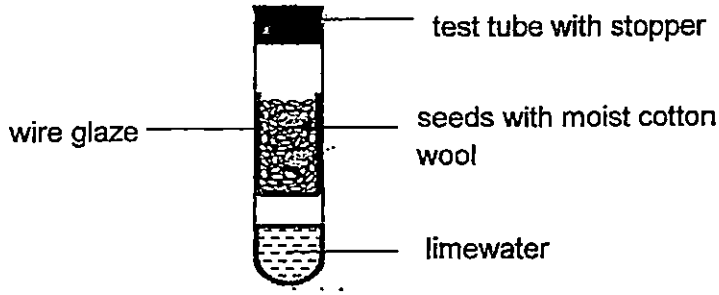
(b) Based on the information given above, which of the boys, William or Samuel, made a quicker recovery from the exercise? Give a reason for your answer. [1]

_____

_____

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33. Aiko wanted to find out if carbon dioxide is given out when seeds germinate. She conducted an experiment with the set up shown below. The set up was left in a warm dark place for 2 days. After 2 days, Aiko observed that the seeds had germinated and the limewater in the test tube had turned chalky.



(a) Based on the results of her experiment, what can Aiko conclude about germination and the gas given out? [1]

_____

(b) Explain why having a stopper to seal up the test tube would ensure that the result is reliable. [1]

_____

_____

(c) Suggest a control set up for this experiment. [1]

_____

_____

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34. Madeline conducted an experiment to determine how the number of wing-like structures of fruit X affects the duration it remains in the air.



Fruit X with 2 wing-like structures

She dropped the fruit from a fixed height and recorded the time taken for the fruit to reach the ground. She repeated the experiment using the same fruit but with the wing-like structures cut off, one at the time, as shown below.



Fruit X with 1 wing-like structure



Fruit X with no wing-like structure

For each of the experiment carried out, she recorded the results in the table below.

Time taken for the fruit to reach the ground (seconds)		
Fruit X with 2 wing-like structures.	Fruit X with 1 wing-like structure.	Fruit X with no wing-like structures.
12.9	8.4	3.1

(a) What conclusion can be drawn from the results above? [1]

_____

_____

(b) What advantage does a seed have if it is able to take a longer time to reach the ground once it has been dispersed from its parent plant? [1]

_____

_____

(c) Madeline used the same seed for the experiments in order for the results to be reliable. Give 2 reasons why the same seed must be used for the experiments. [1]

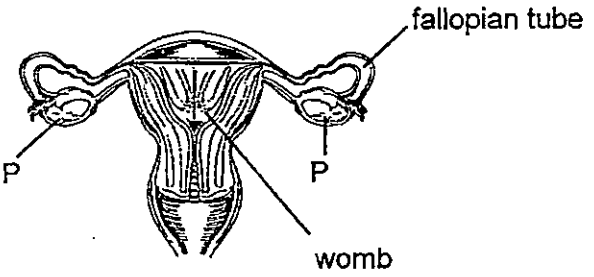
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35. The diagram below shows a human female reproductive system.

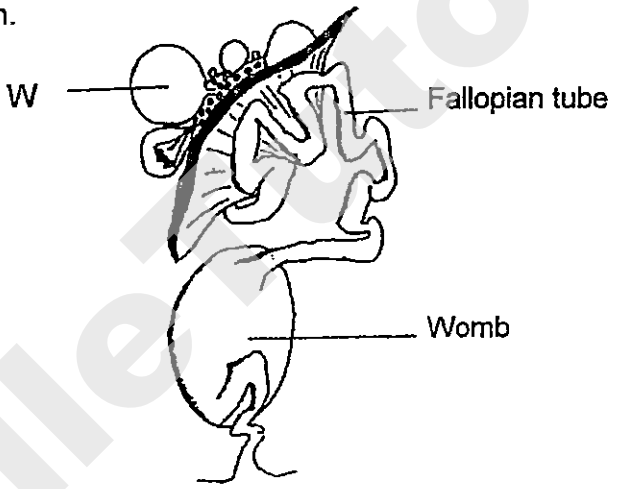


(a) Name the part labelled P and state its function. [1]

_____

_____

The diagram below shows the female reproductive system of a bird. The part labelled W has the same function as the part labelled P in the human reproductive system.



The human female reproductive system has 2 of its parts labelled P whereas the female bird reproductive system has only 1 of its parts labelled W.

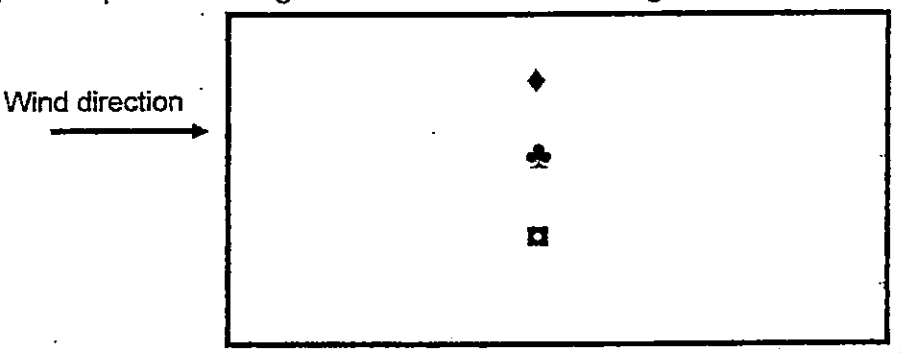
(b) What advantage has the human female reproductive system over the bird female reproductive system? [1]

_____

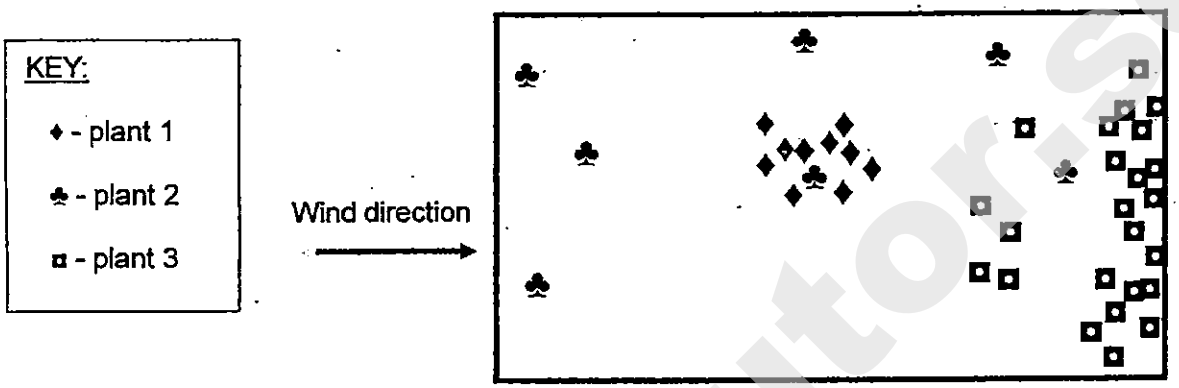
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36. Roger grows 3 plants in his garden as shown in the diagram below.



After 30 days, Roger found more plants growing in his garden.



State the methods of dispersal of fruits/ seeds of plants 1 and 2 and give a reason for each of your answers. [3]

Plant 1: _____

Reason: _____

_____

Plant 2: _____

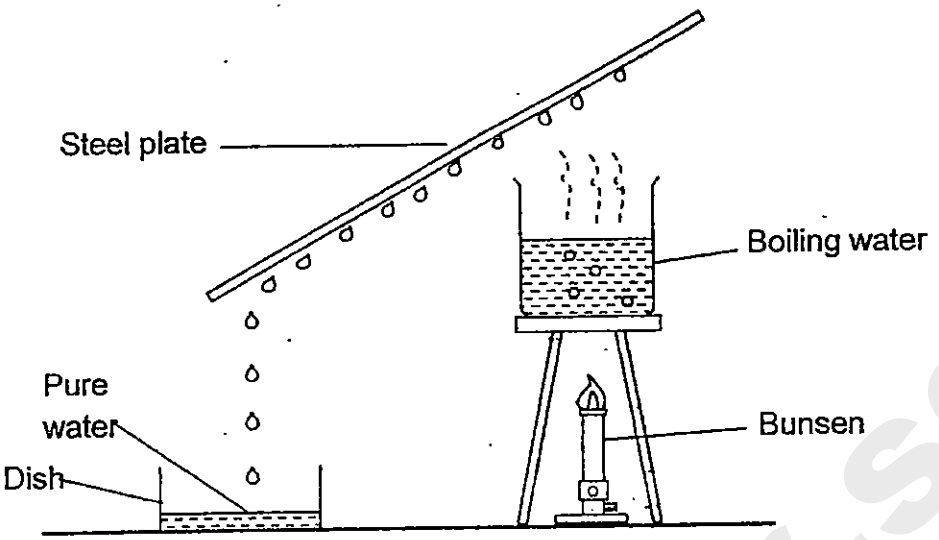
Reason: _____

_____

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37. An experiment was set up as shown below.



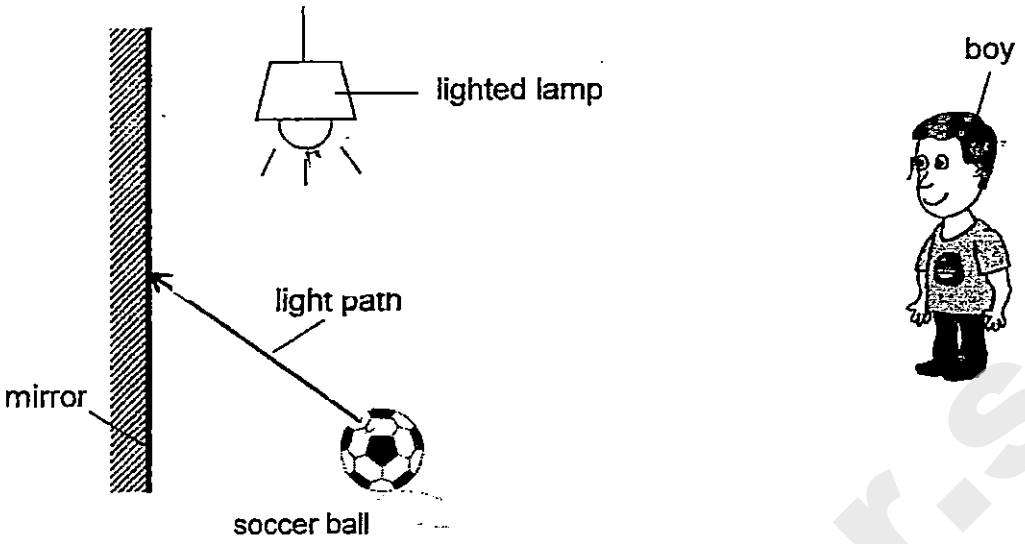
(a) Explain how pure water was formed and collected in the dish. [2]

(b) Water droplets were observed to form quickly on the steel plate at the start of the experiment. However, after a while, fewer and fewer water droplets were formed on the plate. Give a reason for this observation. [1]

(c) What would you observe on the amount of water collected in the dish if the steel plate is replaced with a plastic plate? [1]

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38. A boy entered a room with a lighted lamp and saw the image of the soccer ball in the mirror.



(a) On the diagram above, draw **two** arrows to complete the path of light to show how the boy was able to see the image of the soccer ball in the mirror from where he was standing.

[2]

(b) The soccer ball has cast a shadow on the floor. Explain how the shadow was formed. [1]

_____

_____

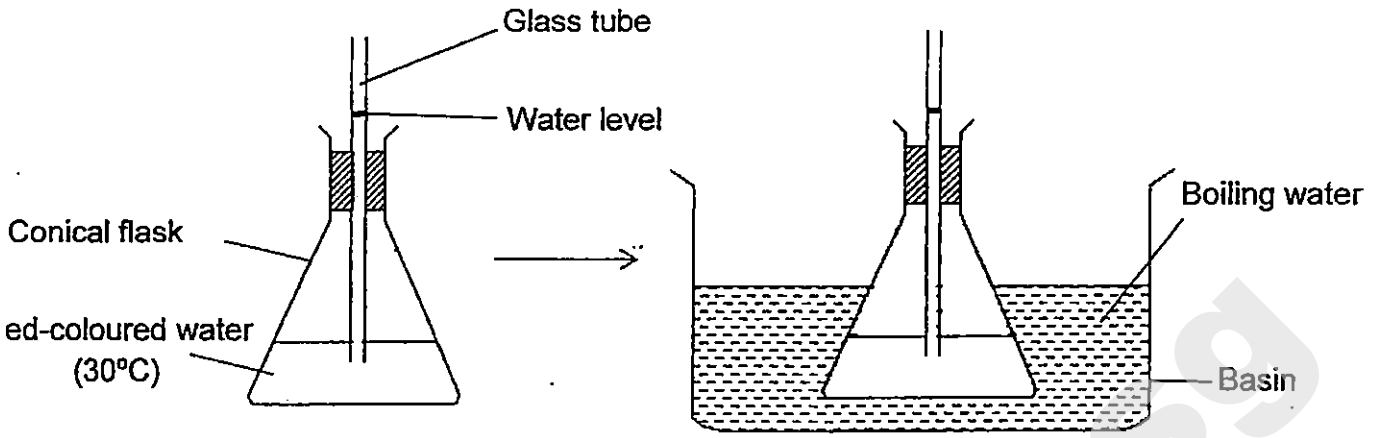
(c) Suggest one way to cast a bigger shadow of the soccer ball on the floor without moving the light source. [1]

_____

_____

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39. Titus carried out an experiment using the set up shown below. The conical flask was placed into a basin of boiling water.



(a) Titus observed the water level in the glass tube. Will the water level increase, decrease or remain the same? [1]

After 20 seconds: _____

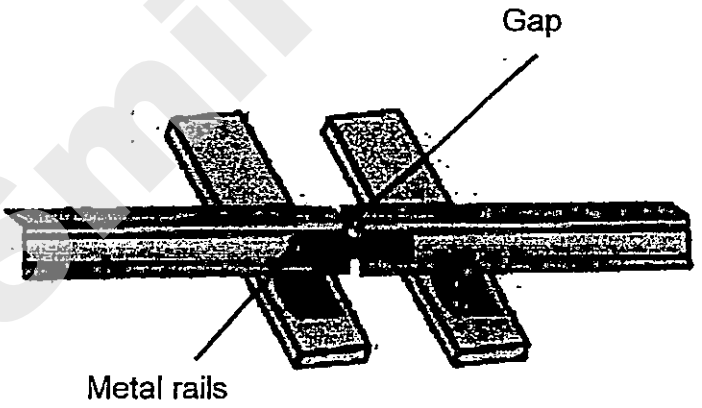
After 1 minute: _____

(b) Explain your answer in (a).

_____

_____

Qi Yue took the Mass Rapid Transit (MRT) to school one morning. She noticed that there were gaps between the metal rails of the MRT track as shown below.



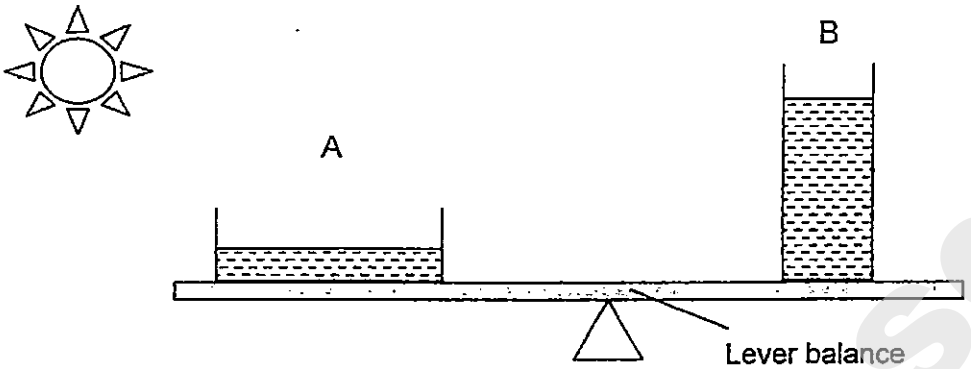
(c) Why is there a need to have gaps between the metal rails of the MRT track? [1]

_____

_____

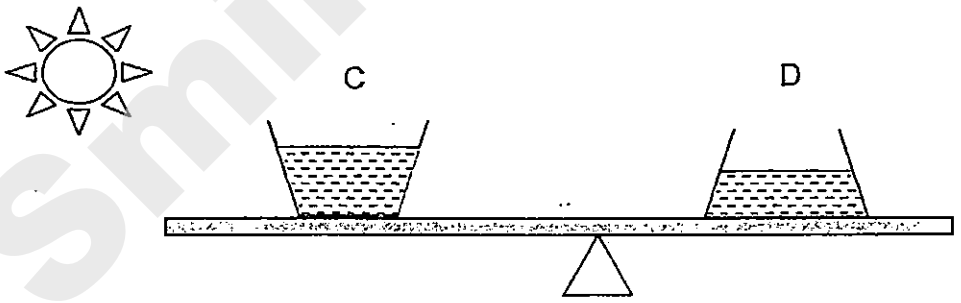
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40. Jerry wanted to find out the factors that affect the rate of evaporation of water. He filled containers, A and B, with 200cm^3 of water and placed them on a lever balance as shown below.



(a) What factor is Jerry investigating in the experiment? [1]

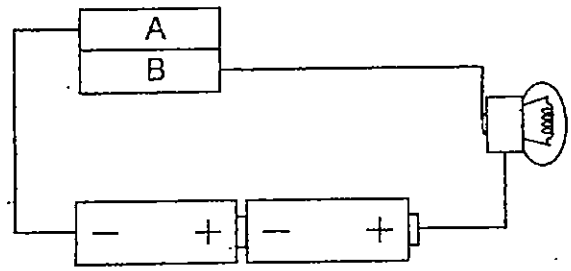
(b) What should Jerry record at the end of the experiment for him to conclude about the relationship between the factor he is investigating in (a) and the rate of evaporation? [1]



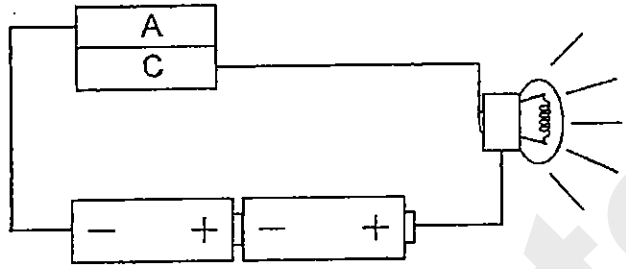
(c) Jerry wanted to repeat the experiment with containers, C and D, as shown above, to confirm his results. Do you think it is a fair experiment? Give a reason why. [1]

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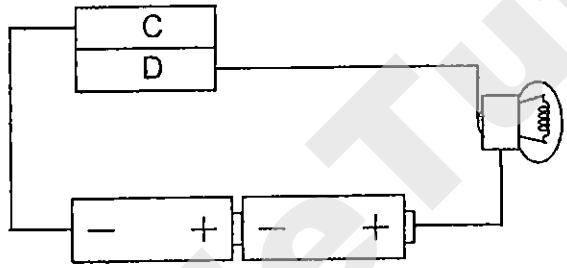
41. Germaine wanted to find out the electrical conductivity of rods, A, B, C and D. She set up 3 circuits with identical batteries, bulbs and wires as shown below.



Bulb does not light up



Bulb lights up



Bulb does not light up

(a) Based on Germaine's observations, complete the table with Rod, A,B, C or D, based on its electrical conductivity. [2]

Conductor(s) of electricity	Insulator(s) of electricity
(i) Rod (s) _____	(ii) Rod (s) _____

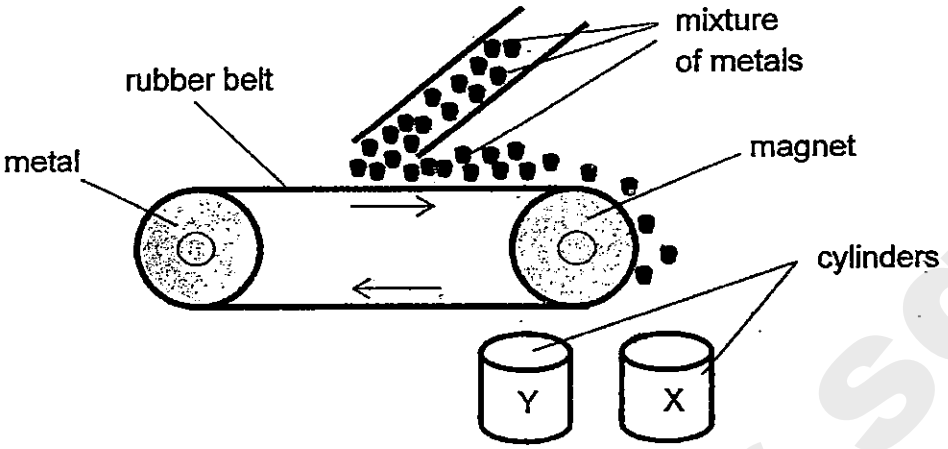
(b) Electrical wires are normally covered with a layer of rubber. How does this layer of rubber provide protection to the people who are using the wires? [1]

_____

_____

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42. The diagram below shows a way to separate magnetic metals and non-magnetic metals. Julian poured a mixture of metals onto the moving rubber belt.



(a) What type of metals, magnetic or non-magnetic, would be collected in cylinders X and Y respectively?

[1]

Cylinder X. _____

Cylinder Y: _____

(b) Explain how cylinder Y is able to collect the type of metal stated in (a).

[2]

_____

_____

_____

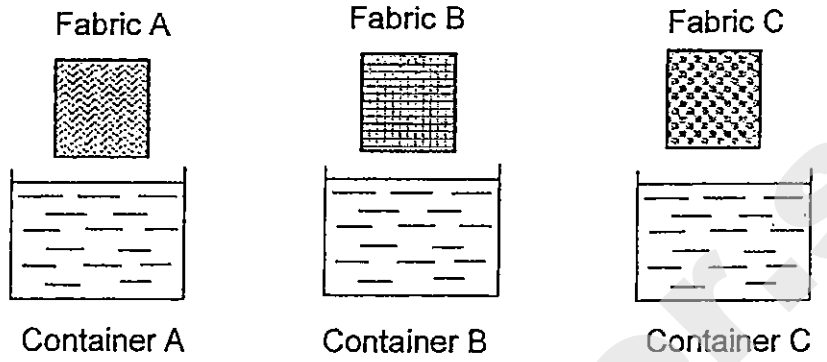
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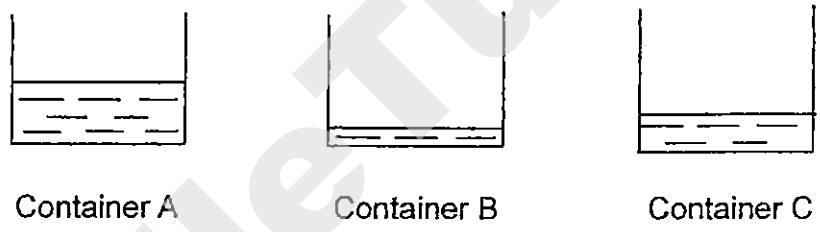
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43. In the set up below, fabrics of 3 different materials were submerged into 3 separate containers containing 500ml of water. After 5 minutes, the fabrics were taken out from the containers and the amount of water left in each container was measured.

Start of experiment



Amount of water left after the experiment



(a) What is the aim of the experiment? [1]

_____

_____

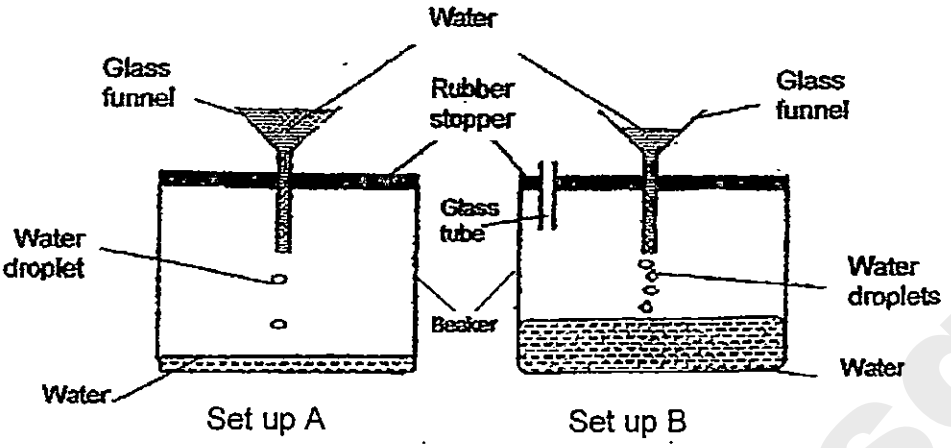
(b) If Mrs Tan wanted to choose a fabric to make bath towels, which fabric, A, B or C, would she choose? Give a reason for your answer. [1]

_____

_____

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44. The diagram below shows two set ups, A and B.



It was observed that when water was poured into both funnels, the water flowed more quickly into the beaker in set up B than that in set up A.

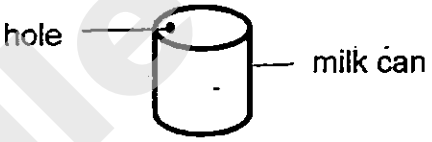
(a) Explain why water could flow more easily from the funnel into the beaker in set up B.

[2]

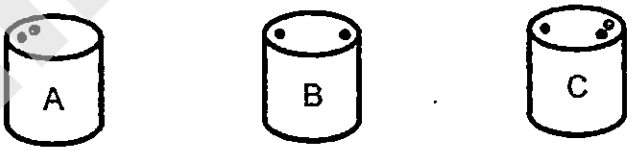
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_____

A hole was made in a milk can. It was very difficult to pour the milk out of the can with only one hole being made as shown in the diagram below.



Look at milk cans, A, B and C, with holes being made as shown below.



(b) Which one of the milk cans would allow the milk to be poured out of it the fastest? Explain your answer. [1]

_____

_____

End of Booklet B

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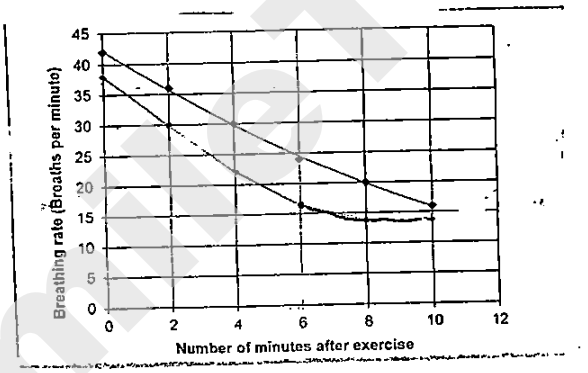
EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : CHIJ ST NICHOLAS GIRLS SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
4	**4**	**4**	**3**	**1**	**3**	**2**	**1**	**2**	**1**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
3	**4**	**3**	**1**	**3**	**3**	**2**	**3**	**2**	**2**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	**2**	1	**4**	**1**	**2**	**3**	1	2	**4**

Q31a. Cell Q has a cell wall but cell S does not have a cell wall.

Q31b. Cell R. Cell R has a cell wall, showing that it is a plant cell and like a root cell, cell R does not have chloroplasts because it does not need to photosynthesize.

Q32a. **SEE PICTURE**



Q32b. He reached his breathing rate at rest faster than Sam.

Q33a. Carbon dioxide is given out when the seeds germinate.

Q33b. It is so that carbon dioxide which caused the limewater to turn chalky comes from the germination process and not from anywhere else.

Q33c. Some apparatus but without seeds.

Q34a. The lesser the number of wing – like structures of fruit X, the shorter the duration it remains in the air.

Q34b. So that the wind can blow the seed away to avoid overcrowding.

Q34c. Same size of seed and same shape of seed.

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Q35a. Ovary. The ovary produces the mature egg cell.

Q35b. When one of P burst or does not function properly, there is still another one of P to produce the egg cell but when W burst or does not function properly, the bird cannot produce any egg cells.

Q36. **Plant** : Explosive Action. **Reason :** The young of plant are located near or around the parent plant. When the fruit splits open, the seed will not travel too far from the parent plant.

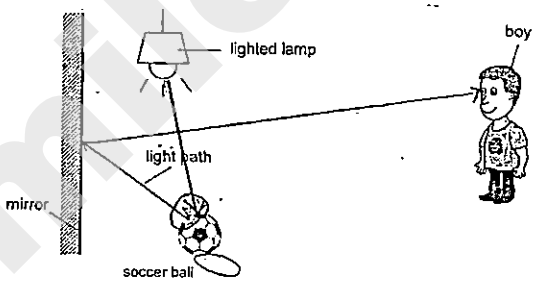
Q36. **Plant :** Animal. **Reason :** As the young of plant 2 are located in random around the garden, it is a result of animals carry the seeds away from the parent plant.

Q37a. The water in the beaker gained heat from the Bunsen burner and evaporated to become water vapour. The hot water vapor came into contact with the cooler surface of the steel plate, lost heat and condensed to form water droplets on the steel plate. Then, the water droplets slid down the steel plate and dripped into the dish.

Q37b. The steel plate gained heat from the hot water vapor and thus less water vapor could lose heat and condense on the steel plate or slowing the rate of condensation.

Q37c. There will be fewer water droplets on the plastic plate.

Q38a. **SEE PICTURE**



Q38b. The soccer ball blocked the path of light from the lighted lamp and casted a shadow on the floor. Light from the lamp travels in a straight line.

Q38c. Move the soccer ball nearer to the light source.

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Q39a. After 20 seconds : decrease
Q39a. After 1 minute : increase

Q39b. The flask expanded first, increasing the space in the flask, thus the water level in the tube decreased. After which, the water in the flask gained heat and expanded so water level in the tube increased.

Q39c. To allow space for the metal rails to expand on hot days so that the metal rails will not buckle up.

Q40a. The amount of surface area of the water in the containers in contact with the surroundings.

Q40b. He should record the amount of water left in the beaker after the experiment.

Q40c. No, as the water in C is evaporating, the amount of surface are of the water in C is decreasing and as the water in D is evaporating, the amount of surface area of the water in D is increasing.

Q41a.i) A, C
Q41aii) B, D

Q41b. It so that when the person touches the wire, the electricity will not be conducted to his hands, preventing him from getting electrocuted, because rubber is an insulator of electricity.

Q42a. Cylinder X : non magnetic Q42a. Cylinder Y : magnetic

Q42b. As the mixture of metals move to the magnet, the magnetic materials get attracted to it whereas the non-magnetic material falls into cylinder X. As the magnetic material move away from the magnet, the magnetic attraction between them weakened, causing the magnetic materials to fall into cylinder Y.

Q43a. To find out which fabric can absorb the most water.

Q43b. B. The amount of water left in beaker B was the least, so B was the most absorbent and a bath needs to be absorbent to absorb the water from one's body the fastest.

Q44a. Water is able to flow into the beaker to take over the space.

Q44b. C. W holes to allow milk to flow out faster and a hole to allow air to flow into the can.

THE END

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METHODIST GIRLS' SCHOOL

Founded in 1887

END-OF-YEAR EXAMINATION 2015
PRIMARY 5
SCIENCE

BOOKLET A1

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____ ( )

Class: Primary 5 _____

Date : 30 October 2015

This booklet consists of 12 printed pages including this page.

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For each question from 1 to 15, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet (OAS). [30 marks]

---

1. Which one of the following options below correctly describes what will happen to our ribcage and diaphragm when we breathe in and breathe out?

	Breathe in		Breathe out	
	Ribcage	**Diaphragm**	**Ribcage**	**Diaphragm**
(1)	Moves out and upwards	Moves downwards	Moves in and downwards	Moves downwards
(2)	Moves out and upwards	Moves upwards	Moves in and downwards	Moves downwards
(3)	Moves out and upwards	Moves downwards	Moves out and upwards	Moves upwards
(4)	Moves out and upwards	Moves downwards	Moves in and downwards	Moves upwards

2. What is the function of the large intestine in our digestive system?

   (1) It digests water and food.

   (2) It absorbs the digested food into the blood.

   (3) It removes water from the undigested food.

   (4) It passes the undigested food out of the body.

(Go on to the next page)

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3. The pictures below show a mealworm larva and an adult beetle.





Which part(s) below can be observed on the **adult only** but not on a mealworm?

A: legs
B: wings
C: antennae
D: three body parts

(1) A only
(2) B only
(3) A and C only
(4) B, C and D only

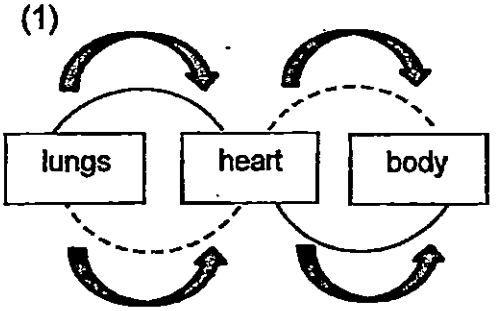
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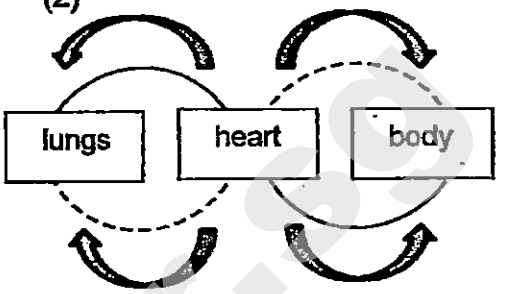
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4. Which diagram below correctly shows the direction in which blood flows in the human circulatory system?

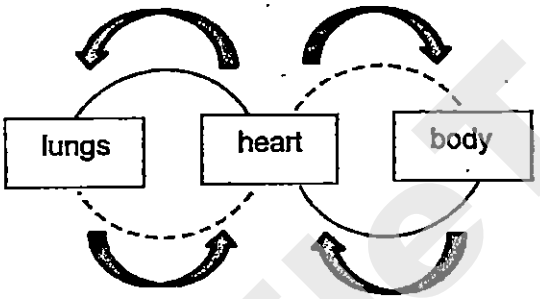
(1)



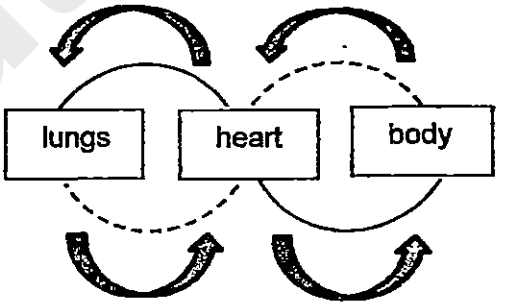
(2)



(3)



(4)



Key

- - - - blood rich in oxygen

——— blood rich in carbon dioxide

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5. Study the table below carefully.

Activity	Number of heart beats per min	Number of breaths per min
R	70	32
S	120	55

What can we conclude from the above table?

A: Our heart beats faster during activity S than activity R.
B: We take in more oxygen for activity R than for activity S.
C: Our body needs more energy for activity S than for activity R.
D: We take in more breaths of air during activity R than activity S.

(1) A and B only
(2) A and C only
(3) B, C and D only
(4) A, B, C and D

(Go on to the next page)

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6. Blood entering the small intestine carries less _____ than the blood leaving it.

A: oxygen
B: digested food
C: carbon dioxide

(1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C

7. Study the three cells, P, Q, and R below.



Cell P Cell Q Cell R

Which of the following are found in **all** the three cells?

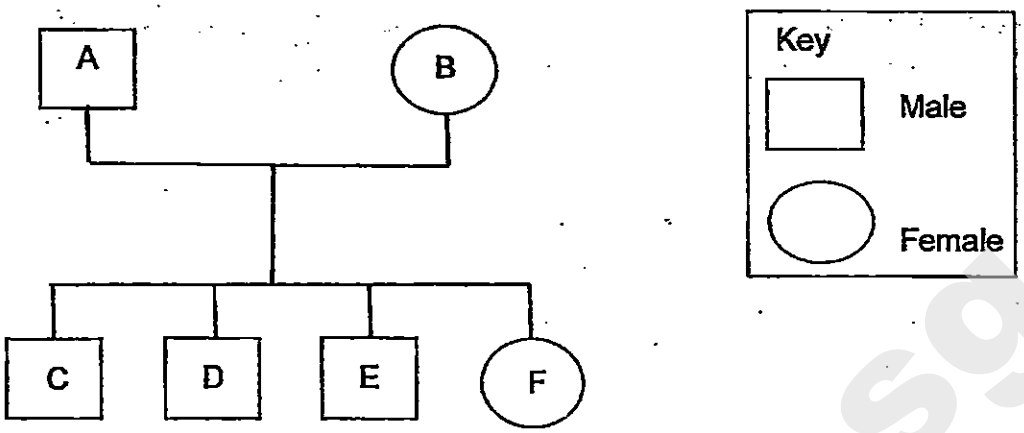
(1) cell wall and nucleus
(2) cytoplasm and nucleus
(3) cytoplasm and chloroplast
(4) cell membrane and chloroplast

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8. The diagram below shows a family tree.



The following table below shows the characteristics that are present in the family members.

	Characteristics			
Family members	**Attached ear lobes**	**Single eyelids**	**Curly hair**	**Tongue rolling**
A	✓		✓	
B		✓		✓
C		✓	✓	✓
D	✓		✓	✓
E	✓	✓	✓	
F	✓		✓	✓

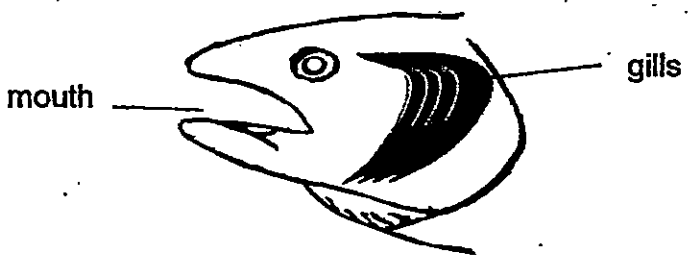
Which child inherited only one trait from the father?

(1) C
(2) D
(3) E
(4) F

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9. The gills and mouth are two organs in the fish body.



Which one of the following statements on the functions of the gills and the mouth is true?

	Gills	Mouth
(1)	Remove blood containing carbon dioxide	Absorbs carbon dioxide into the body
(2)	Transport oxygen to all parts of the body	Removes only carbon dioxide from the body
(3)	Large surface area for optimum contact with water	Opens and closes to allow water to enter the mouth
(4)	Removes carbon dioxide through the gill cover	Exchange of gases takes place in the mouth

10. Which of the following characteristics can be used to differentiate between insects and birds?

A: body covering
B: presence of wings
C: number of body parts
D: number of stages in the life cycle

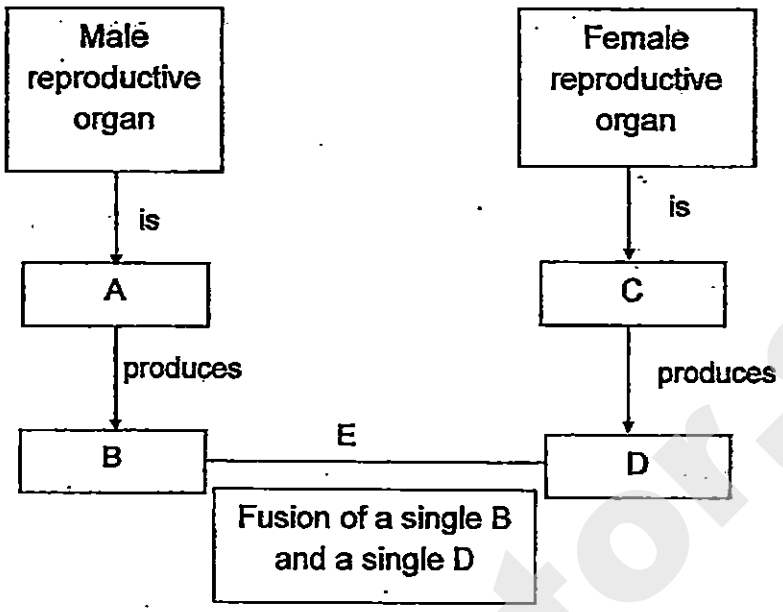
(1) A and C only
(2) A and D only
(3) B and C only
(4) B, C and D only

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11. Study the flow chart below.



What do A, B, C, D and E represent?

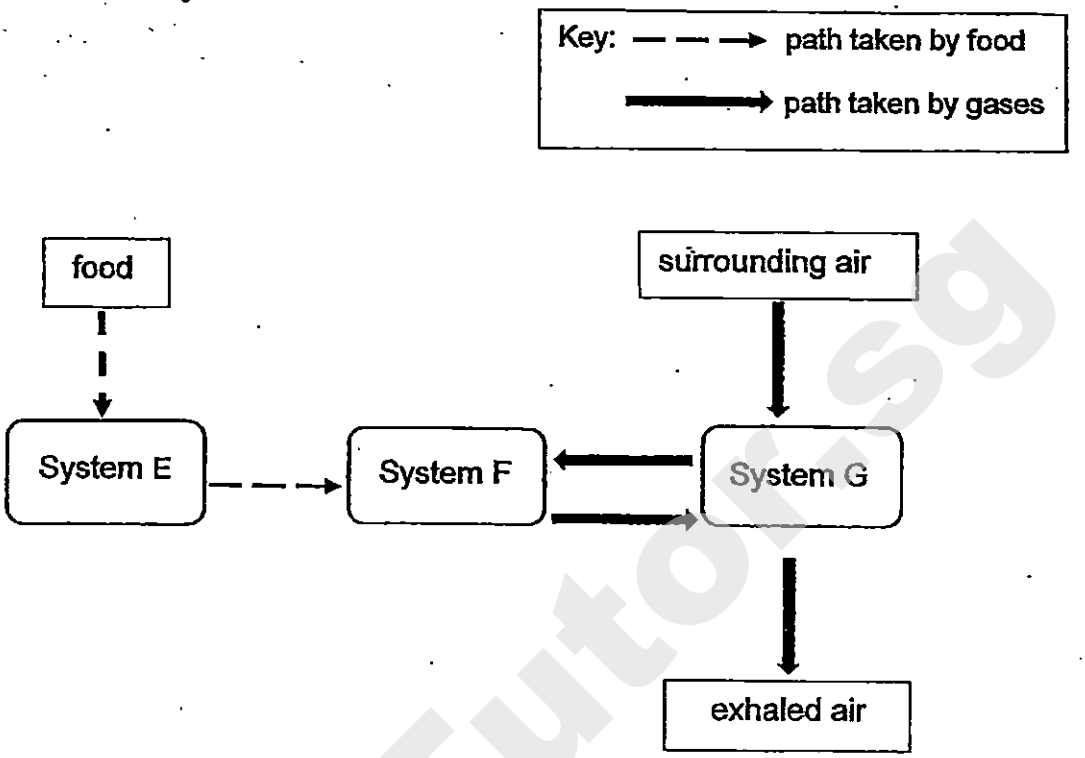
	A	B	C	D	E
(1)	testis	sperms	ovary	eggs	Fertilisation
(2)	penis	sperms	womb	eggs	Reproduction
(3)	sperms	testis	eggs	ovary	Fertilisation
(4)	testis	sperms	ovary	eggs	Reproduction

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12. The diagram below shows how food and various gases are transported in the human body.



Which one of the following options identifies Systems E, F and G ?

	System E	System F	System G
(1)	digestive	respiratory	circulatory
(2)	respiratory	digestive	circulatory
(3)	digestive	circulatory	respiratory
(4)	circulatory	respiratory	digestive

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13. Which one of the following statements is **incorrect**?

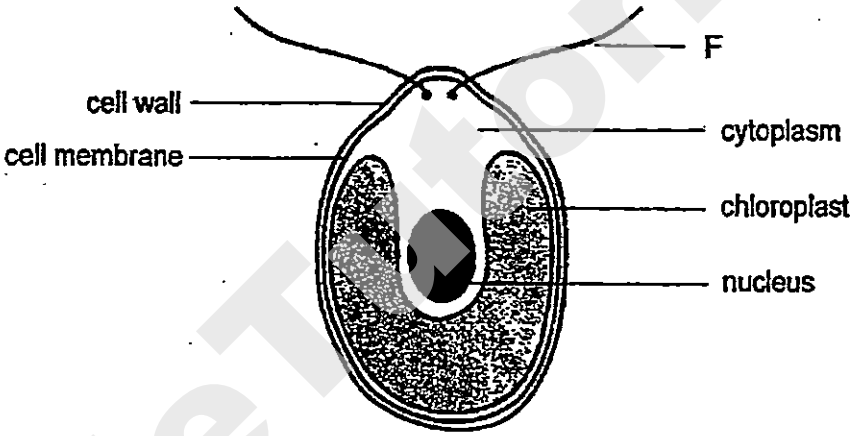
(1) The body of an octopus is a system.

(2) Digestive juices are found in the circulatory system.

(3) The stomata are part of the plant respiratory system

(4) The body systems work together to make the body function properly.

14. The diagram below shows a single-celled organism which lives in the pond. Part F helps the organism to move about in the water. It has been observed that this organism moves near the surface of the pond only in the day.



Which of the following explain(s) why the organism needs to move to the surface in the day?

A: It needs to take in oxygen.

B: It needs to look for food near the surface.

C: It needs to trap sunlight to photosynthesise.

(1) A only

(2) C only

(3) B and C only

(4) A, B and C

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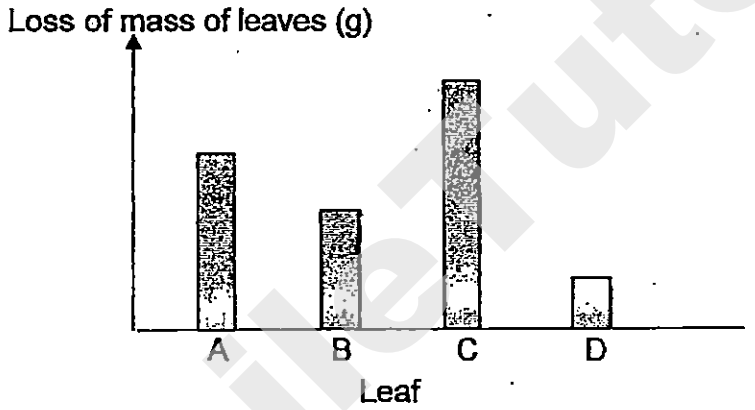
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15. Some students set up an experiment using 4 similar leaves, A, B, C and D, of the same mass each.
There are openings known as stomata on both the upper and lower surfaces of the leaves. Leaves lose water through the stomata.

They coated some surfaces of the leaves with oil as shown in the table.

Leaf	Coated with oil	
	Upper surface	Lower surface
A	yes	no
B	no	yes
C	no	no
D	yes	yes

Each leaf was weighed and then hung up in an open area.
After four hours, each leaf was weighed again and the loss of mass was recorded.
The results are shown in the graph below.



What can the students conclude about the stomata on the leaves?

(1) There are no stomata on the upper surfaces.

(2) There are more stomata on the lower surfaces.

(3) There are more stomata on the upper surfaces.

(4) There are equal numbers of stomata on the upper and lower surfaces of leaves.

End of Booklet A1

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END-OF-YEAR EXAMINATION 2015
PRIMARY 5
SCIENCE

BOOKLET A2

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

Name: _____

Class: Primary 5. _____

Date : 30 October 2015

This booklet consists of 13 printed pages including this page.

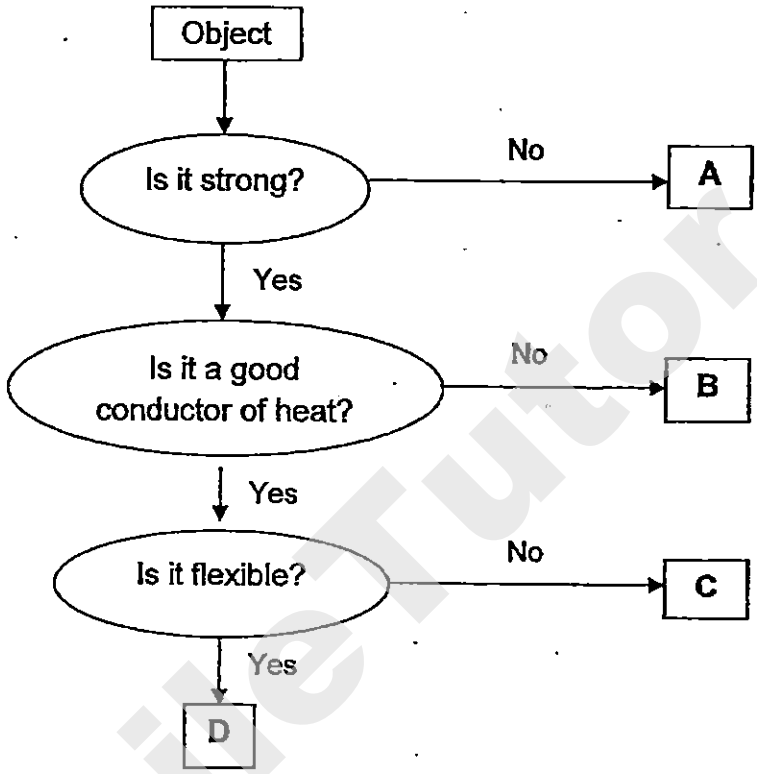
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For each question from 16 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet (OAS). [30 marks]

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16. The flow chart below shows how things can be classified based on their properties.



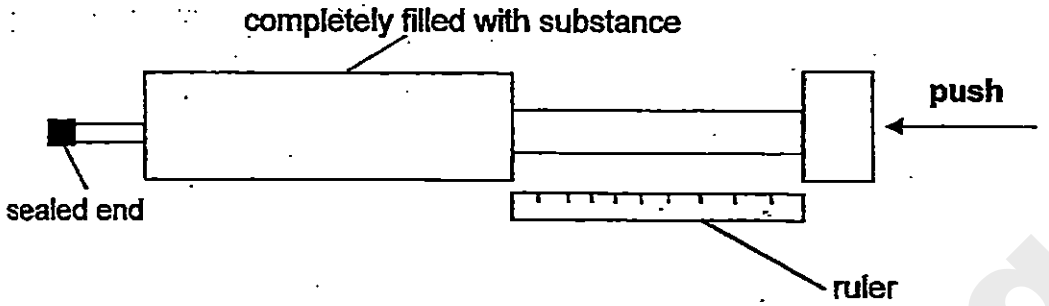
Which one of the following **correctly** identifies A, B, C and D?

	A	B	C	D
(1)	plastic bag	iron nail	steel spoon	porcelain vase
(2)	paper bag	wooden table	iron nail	metal wire
(3)	cotton wool	copper wire	steel fork	glass cup
(4)	writing paper	aluminium foil	plastic bottle	ceramic tile

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17. Jinny filled 2 identical syringes **completely** with different substances, X and Y.



She pushed each syringe as hard as she could with the same strength. She then measured the distance that she could push and recorded the results in the table below.

Substances	Distance pushed
X	0 cm
Y	2.3 cm

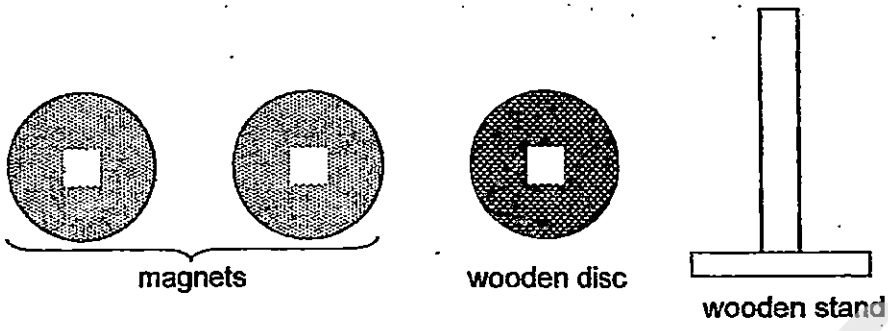
Based only on Jinny's results above, which one of the following statements is correct?

(1) Both substances are in different states.
(2) Both substances have different volume.
(3) Both substances have a definite shape.
(4) Both substances have no definite volume.

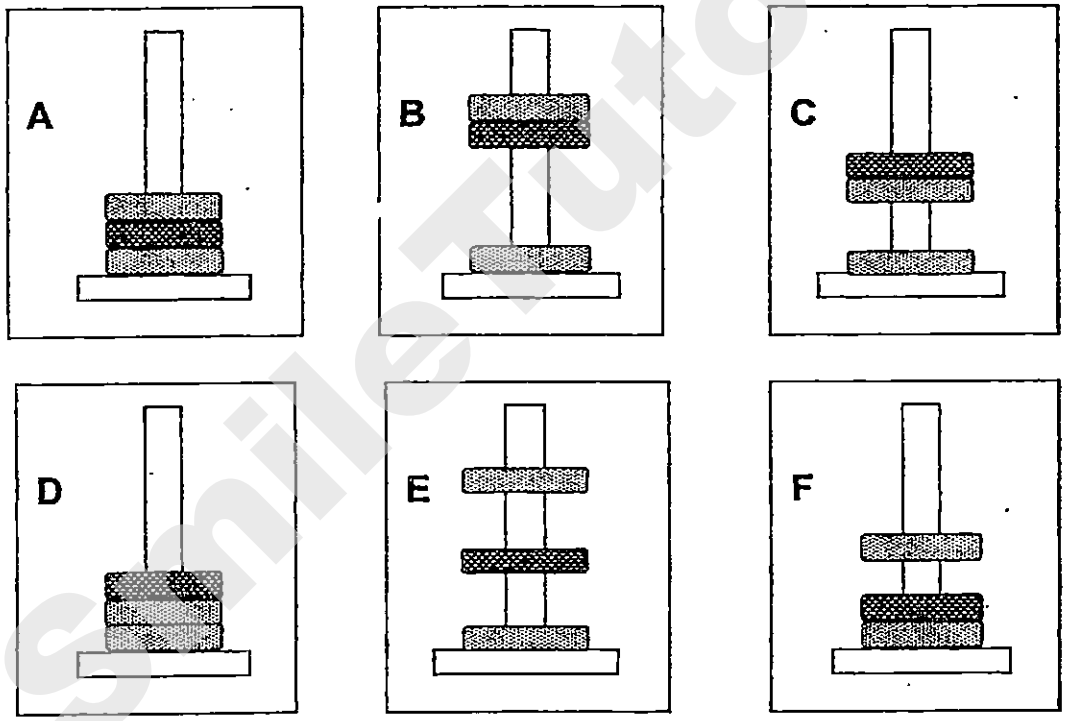
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18. The diagram below shows three discs, each with a square hole in the centre. One of the discs is a lightweight wooden disc and the other two are magnets.



When the three discs are placed one on top of another through the wooden stand, which of the following would be possible observations?



(1) A and D only

(2) A, C and D only

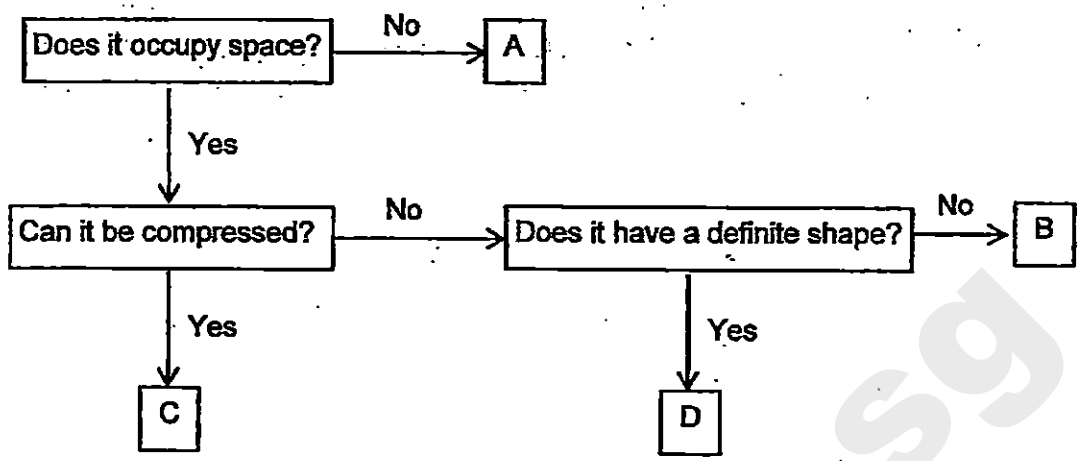
(3) A, C, D and F only

(4) All of the above

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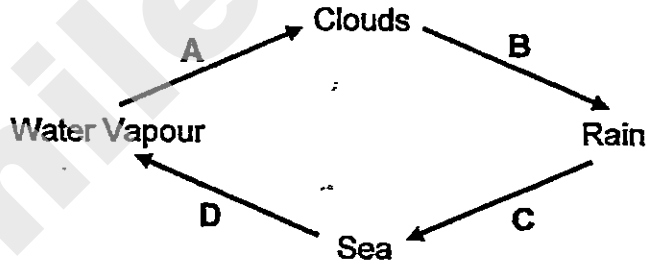
19. Study the flow chart below carefully.



Which letter best represents mist?

(1) A
(2) B
(3) C
(4) D

20. The diagram below shows the water cycle.



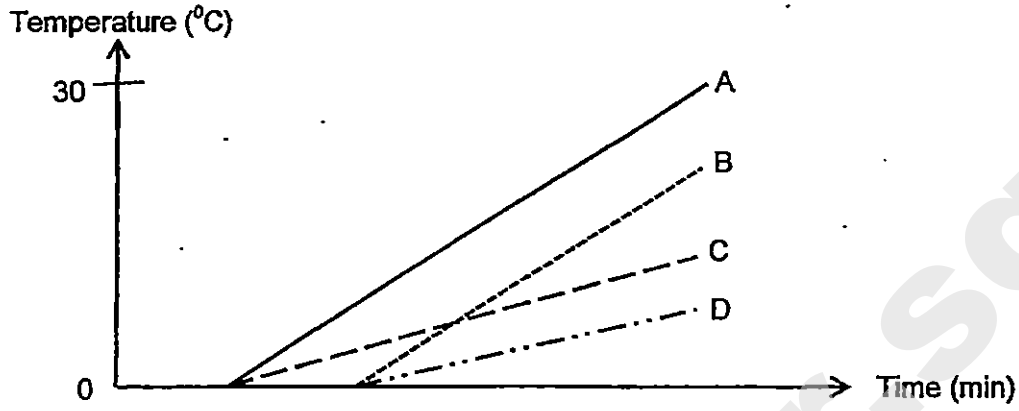
Which stage(s) of the water cycle involve heat loss?

(1) A only
(2) D only
(3) C and D only
(4) A, B and D only

(Go on to the next page)

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21. Fatimah placed the same amount of crushed ice into four cups of similar sizes made of different materials A, B, C and D. She recorded the temperature of the content in the four cups. The results are shown in the graph below.



Based on the graph above, which one of the following materials can keep hot soup warm for the longest period of time?

(1) Material A

(2) Material B

(3) Material C

(4) Material D

22. The table below shows the state of four substances, W, X, Y and Z, at different temperatures.

Substance	State of substance at 10°C	State of substance at 50°C	State of substance at 90°C
W	gaseous	gaseous	gaseous
X	solid	solid	solid
Y	liquid	liquid	gaseous
Z	Solid	Liquid	liquid

Which substance has the highest melting point?

(1) W

(2) X

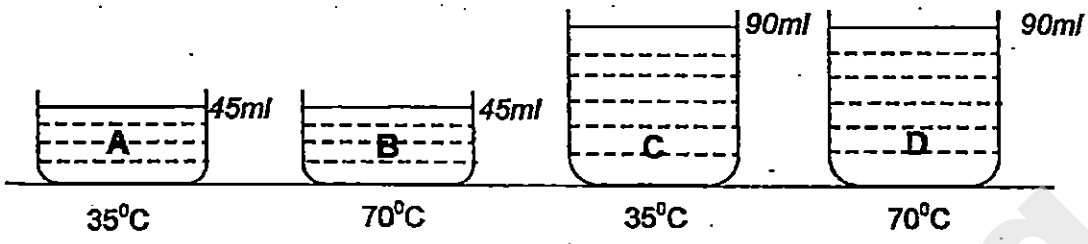
(3) Y

(4) Z

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23. Four containers, A, B, C and D, containing water, were heated to the temperature as shown in the diagram below.



Which of the following statement(s) is/ are true?

P: The water in container A has the least amount of heat.

Q: The water in container D has more heat than container B.

R: The water in containers A and B have the same amount of heat.

S: The water in containers A and C have the same amount of heat.

(1) P only

(2) S only

(3) P and Q only

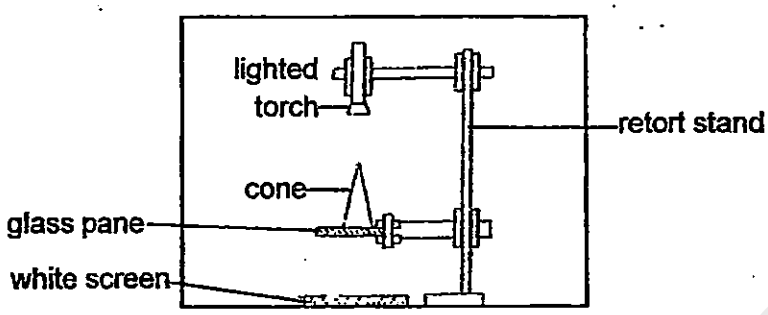
(4) Q and R only

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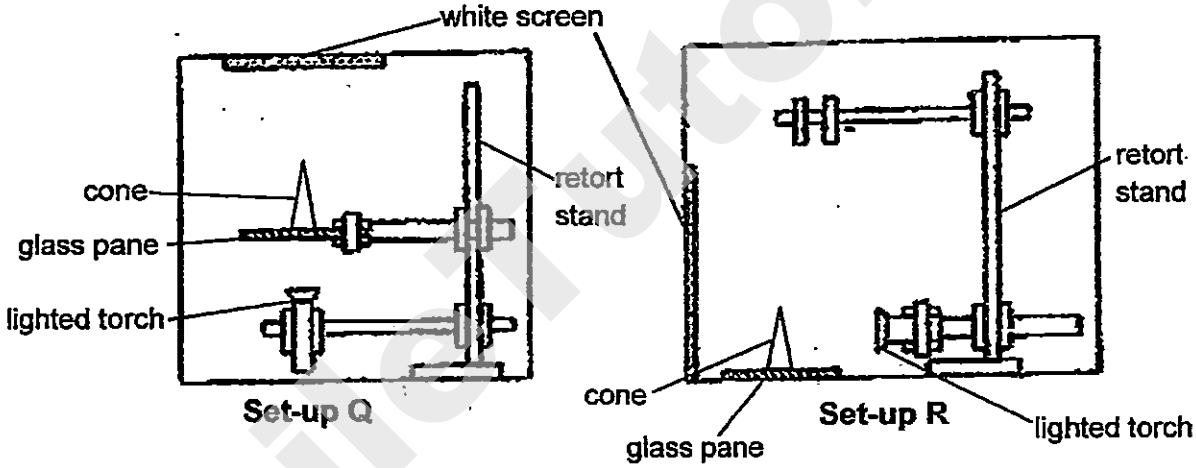
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24. In Set-up P, an ice-cream cone was placed on a glass pane directly under a lighted torch in a dark room as shown below.



Set-up P

The lighted torch and the screen were then re-positioned as shown in Set-up Q and Set-up R.



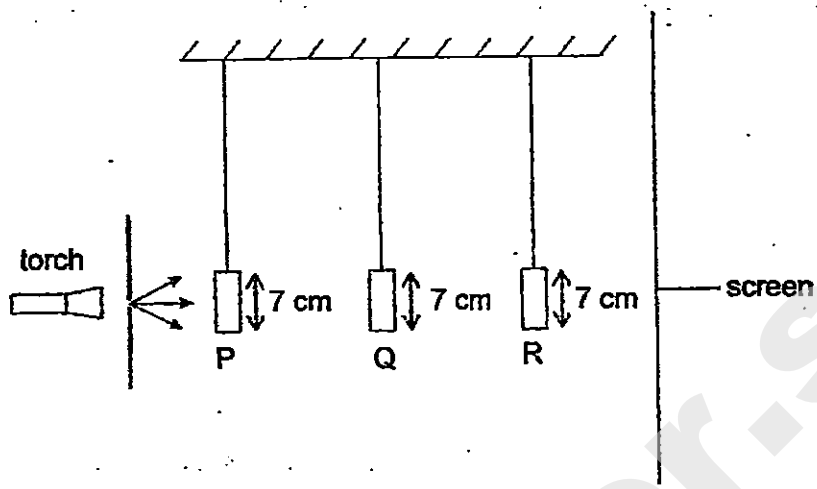
Which one of the following shows the likely shadows of the cone that were cast on the white screens in the 3 set-ups?

	Set-up P	Set-up Q	Set-up R
(1)			
(2)			
(3)			
(4)			

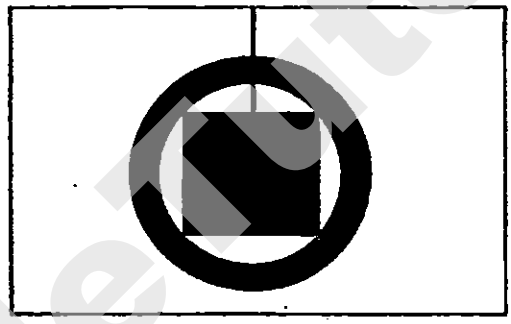
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25. Mr James set up an experiment as shown. He shone light on three shapes P, Q and R made of thin wood. The three different shapes are placed at different distances from the torch.



The diagram below shows what was seen on the screen.



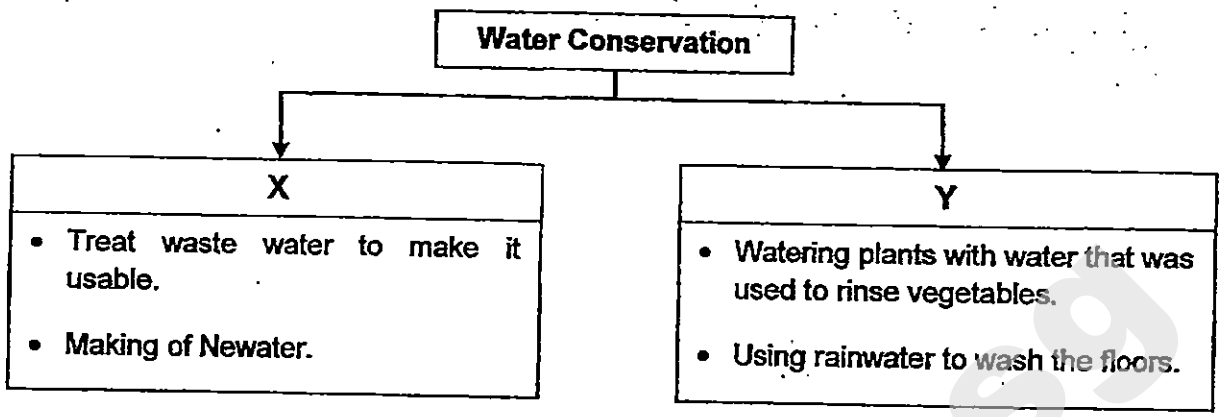
Which one of the following correctly represents P, Q and R respectively?

	P	Q	R
(1)	ring	square	diamond
(2)	ring	diamond	square
(3)	diamond	ring	square
(4)	diamond	square	ring

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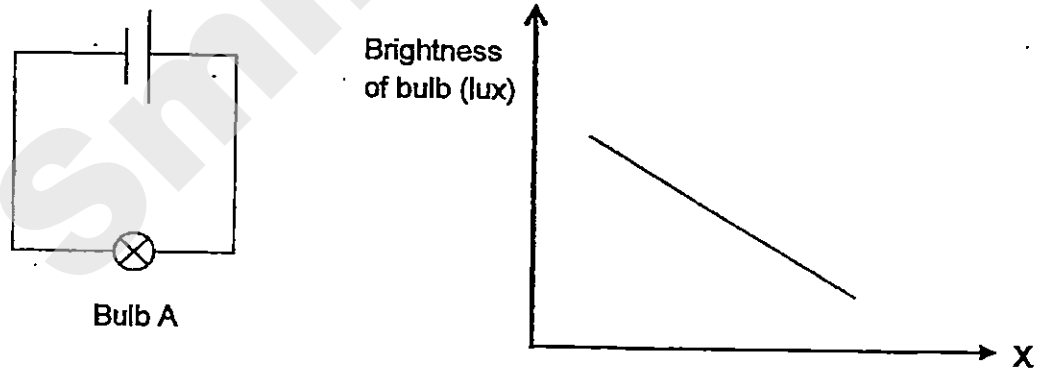
26. Study the classification diagram below.



What ways of water conservation do X and Y represent?

	X	Y
(1)	Recycling	Reducing
(2)	Reducing	Reusing
(3)	Reusing	Recycling
(4)	Recycling	Reusing

27. Mr Raja carried out an experiment using an electric circuit with identical wires, batteries and Bulb A. He tested the brightness of Bulb A by making some changes to the circuit. He presented the results of his experiment in the graph shown below.



Based on the graph, which one of the following represents variable X?

(1) Number of bulbs arranged in series

(2) Number of bulbs arranged in parallel

(3) Number of batteries arranged in series

(4) Number of batteries arranged in parallel

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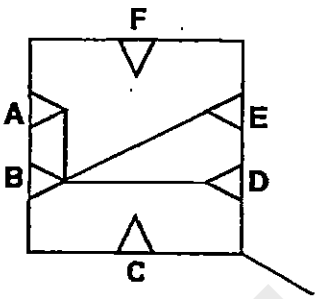
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28. Johnny tested a paper circuit card and recorded the results in the table below.

Clips tested	Did the bulb light up?
A and E	Yes
A and D	Yes
B and D	Yes
B and C	No
D and E	Yes
E and F	No

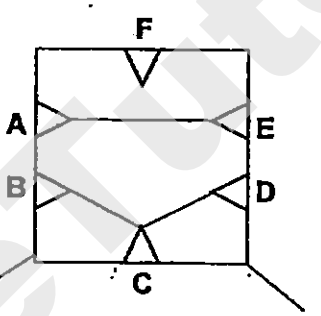
Which of the following diagrams show(s) the possible connections of the clips by wires?

Diagram P



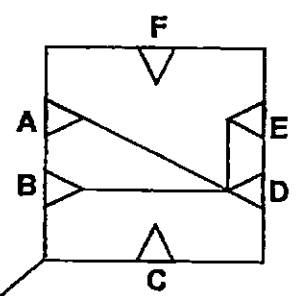
paper circuit cards

Diagram Q



paper circuit cards

Diagram R

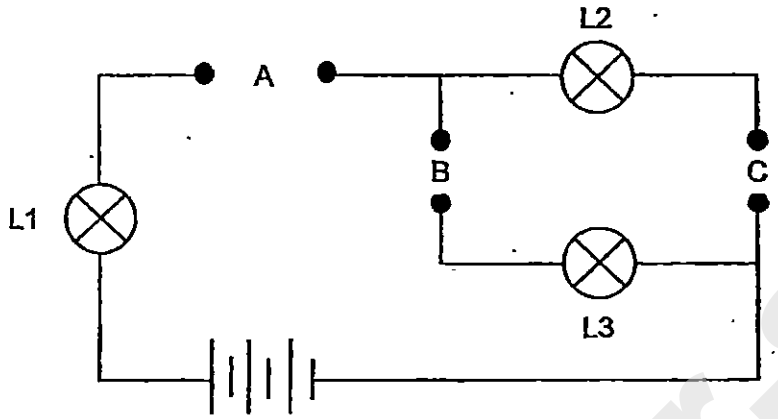


(1) P only
(2) P and Q only
(3) P and R only
(4) Q and R only

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29. Mr Kumar set up an electric circuit with three identical bulbs, L1, L2 and L3. He has three rods, X, Y and Z made of unknown materials. He places them in different positions, A, B and C, in the circuit below.



The results of the experiment are recorded in the table below. When any of the bulbs, B1, B2 or B3, lights up during the experiment, a tick (✓) is placed in the box.

Positions where the rods are placed			**Bulb**		
X	**Y**	**Z**	**L1**	**L2**	**L3**
A	B	C	✓		✓
B	C	A			
C	A	B	✓	✓	

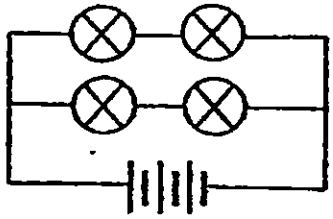
Which one of the following options correctly identifies the materials used to make the three rods?

	Rod X	**Rod Y**	**Rod Z**
(1)	glass	copper	aluminium
(2)	copper	glass	iron
(3)	glass	plastic	copper
(4)	iron	aluminium	glass

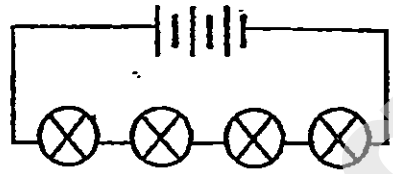
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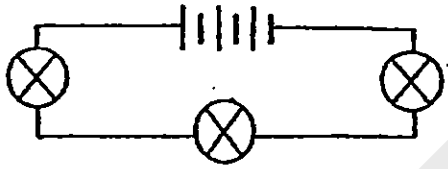
30. Four electric circuits, P, Q, R and S, were set up as shown below. All the identical bulbs and batteries are working properly.



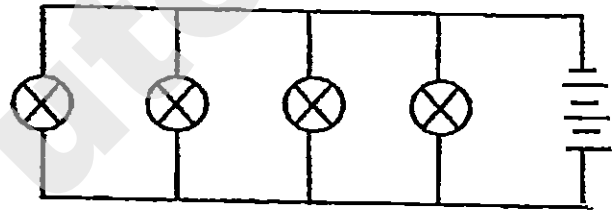
Circuit P



Circuit Q



Circuit R



Circuit S

Which one of the following correctly arranges the circuits from the dimmest to the brightest bulbs?

Dimmest ⟶ Brightest

(1)	Q	R	P	S
(2)	S	P	R	Q
(3)	Q	P	S	R
(4)	P	S	Q	R

End of Booklet A2

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SCIENCE

BOOKLET B1

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____ ( )

Class: Primary 5._____

Date: 30 October 2015

This booklet consists of 9 printed pages including this page.

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For questions 31 to 37, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[20 marks]

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31. Samy carried out 4 different activities for the same duration. These activities are represented by the letters A, B, C and D. He then measured his breathing rate and pulse rate for each activity. The results are shown in the table below.

Activity	Breathing rate (per minute)	Pulse rate (per minute)
A	15	66
B	45	130
C	35	106
D	20	70

(a) Match the activities A, B, C and D with the descriptions below. Each activity, A, B, C and D can only be used once. [2]

Description	Activity
running	
brisk walking	
strolling	
sitting	

(b) What is the relationship between his breathing rate and his pulse rate? [1]

_____

_____

_____

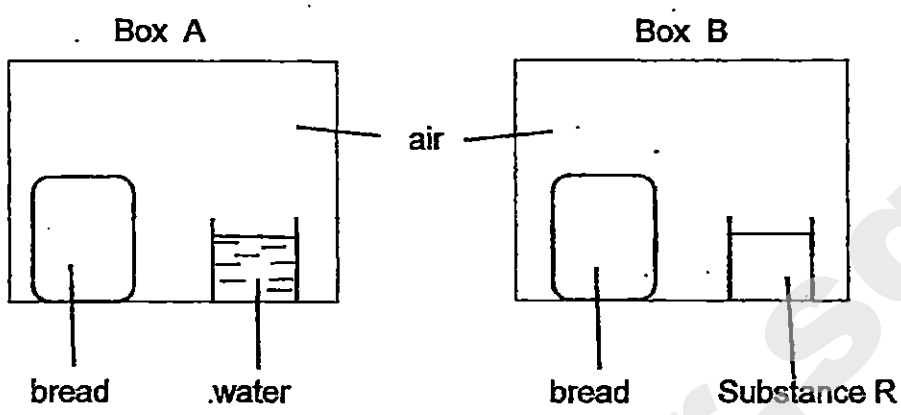
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32. Lilian placed 2 slices of bread cut from the same loaf into two identical airtight boxes, A and B.
She placed boxes A and B in a warm place. Substance R absorbs moisture from the air.



(a) In which box, A or B, would fungus first appear on the bread?
Give a reason for your answer. [1]

(b) The boxes are airtight. How does this make the experiment a fair test? [1]

Lilian bought a box of mooncakes. When she opened the box, she found a packet of drying agent as shown in the diagram below.



(c) Why was the drying agent included in the box of mooncakes? [1]

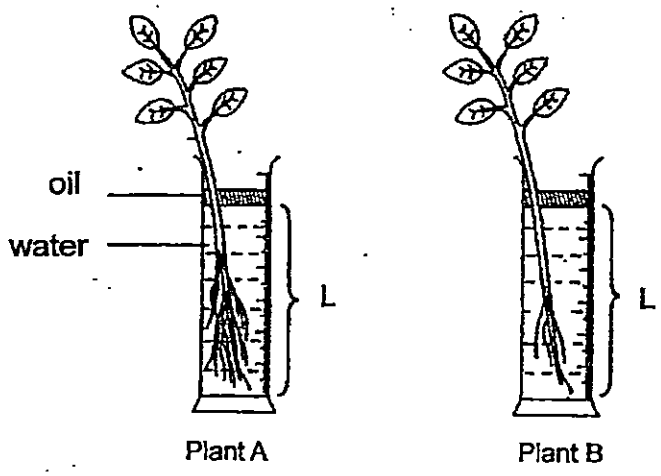
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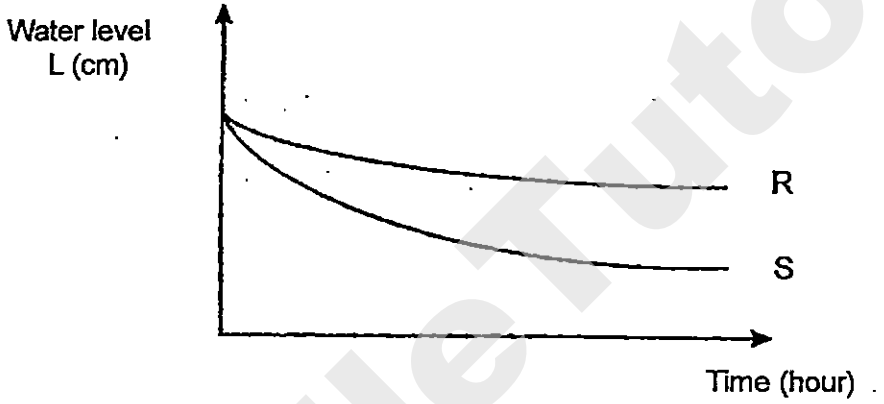
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33. Dora conducted an experiment using similar plants as shown below. She removed most of the roots from plant B. She then recorded the water level, L, at regular time intervals.



The results are shown below.



(a) Based on the graph above, which line, R or S, represents the results obtained for the plant with more roots? Explain your answer. [1]

_____

_____

(b) What is the purpose of the oil in this experiment? [1]

_____

_____

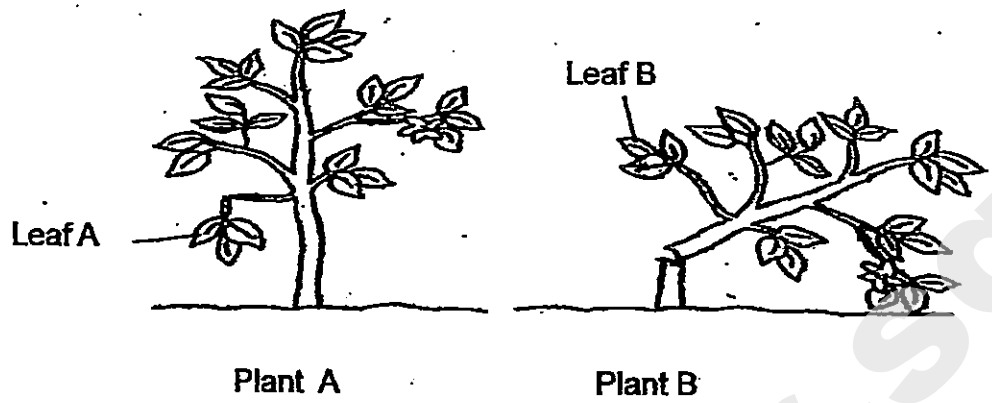
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34. The diagram below shows Plant A and Plant B after a storm.



(a) What would be the likely conditions of Leaf A and Leaf B after a few days?
[1]

_____

_____

(b) Give a reason for answer (a).
[1]

_____

_____

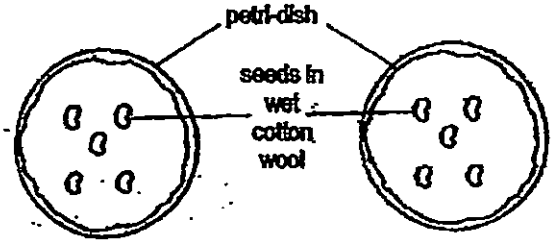
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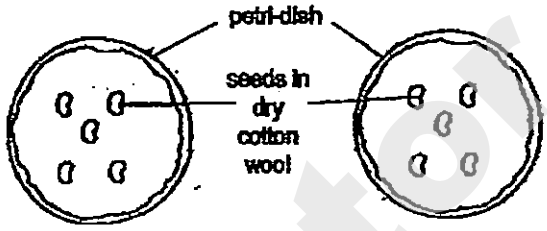
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35. A group of students wanted to find out how water would affect the germination of seeds. They prepared the set-ups as shown below.



Set-up A (1°C) Set-up B (25°C)



Set-up C (35°C) Set-up D (25°C)

(a) In which set-up(s) did the seeds germinate? [1]

_____

(b) If the students wanted to find out whether temperature affects the germination of the seeds, which two set-ups should they use for a fair test? [1]

_____

(c) Based on the experiment in (b), list two variables that should be kept the same. [1]

Variable 1: _____

Variable 2: _____

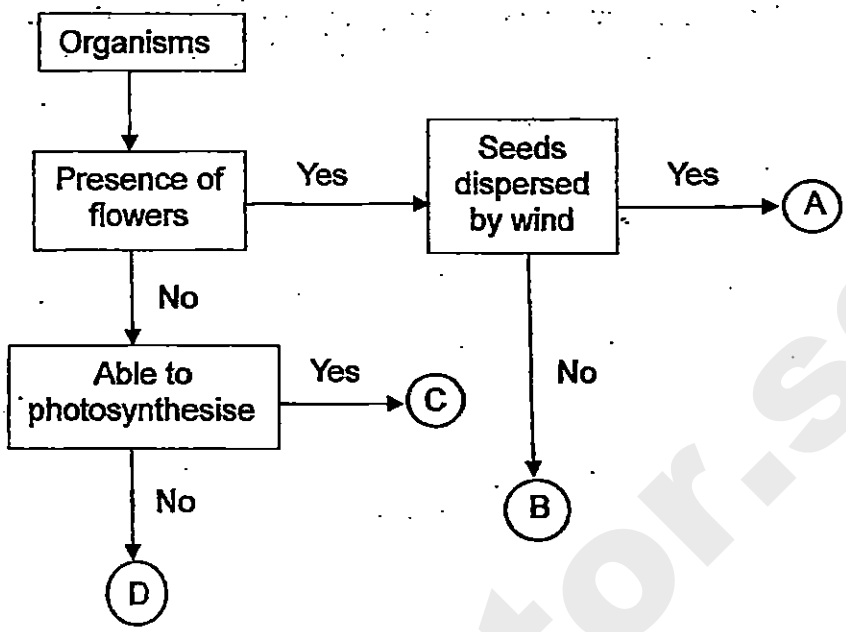
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36. Study the flowchart below.



(a) Which organism(s) are likely to reproduce from spores? [1]

_____

(b) Explain your answer for (a). [1]

_____

_____

(c) Name a similar characteristic between organisms A, B and C. [1]

_____

_____

3

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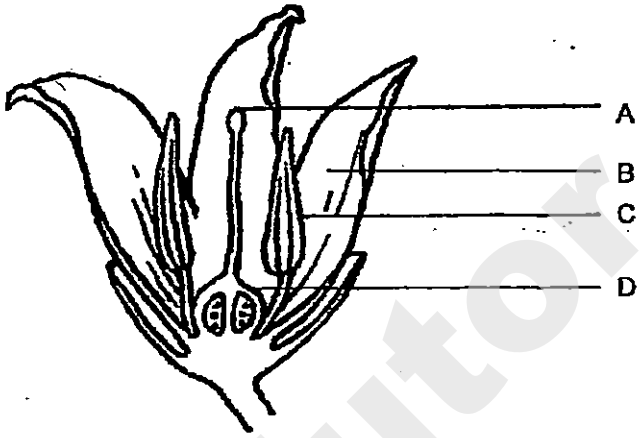
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37. Siti conducted an experiment to find out which parts of the Flower Z shown below were necessary to form a fruit. Flower Z is produced by Plant Z.

She removed two parts of Flower Z. She then transferred some pollen from another flower of the same plant to the remaining parts of Flower Z.

After some time, Flower Z formed a fruit.



Flower Z

(a) Which two parts, A, B, C or D, of Flower Z did Siti remove such that Flower Z could still form a fruit? [1]

_____

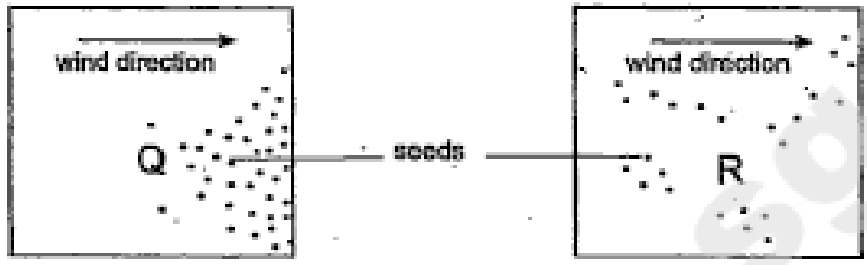
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The diagrams below, Q and R, show two different dispersal patterns.



(b) Siti knows that the seeds of Plant Z are dispersed by animals.
Which diagram, Q or R, shows the dispersal pattern of Plant Z?
Explain your answer. [2]

(c) Explain why it is important for seeds to be dispersed. [1]

3

End of Booklet B1

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BOOKLET B2

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

Name: _____ ( )

Class: Primary 5._____

Date: 30 October 2015

Booklet A1 & A2	60
Booklet B1	20
Booklet B2	20
Total	100
Parent's Signature	

This booklet consists of 8 printed pages including this page.

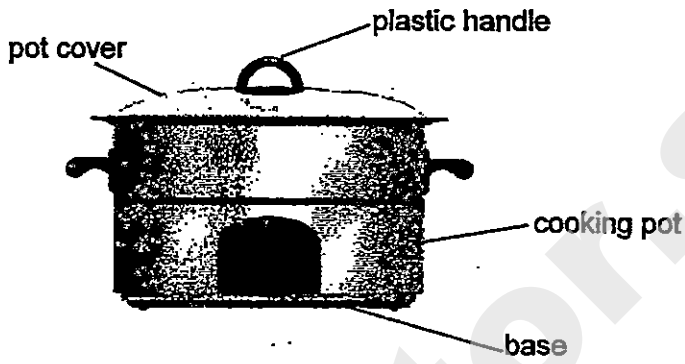
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For questions 38 to 44, write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part question.

[20 marks]

38. Joe went shopping with his mother, Mrs Lim, for a cooking pot. Mrs Lim chose and bought a cooking pot as shown below.



(a) If Mrs Lim wants to see the food that she is cooking in the pot without opening the cover, which material should she choose for the pot cover? Give a reason for your answer. [1]

(b) Explain why the handle for the cooking pot cover is made of plastic. [1]

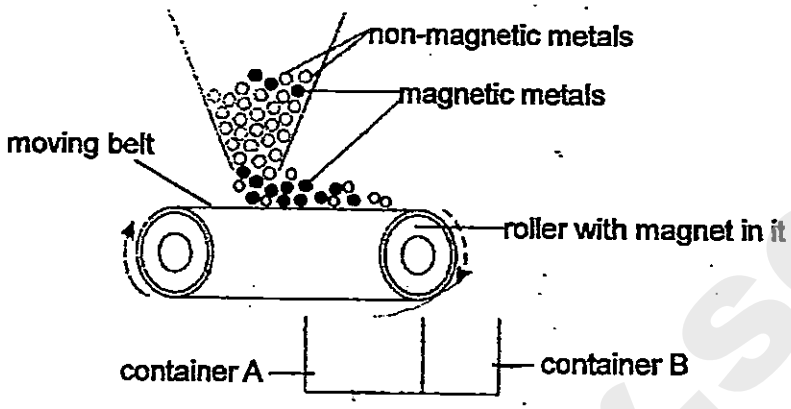
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39. The diagram below shows a mixture of magnetic and non-magnetic metals being poured onto a moving belt. The magnetic and non-magnetic metals are then separated and collected in containers A and B.



(a) Explain how the magnetic and non-magnetic metals are separated and collected in containers A and B. [2]

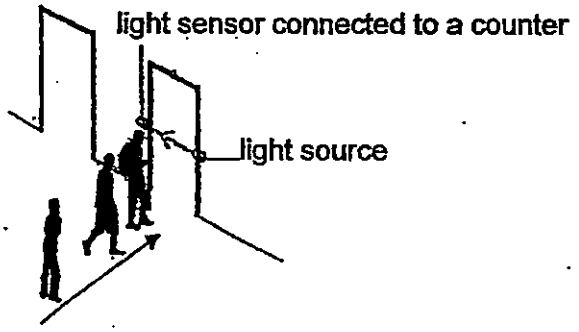
(b) More metals can be poured on the moving belt in order to fill containers A and B faster. Suggest another way to fill containers A and B faster. [1]

3

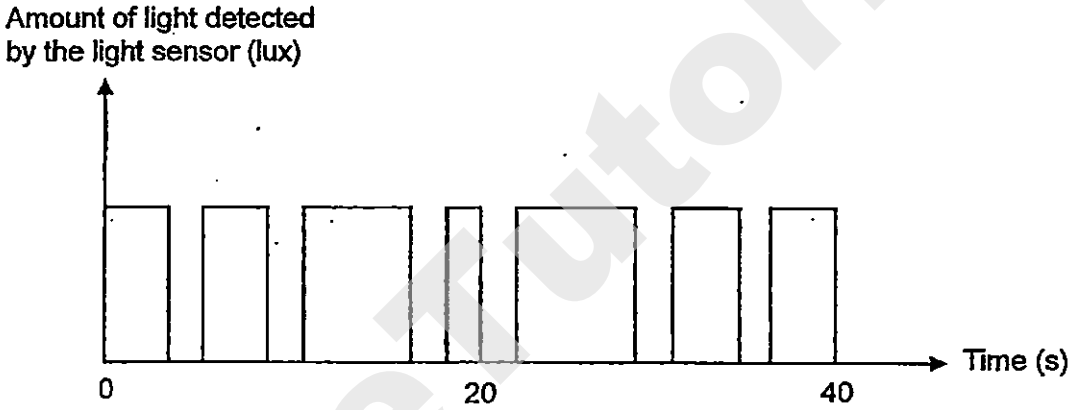
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40. The set-up below uses a light sensor to count the number of people entering a room.



At any time, only one person can pass through the doorway. When a person is between the light source and light sensor, the body blocks the light reaching the sensor. The data recorded is shown in the graph below.



(a) Based on the graph above, how many people walked through the doorway in 40 seconds? [1]

_____

(b) The light source and the sensor are placed 120 cm above ground. State whether a child who is 100 cm in height can be counted. Explain your answer. [1]

_____

_____

_____

(c) Which property of light can be demonstrated in this set-up? [1]

_____

_____

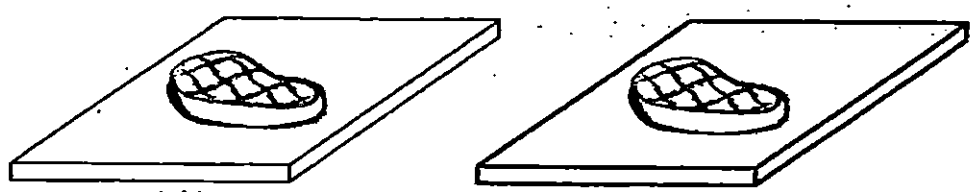
3

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41. Ahmad took a piece of beef steak out from the freezer and wanted to defrost it using a tray. He has a metal tray and a plastic tray as shown in the diagram below.

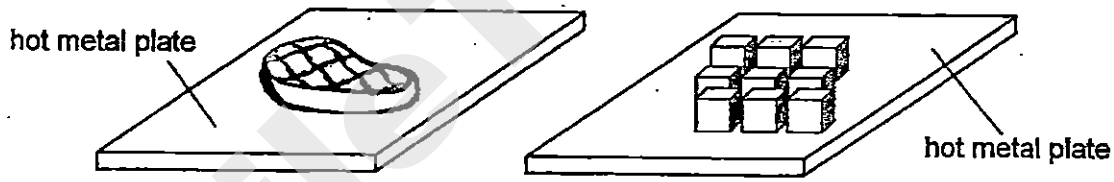


metal tray

plastic tray

(a) Which tray should Ahmad choose to place the beef steak if he wanted to defrost it in a shorter time? Explain your answer. [1]

(b) After defrosting the beef steak, Ahmad wanted to fry the beef steak on a hot metal plate.



one slice of beef steak

beef cubes

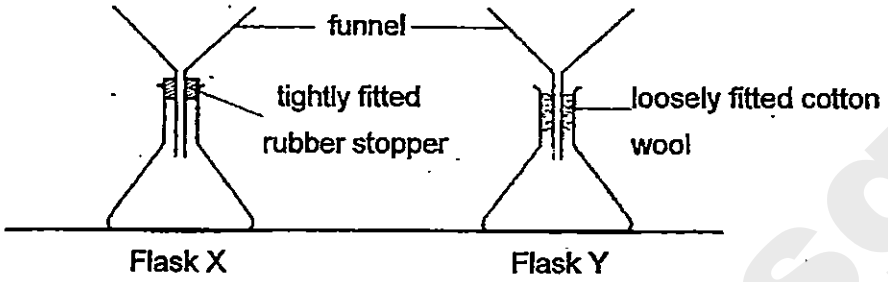
His mother advised him to cut the beef steak into beef cubes as shown above so that the time taken to fry the beef cubes on the hot metal plate would be shorter. Do you agree with his mother? Explain your answer. [2]

3

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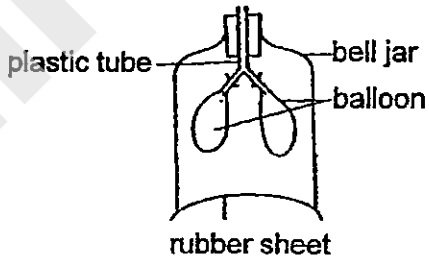
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42. Choon Meng used two identical flasks, X and Y, and funnels to prepare the set-ups shown below. He used a tight fitting rubber stopper and some loosely fitted cotton wool to hold the funnels in place. He then poured 250 cm^3 of water into each funnel and timed how long it took for all the water to enter the flask.



(a) Which flask, X or Y, would take a shorter time for all the water to enter the flask? Explain your answer clearly. [2]

Choong Meng also made a lung model as shown below. He observed that the balloons in the bell jar inflated when he pulled the rubber sheet downwards.



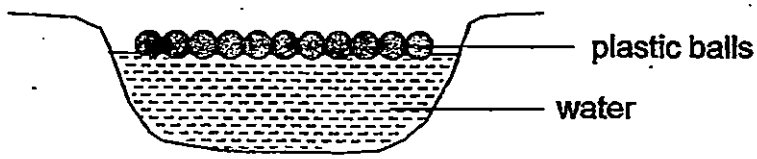
(b) Why did the balloons inflate when he pulled the rubber sheet down?

3

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43. In an attempt to conserve water in what seems to be an ever-lasting drought, light plastic "shade balls" were released in the Los Angeles Reservoir.



(a) Explain how these plastic "shade balls" are able to fight drought and help protect the water supply? [2]

(b) Water can be conserved through the 3Rs. Suggest a way in which water usage can be **reduced**. [1]

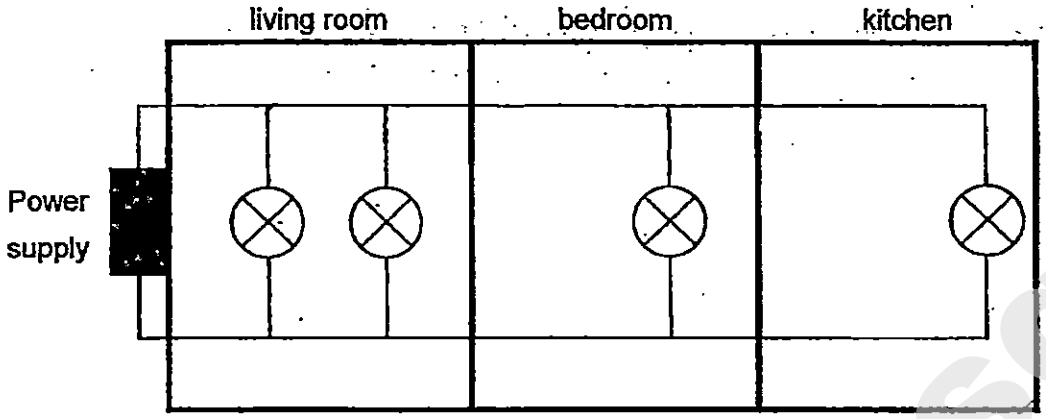
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44. The diagram below shows the electrical connection of Mr Lim's house.



Electrical connection in Mr Lim's house

(a) The bulbs above could be turned on individually only when needed. What is another advantage of connecting the bulbs in the house as shown above? [1]

(b) On the diagram above, draw **four switches** such that Mr Lim could turn on each bulb individually in each room only when needed. Mark an "X" on the circuit to show where each switch should be connected. [1]

(c) Based on your answer in (b), would the arrangement of the switches help Mr Lim to save on his electricity bill? Explain your answer clearly. [1]

3

End of Booklet B2

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : METHODIST GIRLS' SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	**3**	**2**	**3**	**2**	**3**	**2**	**1**	**3**	**1**
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
1	**3**	**2**	**2**	**2**	**2**	**1**	**3**	**2**	**1**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	**2**	**3**	**1**	**1**	**4**	**1**	**3**	**4**	**1**

Q31a. Running – B
Q31a. Brisk walking – C
Q31a. Strolling – D
Q31a. Sitting – A

Q31b. The higher the breathing rate, the higher the pulse rate.

Q32a. Box A. Box A has the conditions needed for fungus to survive, air, water and warmth.

Q32b. By making the boxes airtight, Lillian ensures that no water vapour / moisture from the air reaches the bread. It also prevents water loss from box A.

Q32c. It is to prevent fungus growing on the mooncakes as the silica gel absorbs moisture in the box.

Q33a. Line S. Roots absorb water. Plant A has more roots than Plant B and thus, the water level in Plant A is lower than B.

Q33b. It is to prevent water from evaporating so that we can confirm that the decrease in the water level is only caused by the amount of roots.

Q34a. Both leaves would die.

Q34b. Leaf A and Leaf B cannot receive water absorbed by the roots and transported by the xylem.

Q35a. Set – up B.

Q35b. Set up A and Set up B.

Q35c. Variable 1 : The amount of water . Q35c. Variable 2 : The size of the cotton wool.

Q36a. Organism C and D.

Q36b. Both do not have flowers so pollination and fertilization cannot take place for seeds to develop.

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Q36c. They can photosynthesise.

Q37a. Part B and C.

Q37b. Diagram R. The seeds of plant Z are scattered everywhere just like in Diagram R. It does not follow the wind direction as it is not found where the wind blows.

Q37c. It is to prevent overcrowding and reduces competition between the young and parent plant for sunlight, space, water and nutrients.

Q38a. It is transparent and allows Mrs Lim to see the food in the cooking pot.

Q38b. Plastic is a poor conductor of heat and it would not gain heat quickly so that people using the pot will not burn themselves when they touch it.

Q39a. The magnetic materials would be attracted by the magnet in the roller which would drop into Container A. Whereas, the non – magnetic matrials would be rolled into Container B.

Q39b. Speed up the speed of the moving belt.

Q40a. 6 people

Q40b. No, a child who is 100cm in height cannot be counted. The child would be too short and his body cannot block the light from reaching the sensor.

Q40c. Light travels in straight lines.

Q41a. He should choose the metal tray. Metal is a good conductor of heat and when it touches the hotter surface of the metal tray, the beef would gain heat and defrost in a shorter time.

Q41b. Yes. The beef cubes will be cooked faster on the hot metal plate because the beef cubes have more surface area in contact with hot metal plate so the beef cubes will gain heat at a faster rate from the metal plate than the plastic plate.

Q42a. Flask Y. The air in flask Y can escape more quickly than the air in flask X making space for water to enter the flask as there are tiny spaces in the cotton wool which allow air to escape.

Q42b. When the rubber sheet was pulled down, the volume or space in the bell jar becomes bigger and air rushes into the bell jar to occupy the space.

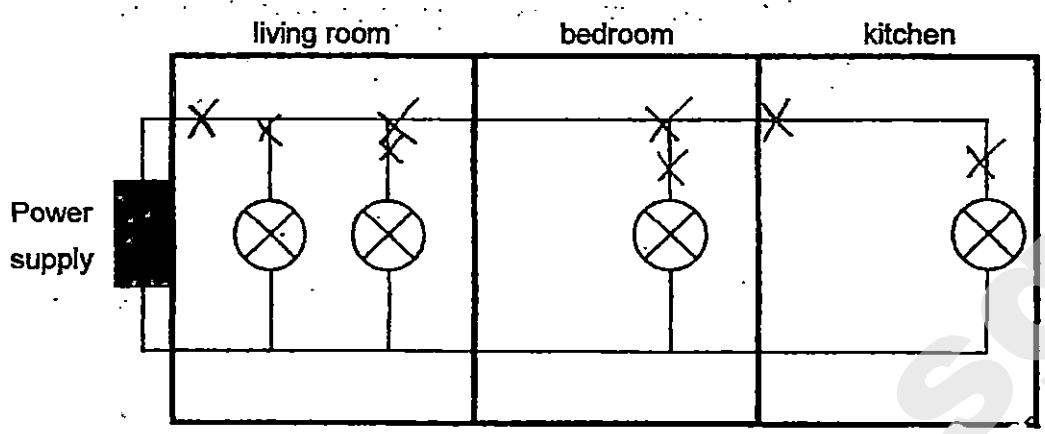
Q43a. The plastic balls are light and float on the surface of water in the reservoir. This reduces the rate of evaporation as the exposed surface area of the reservoir water is decreased.

Q43b. Wash plates in a basin of water instead of washing them under a running tap

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Q44a. When one bulb fuses, the other bulbs can still light up.

Q44b. **SEE PICTURE.**



Electrical connection in Mr Lim's house

Q44c. Yes. The switches can control the bulb individually and the light bulbs that are not needed do not need to be lit, saving energy.

THE END

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NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 2 – 2015
PRIMARY 5

SCIENCE

BOOKLET A

30 Multiple Choice Questions (60 marks)

Total Time for Booklets A and B : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.

Marks Obtained

Booklet A		/ 60
Booklet B		/ 40
Total		/ 100

Name: _____ ( ) **Class: P 5** _____

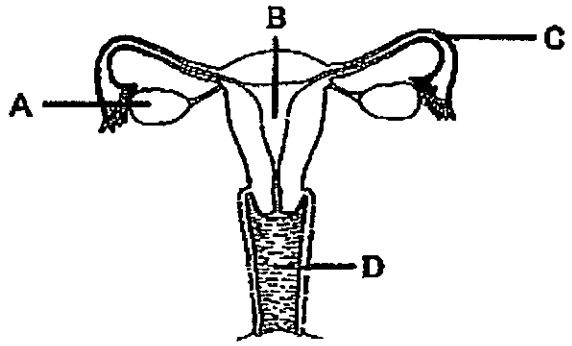
Date : 29 October 2015 **Parent's Signature:** _____

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Section A: (30 x 2 marks = 60 marks)
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The diagram below shows a female reproductive system. A, B, C and D are different parts of the reproductive system.



At which part, A, B, C or D, does a fertilised egg develop into a baby?

(1) A
(2) B
(3) C
(4) D

2. The table below compares the sexual reproduction of animals and flowering plants.

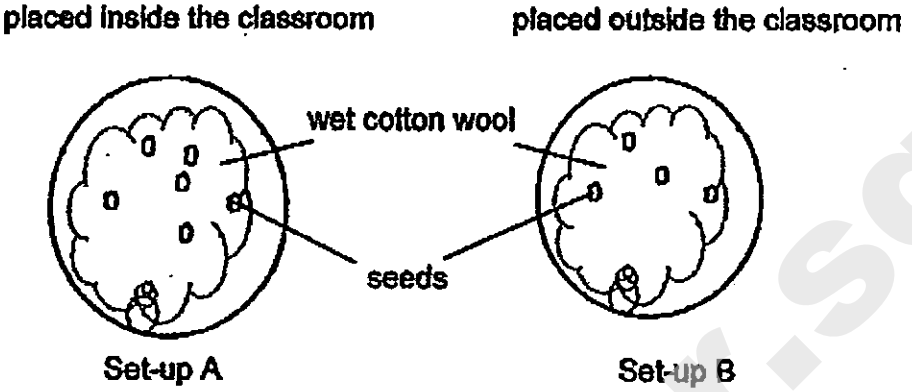
	Animals	Flowering plants
Organ that produces the female reproductive cell	Ovary	W
Organ that produces the male reproductive cell	X	Y
Process whereby the female reproductive cell fuses with the male reproductive cell	Z	Z

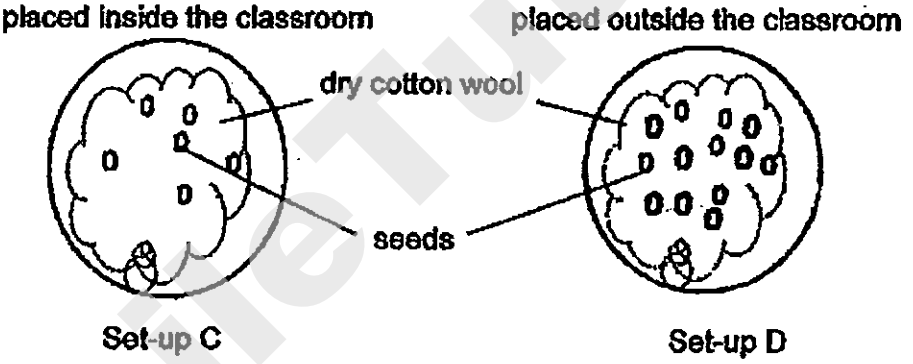
Which one of the following correctly identifies W, X, Y and Z?

	W	X	Y	Z
(1)	Ovary	Testis	Anther	Fertilisation
(2)	Stigma	Testis	Anther	Pollination
(3)	Ovary	Anther	Testis	Reproduction
(4)	Stigma	Testis	Anther	Fertilisation

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3. Some Primary 5 pupils wanted to carry out an experiment to find out whether seeds need water to germinate.



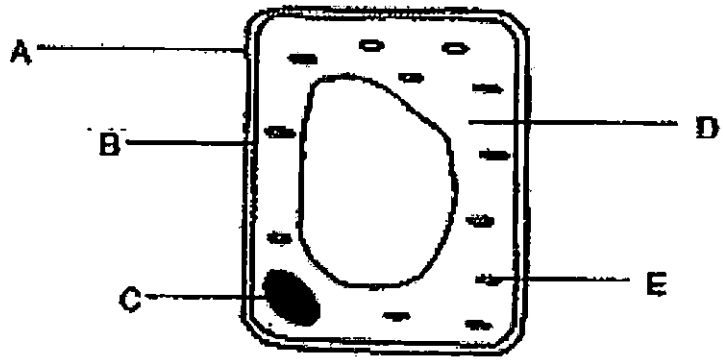


To ensure a fair test, which 2 set-ups should they use?

(1) A and C only
(2) A and D only
(3) B and C only
(4) B and D only

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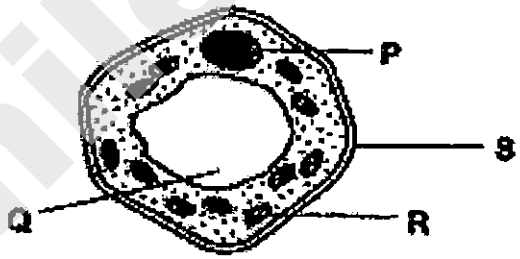
4. The diagram below shows a plant cell with its different parts labelled.



Which parts of the cell, if removed, will result in the effects as shown in the table below?

	Cell will not have a regular shape	Plant will not be able to make food
(1)	A	E
(2)	C	B
(3)	B	D
(4)	D	C

5. Kok Fah wants to grow apples that are redder and sweeter.

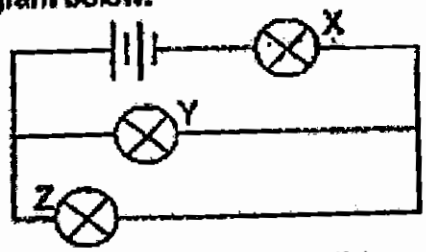


Based on the plant cell given above, which part(s) of the cell is/are most likely to have been changed in order to produce such apples?

(1) P only
(2) S only
(3) P and R only
(4) Q and S only

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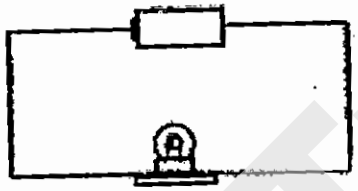
6. Study the circuit diagram below.



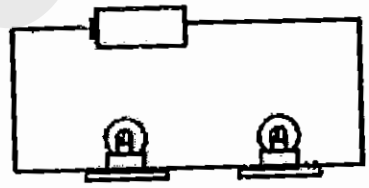
Which of the bulb(s) will remain lit when bulb Z fuses?

(1) X only
(2) Y only
(3) X and Y
(4) None of the bulbs.

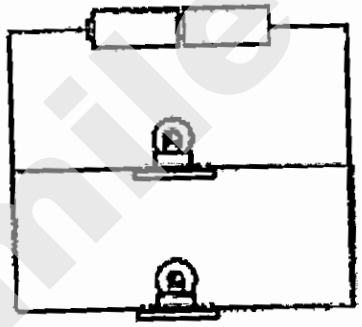
7. There are four circuits with different number of identical batteries and different arrangements of identical bulbs shown below. The bulbs in all four circuits light up.



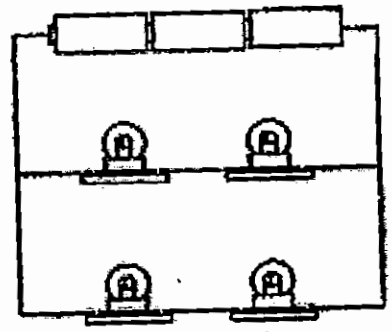
Set-up A



Set-up B



Set-up C



Set-up D

Arrange the set-ups based on the brightness of the bulb.

	Brightness of bulb →			
	Dimmest			Brightest
(1)	A	B	C	D
(2)	B	C	D	A
(3)	D	C	B	A
(4)	B	A	D	C

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8. Which of the following statements about green plants are correct?

A They need energy to carry out life processes.
B Photosynthesis takes place in the presence of sunlight only.
C Food produced by green plants directly or indirectly becomes the source of energy for animals.
D Exchange of gases like carbon dioxide, oxygen and water vapour takes place in all parts of green plants.

(1) A and B only
(2) A and C only
(3) B and D only
(4) C and D only

9. A group of Primary 5 pupils wrote the following statements about the water cycle.

A Water gains heat and evaporates.
B Clouds are made up of water vapour.
C Plants and animals give out water vapour.
D The two processes, evaporation and condensation, take place continuously in a cycle.

Who is/are correct?

(1) A only
(2) B only
(3) A, C and D only
(4) A, B, C and D

10. The table below shows a list of different functions of the various parts of a land plant.

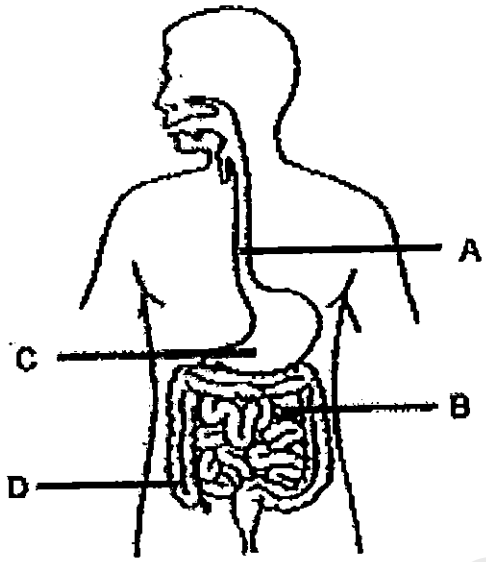
A	makes food for the plant
B	takes in water and mineral salts
C	contains and protects the seeds
D	holds the plants firmly to the ground
E	supports and spreads out the branches and leaves
F	transports food, water and mineral salts to all parts of the plant.

Which one of the following parts of the plant is matched correctly to its functions?

	Part of plant	Functions
(1)	Fruit	A and C
(2)	Stem	E and F
(3)	Leaf	A and B
(4)	Root	D and E

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11. The diagram below shows the digestive system of a human body.



At which part, A, B, C or D, is digested food absorbed into the bloodstream?

(1) A
(2) B
(3) C
(4) D

12. In one of Aesop's Fables, 'The Crow and the Pitcher', the thirsty crow dropped in pebbles one by one into the pitcher until the water rose to the top of the pitcher, allowing it to drink.



Which property of matter did the crow use to obtain water?

(1) Matter has mass.
(2) Matter occupies space.
(3) Matter has definite shape.
(4) Matter takes the shape of the container.

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13. The diagram below shows the cross-section of a lady's finger.



Pupils A, B and C wrote the following statements after looking at the lady's finger.

A The lady's finger is not a fruit but a vegetable.
B The function of the fruit is to protect the seeds.
C The ovary of the flower which the lady's finger developed from contained many ovules.

Whose statement(s) is/are correct?

(1) A only
(2) C only
(3) A and B only
(4) B and C only

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14. The diagrams below show the fruits of three different plants and their characteristics.



wing-like structure

Plant A



stiff hair

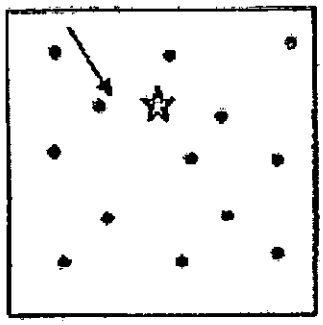
Plant B



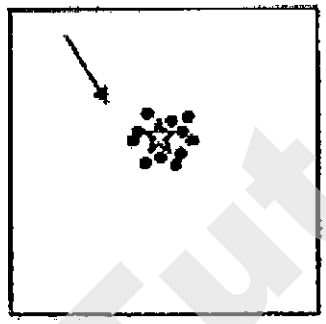
fruit dries up when ripe

Plant C

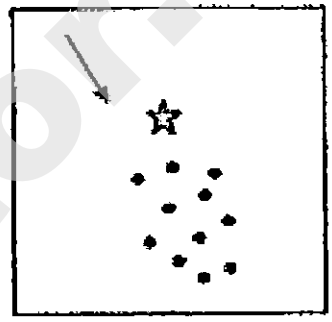
The following diagrams show three possible dispersal patterns, X, Y and Z.



X



Y



Z



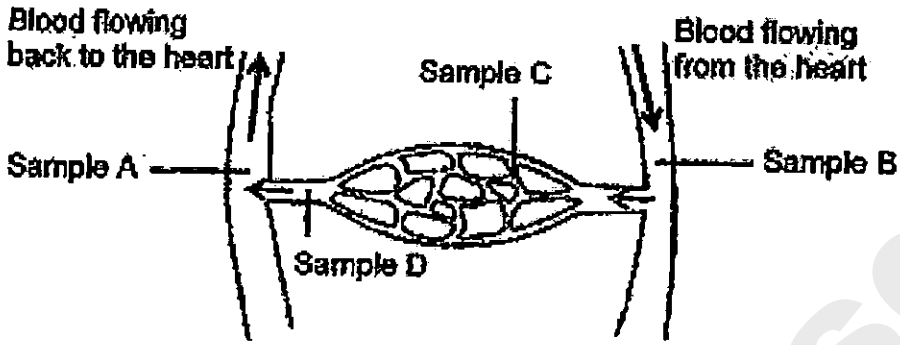
Which one of the following best matches the dispersal pattern to the plants, A, B and C?

	Pattern X	Pattern Y	Pattern Z
(1)	Plant A	Plant B	Plant C
(2)	Plant B	Plant C	Plant A
(3)	Plant C	Plant A	Plant B
(4)	Plant C	Plant B	Plant A

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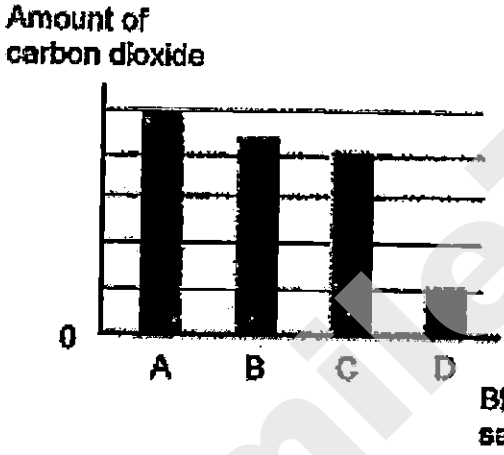
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15. The diagram below shows the movement of blood through different blood vessels in the leg of a mammal.

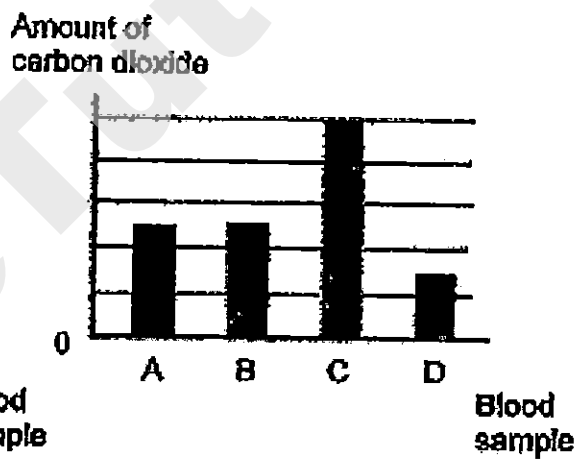


Blood samples A, B, C and D were taken from these different blood vessels. Which graph most appropriately shows the amount of carbon dioxide in the blood samples?

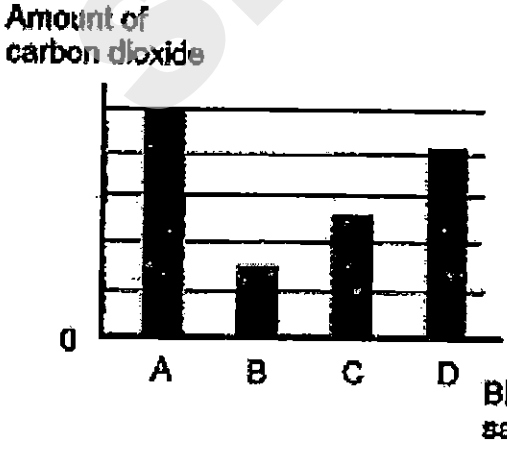
(1)



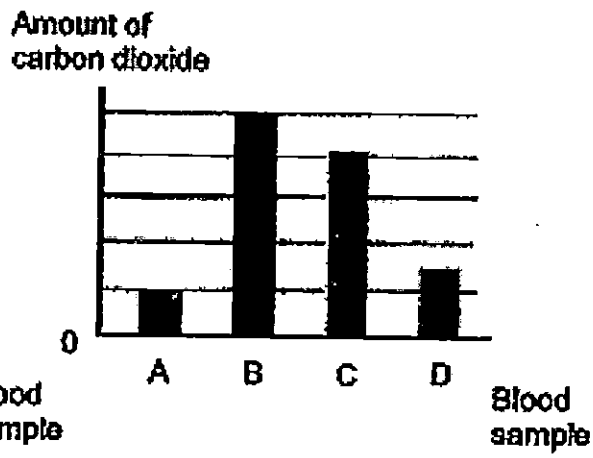
(2)



(3)



(4)



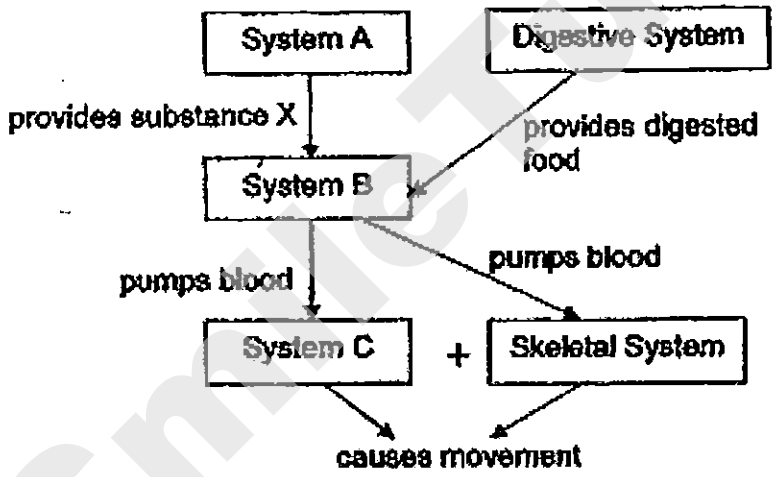
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16. Which of the following substances are transported by the blood vessels in the human body and the water-carrying tubes in a green plant respectively?

A food
B water
C gases
D mineral salts

	Blood vessels in the human body	Water-carrying tubes in a green plant
(1)	A and D only	B and C only
(2)	A, B and C only	B only
(3)	A, B, C and D	A and C only
(4)	A, B, C and D	B and D only

17. Study the flowchart of the human systems as shown below.

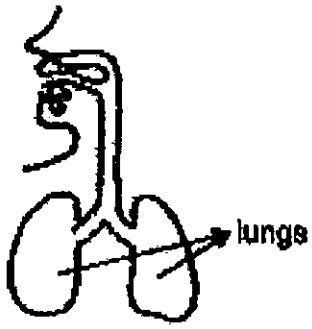


Which systems do A, B and C represent and what is substance X?

	System A	System B	System C	Substance X
(1)	respiratory system	circulatory system	muscular system	oxygen
(2)	circulatory system	respiratory system	muscular system	oxygen
(3)	circulatory system	muscular system	respiratory system	carbon dioxide
(4)	respiratory system	circulatory system	muscular system	carbon dioxide

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18. Lungs are the organs in the respiratory system of a mammal. Gills are the organs in the respiratory system of a fish.



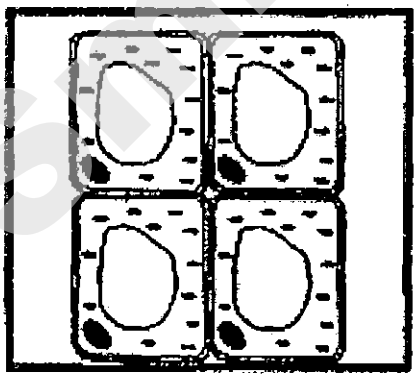


Which of the following statements show the comparisons between the lungs and the gills correctly?

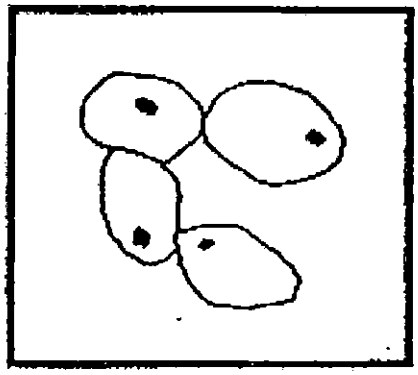
A	The lungs and the gills are made up of blood vessels only.
B	The exchange of gases takes place in both the lungs and the gills.
C	The lungs and the gills remove the carbon dioxide from the body.
D	The lungs take in atmospheric oxygen but the gills take in dissolved oxygen.

(1) A and B only
(2) A and C only
(3) B, C and D only
(4) A, B, C and D

19. Study the diagrams below.



Cell X



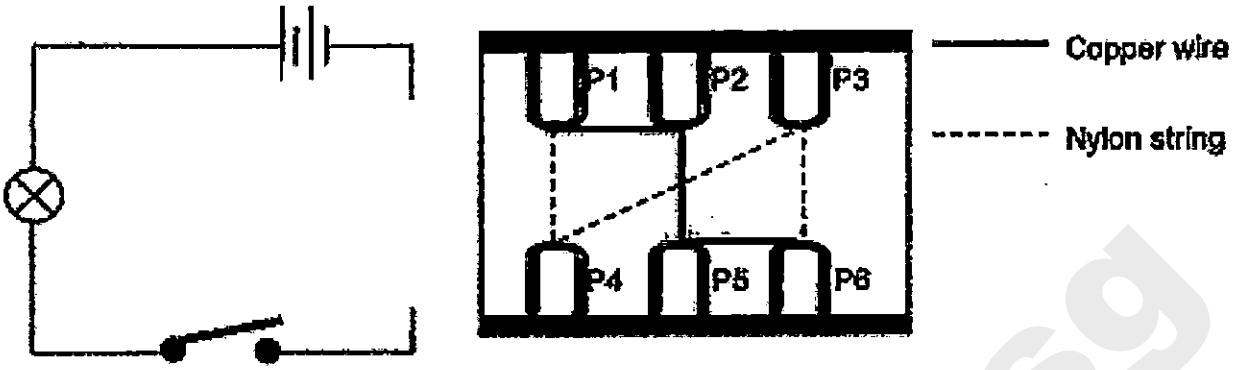
Cell Y

Cell X and Cell Y are similar because they both _____.

(1) have a regular shape
(2) do not have cell membrane
(3) have chloroplasts to make their own food
(4) have cytoplasm that contains the different cell parts

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20. A circuit card consisting of 6 paper clips (P1 to P6) are connected by 3 copper wires and 3 nylon strings. A group of pupils connected the circuit card to a circuit tester.



Circuit tester Circuit card

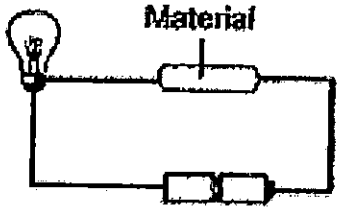
For the bulb to light up, which pair of paper clips on the circuit card should the pupils connect to the circuit tester?

(1) P1 and P6
(2) P2 and P4
(3) P3 and P5
(4) P3 and P6

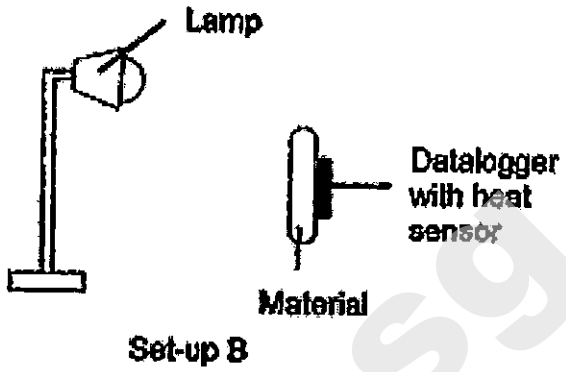
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21. Uncle Bob set up the experiments as shown below. Set-up A and Set-up B allowed him to compare materials R, S, T and U in terms of their conductivity of electricity and heat respectively.



Set-up A

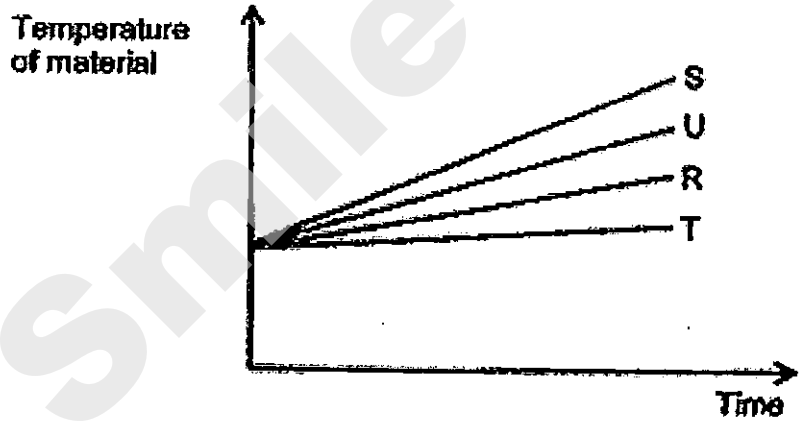


Set-up B

He recorded his findings from Set-up A in the table below.

Materials	Brightness of the bulb
R	Dim
S	Very bright
T	No light
U	Bright

The graph below shows the results for Set-up B.



Which of the following statements is correct?

(1) Material R is an insulator of electricity and a good conductor of heat.
(2) Material S is the best conductor of electricity and heat among the 4 materials.
(3) Material T is the poorest conductor of electricity but the best conductor of heat.
(4) Material S is a better conductor of electricity than Material T but a poorer conductor of heat than Material T.

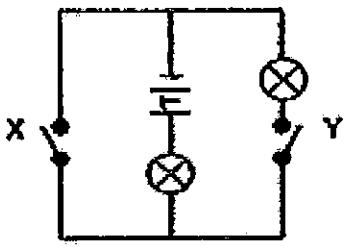
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22. Mary tested the switches of 4 circuits and recorded her observations in the table below.

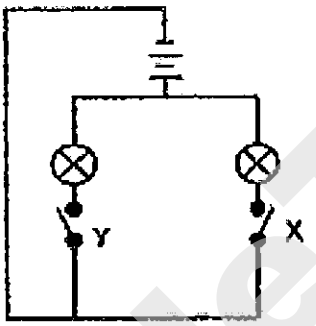
Switch X	Switch Y	Number of bulbs lighted up
Open	Open	0
Closed	Open	1
Open	Closed	1
Closed	Closed	2

Which one of the electric circuits shown below will produce the results in the table above?

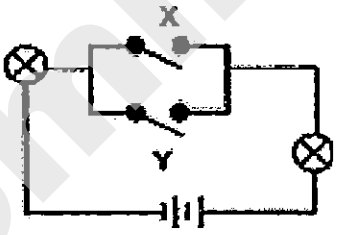
(1)



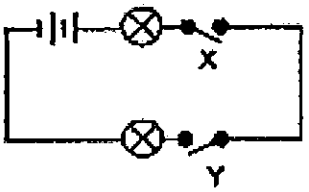
(2)



(3)



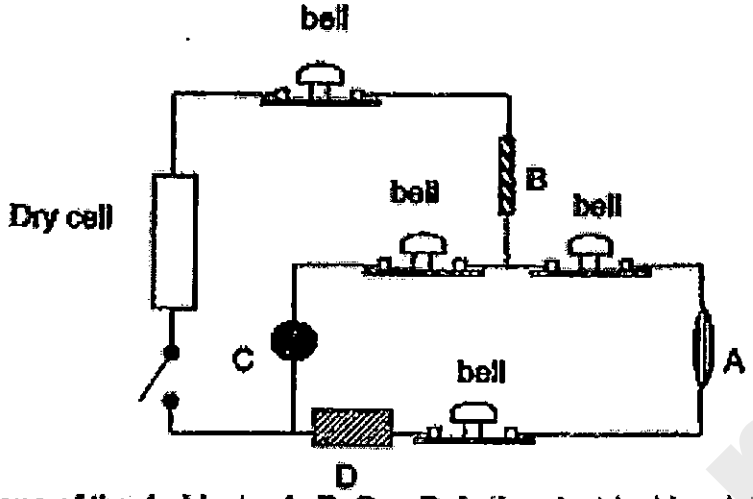
(4)



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23. In the circuit shown below, one of the 4 objects, A, B, C or D, is an electrical insulator. If the switch is closed, only 3 bells in the circuit will ring.



Which one of the 4 objects, A, B, C or D, is the electrical insulator?

(1) Object A
(2) Object B
(3) Object C
(4) Object D

24. The table below shows the boiling and melting points of three substances.

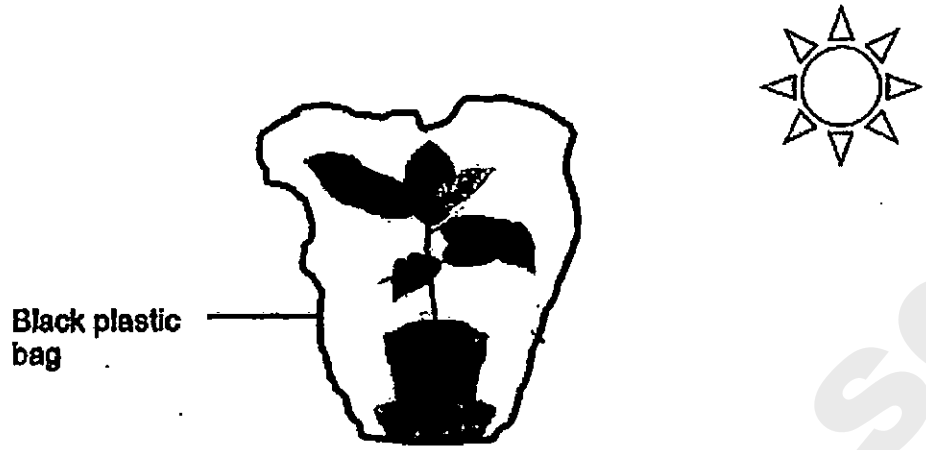
Substance	Melting point (°C)	Boiling point (°C)
P	8	50
Q	40	180
R	160	320

Based on the information given above, which one of the following shows the correct states of substances P, Q and R at a room temperature of 28°C?

	Solid	Liquid
(1)	R	P and Q
(2)	P and R	Q
(3)	P	Q and R
(4)	Q and R	P

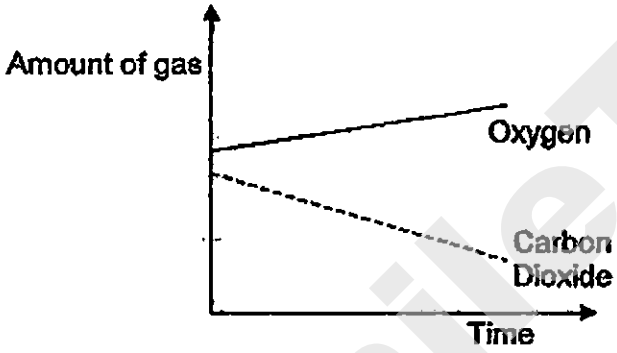
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25. Mr Lim watered a potted plant and wrapped it with a black plastic bag. Then he placed it under the Sun for several hours.

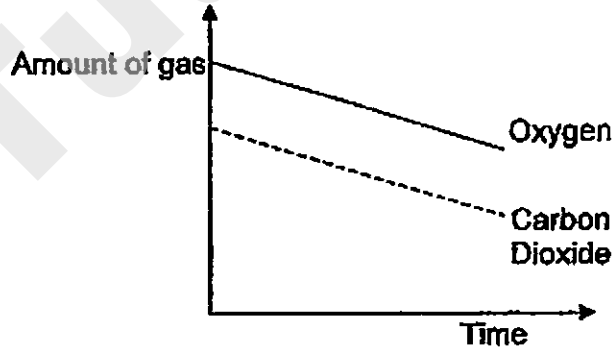


Which one of the following graphs below shows the changes in the amount of carbon dioxide and oxygen in the bag during that period of time?

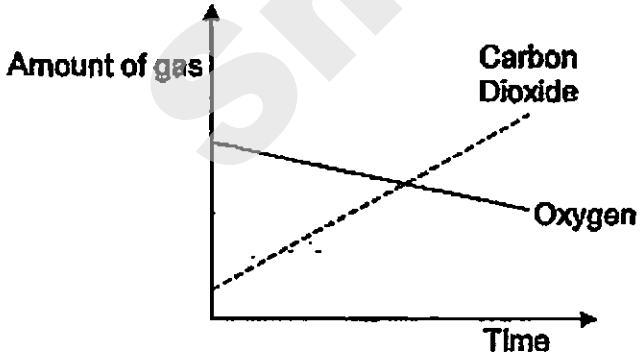
(1)



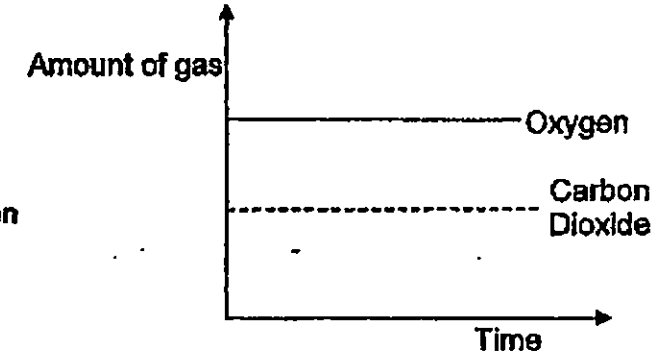
(2)



(3)



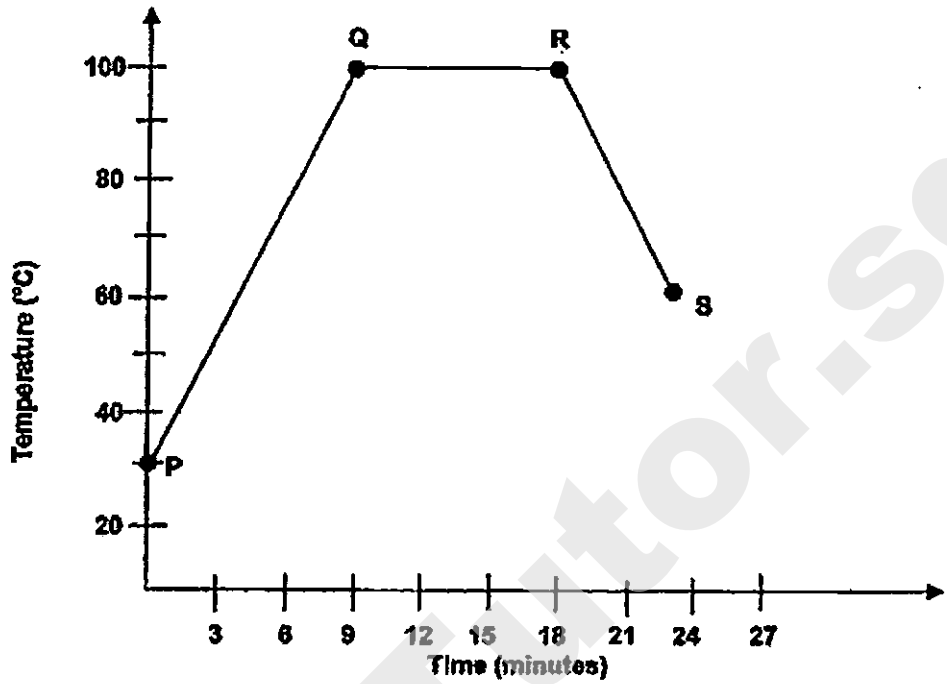
(4)



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26. Mdm Halimah heated some water in a kettle until it boiled. She forgot to turn off the fire and the water continued to boil for some time. After she had switched off the fire, she left the water to cool. The graph below shows the change in the temperature of the water over a period of time.



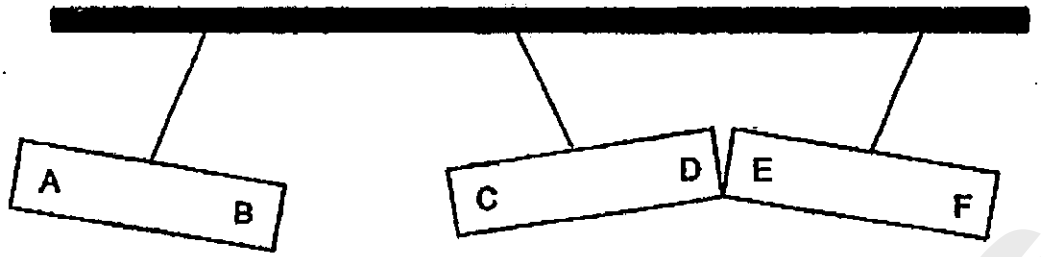
Which of the following statements correctly show what happened to the water at the different stages?

A Heat was gained at stage QR.
B Water was heated for 18 minutes.
C Water could exist in 2 states at stage PQ.
D Evaporation took place at stage RS only.

(1) A and B only
(2) C and D only
(3) A, C and D only
(4) A, B and C only

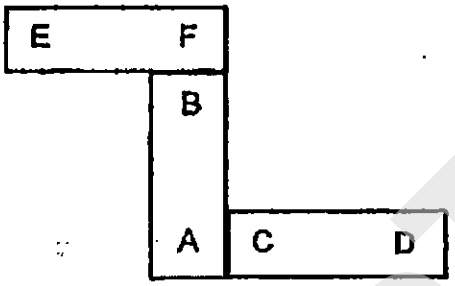
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27. The diagram below shows what happened to 3 identical bar magnets when they were hung from a pole. The ends of the bar magnets are marked A to F.

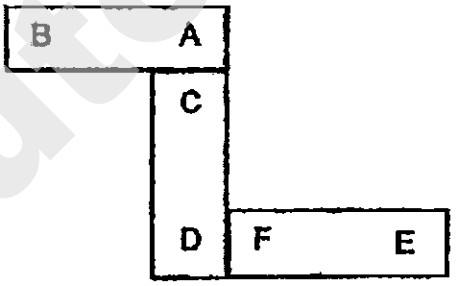


Which one of the following diagrams shows a possible arrangement of the three magnets?

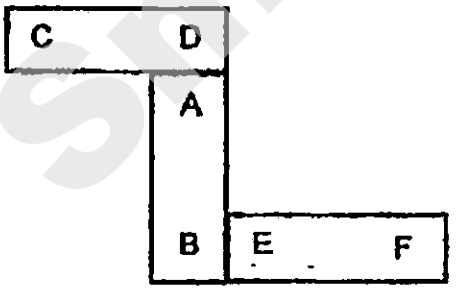
(1)



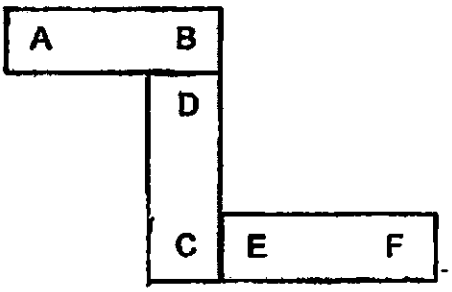
(2)



(3)



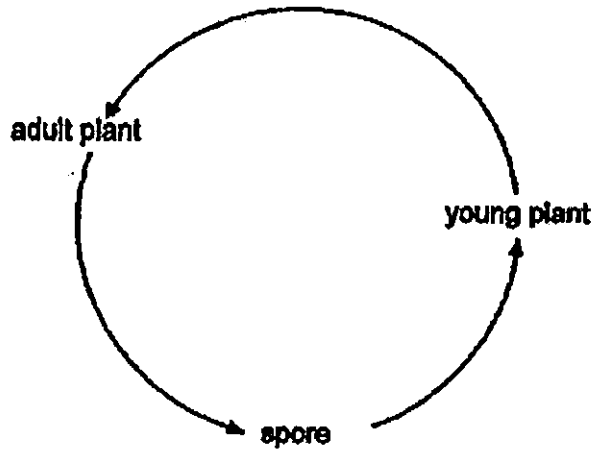
(4)



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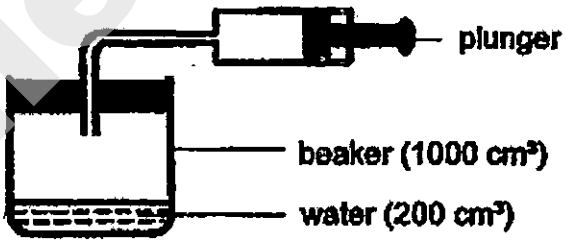
28. The diagram below shows the life cycle of a fern.



Which one of the following statements about the life cycle of the fern is incorrect?

(1) All ferns go through the same life cycle.
(2) There are three stages in the life cycle of the fern.
(3) The life cycle of the fern ensures the continuity of its kind.
(4) Sunlight is not needed for each stage of growth of the fern.

29. A container with a capacity of 1000 cm^3 is fitted with a pump. Each time the plunger is pushed in completely, 150 cm^3 of air will enter the container.

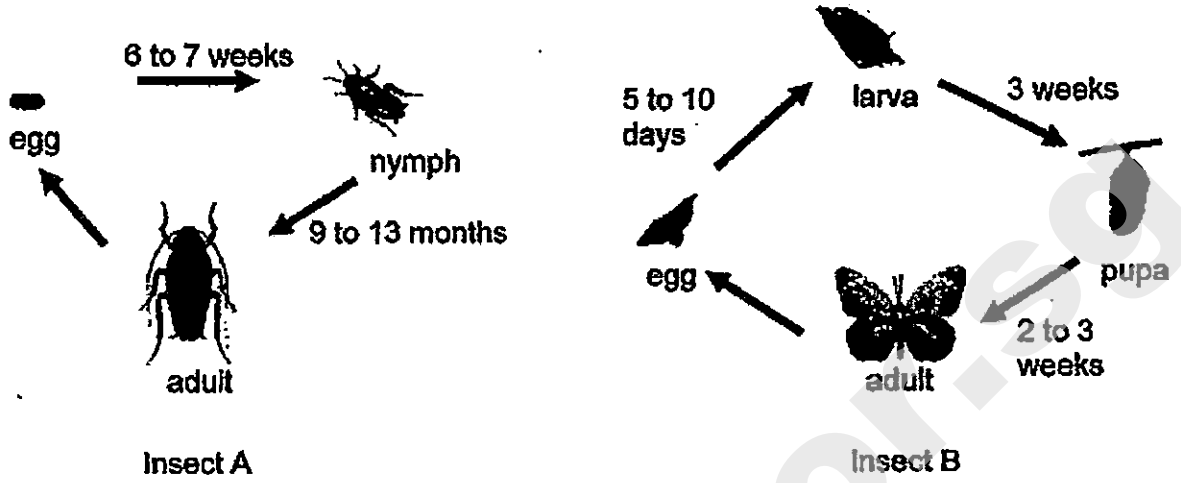


What will be the volume of the air in the beaker if the plunger is pushed in 3 times?

(1) 450 cm^3
(2) 650 cm^3
(3) 800 cm^3
(4) 1000 cm^3

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30. The pupils in 5A studied the life cycle of Insect A and Insect B shown below.



From the information provided in the 2 life cycles above, what can the pupils compare about them?

A The food the two insects eat
B The method of reproduction
C The number of stages in the life cycle
D The length of time it takes for the eggs to hatch

(1) C only
(2) B and C only
(3) B, C and D only
(4) A, B and C only

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NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 2 – 2015
PRIMARY 5

SCIENCE

BOOKLET B

14 Open-ended questions (40 marks)

Total Time for Booklets A and B : 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

Marks Obtained

Section B		**/ 40**

Name: _____ ( ) **Class: P 5** _____

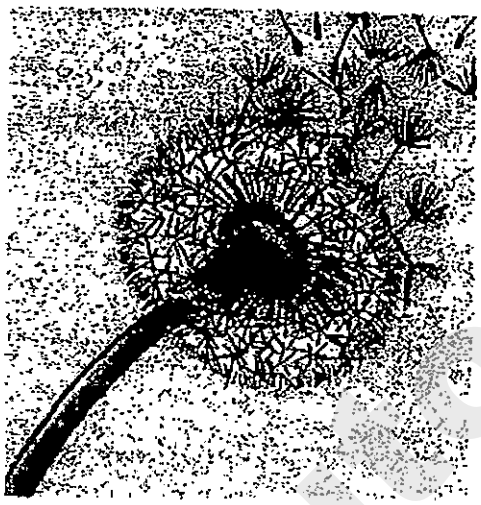
Date : 29 October 2015 **Parent's Signature:** _____

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Section B: (40 marks)
Write your answers to questions 31 to 44. The number of marks available is shown in brackets [ ] at the end of each question or part-question.

31. The diagram below shows an important process in the sexual reproduction of flowering plants.



a) State the process in the above diagram. [1]

b) If conditions are favourable, what is the next process that would take place? [1]

Score	
	2

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32. The table below shows the composition of air in Country P and Country Q.

Country	Composition of air
P	78% Nitrogen 21% Oxygen 0.5% Water vapour 0.5% Carbon dioxide and other gases
Q	78% Nitrogen 21% Oxygen 0.2% Water vapour 0.8% Carbon dioxide and other gases

The percentage of water vapour in the air is known as humidity. The higher the humidity, the slower the rate of evaporation.

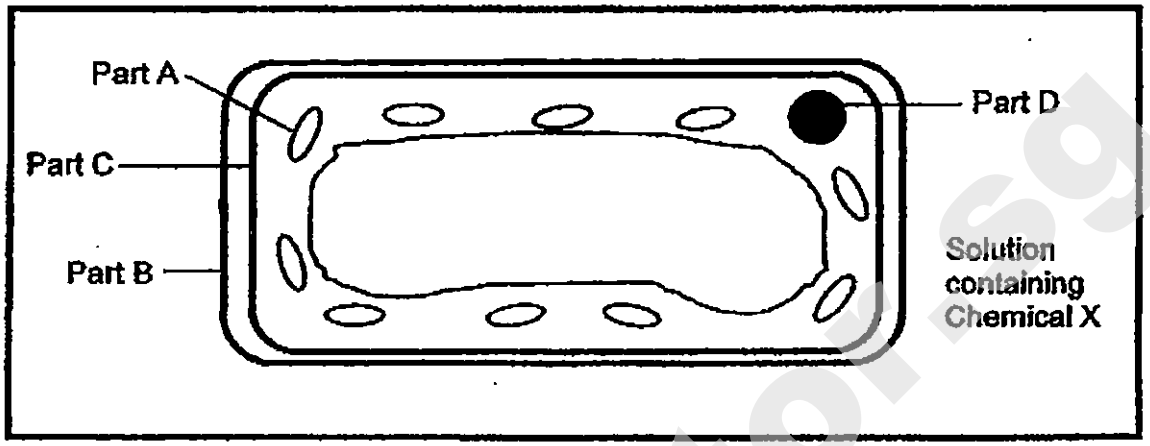
In which country would the drying of wet clothes take a shorter period of time? Explain your answer. [2]

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Score	
	2

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33. Hui Wen conducted an experiment to find out the function of various cell parts. She placed a plant cell, as shown below, in a dish with a solution containing Chemical X. When she checked the cell after an hour, she found that Chemical X did not enter the cell. The experiment was then repeated with another four similar cells, with each cell having a part removed.



The table below shows part of her results. Complete it to show the results when various parts of the cells are removed. [2]

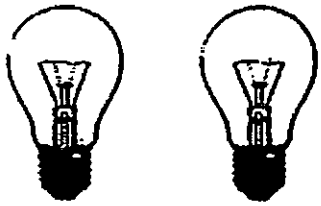
	Cell part removed	Is Chemical X found in the cell?
	None	No
(i)	Part A	
(ii)	Part B	
(iii)	Part C	
(iv)	Part D	

Score	
	2

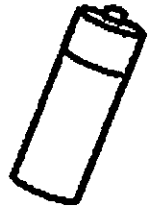
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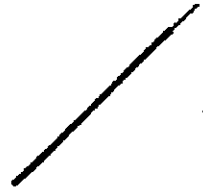
34. Greg wants to check if both of the bulbs are working. He decided to set up a simple circuit to test both bulbs at the same time to check if the bulbs are in working condition. He has the following components to set up the circuit.



Two light bulbs



One battery



Unlimited number of wires

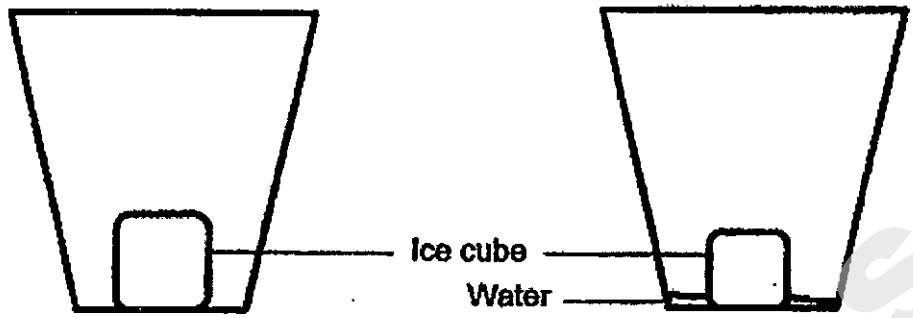
In the box below, draw a circuit diagram to show how Greg should connect all the components so that he could test the bulbs at the same time to determine if they work. [2]

Score	2

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35. Two ice cubes made of pure water and of the same mass were placed in a plastic cup and a metal cup respectively once they had been removed from the freezer. The ice cubes in the plastic cup and metal cup were left in a room with a temperature of 27°C for two minutes.



At the start of two minutes **At the end of two minutes**

a) What is the temperature of the ice cube at the end of 2 minutes? [1]

b) The time taken for the ice cubes to melt completely in both the plastic and metal cups is recorded in the table below. Identify the materials of the cups in the table below. [1]

	Material of cup	Time taken (minutes)
i		14
ii		10

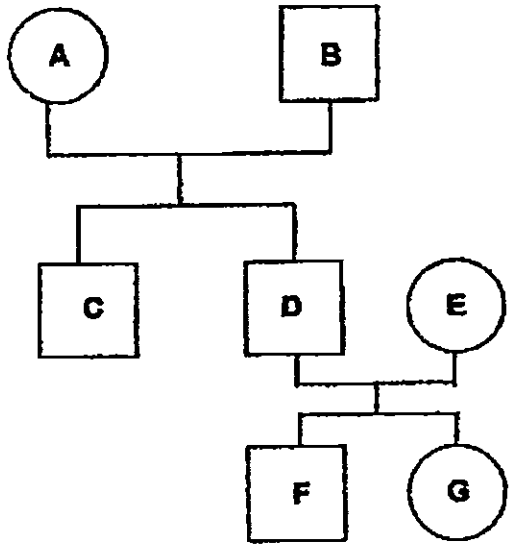
c) Explain your answer in (b). [1]

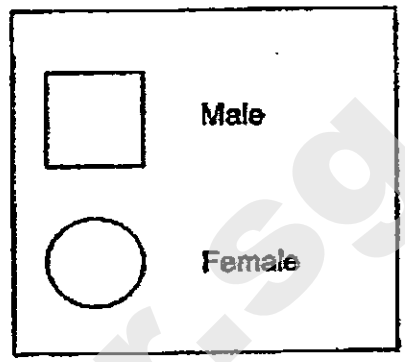
Score	
	3

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36. The diagram below shows the family tree of Isaac.





Family Member	Characteristic		
	Dimpled Cheeks	Widow's Peak	Single Eyelids
A	√		√
B		√	
C			√
D		√	
E	√		√
F			√
G	√	√	√

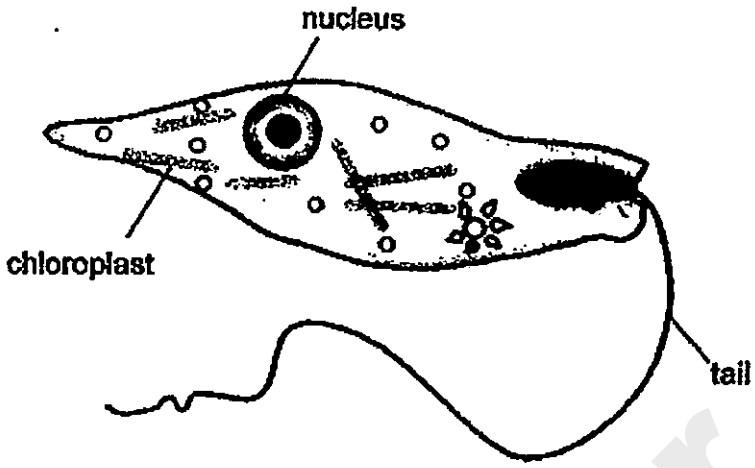
a) Isaac belongs to the second generation. He inherited his widow's peaks from his father but did not inherit his mother's dimpled cheeks. Which letter in the family tree represents Isaac? [1]

b) Study the family tree. Explain why F and G have single eyelids. [1]

2

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37. Joanne placed the following single-cell organism in a dish.



a) It is observed that the cell moves towards light. Using the knowledge of the function of each cell part within the organism, explain this observation. [2]

b) State two substances that would be produced within the single-cell organism after a few hours in the presence of light. [1]

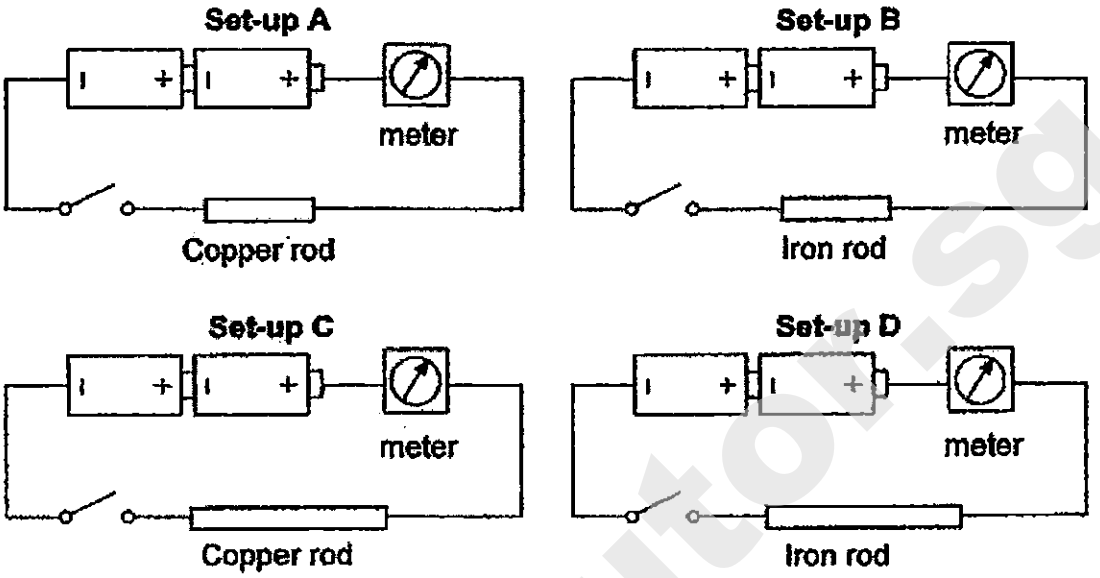
c) Do you think the tail of the organism could function if its nucleus is removed? Give a reason for your answer. [1]

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Score	4

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38. Glenn set up an experiment in which he placed rods of different materials in four different circuits. Each circuit was connected to a meter that measured the amount of electric current passing through it.



a) Glenn wanted to find out whether different materials will affect the amount of electricity that passes through the circuit. Which two set-ups should he use? [1]

b) Glenn used set-up B and set-up D for another experiment. What is the aim of this experiment? [1]

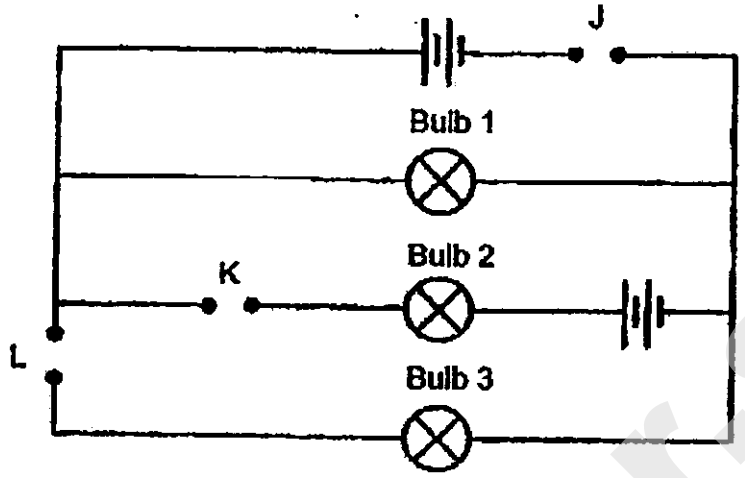
c) Why is a meter better than a light bulb in determining the amount of electric current passing through the circuit in this experiment? [1]

Score	3

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39. Gary set up the circuit as shown below to test if Objects A, B and C are made of electrical conductors. The different objects were connected to the circuit at testing positions J, K and L.



a) Gary's teacher commented that one of the testing positions chosen is unsuitable in confirming if all three objects tested at the same time are electrical conductors.

i) Which testing position, J, K or L, is unsuitable? [1]

_____

ii) Mark an "X" on the above circuit to show where the new testing position should be so that all three objects could be tested at the same time. [1]

b) The findings are recorded in the table below.

Objects placed at			Does the bulb light up?		
J	K	L	Bulb 1	Bulb 2	Bulb 3
A	B	C	Yes	No	Yes
B	A	C	No	Yes	Yes

i) Based on the table above, which object(s) is/are electrical insulator(s)? [1]

_____

ii) Name a possible material that the object(s) mentioned in b(i) is/are made of. [1]

_____

Score	
	4

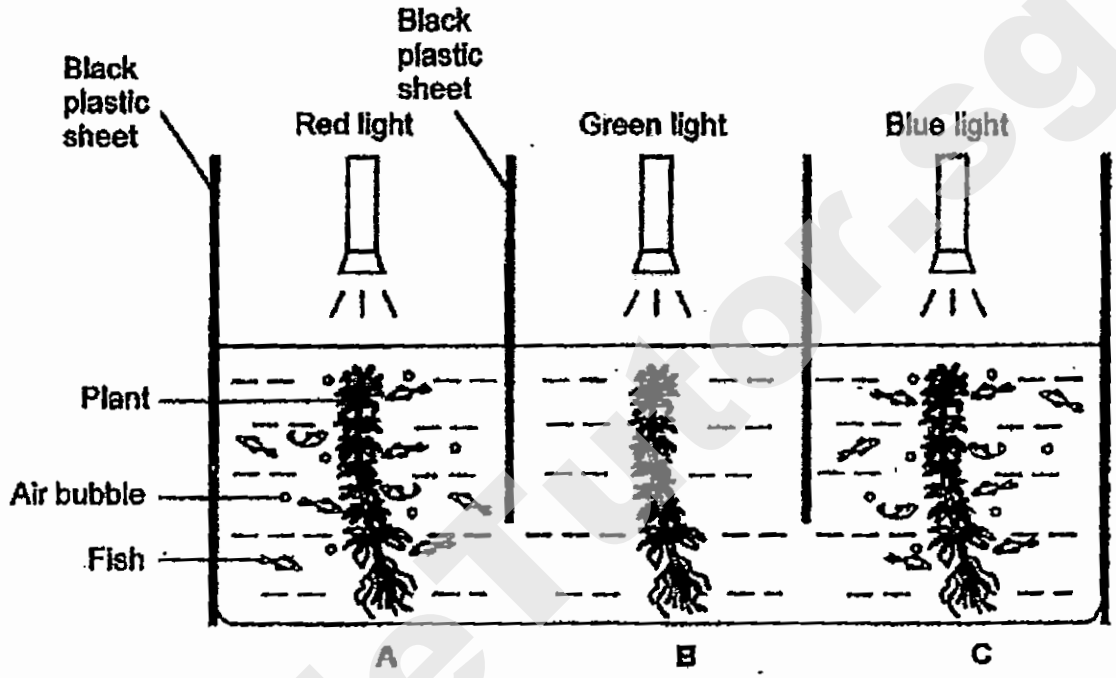
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40. Hazel set up an experiment in a dark room to find out which coloured light(s), red, green or blue, could be used for photosynthesis.

She divided a tank into three sections, A, B and C, by black plastic sheets as shown in the diagram below.

She introduced some fish into each section which had water plant with same number of leaves.



a) Give a reason why the fish were found in sections with red and blue light only. [1]

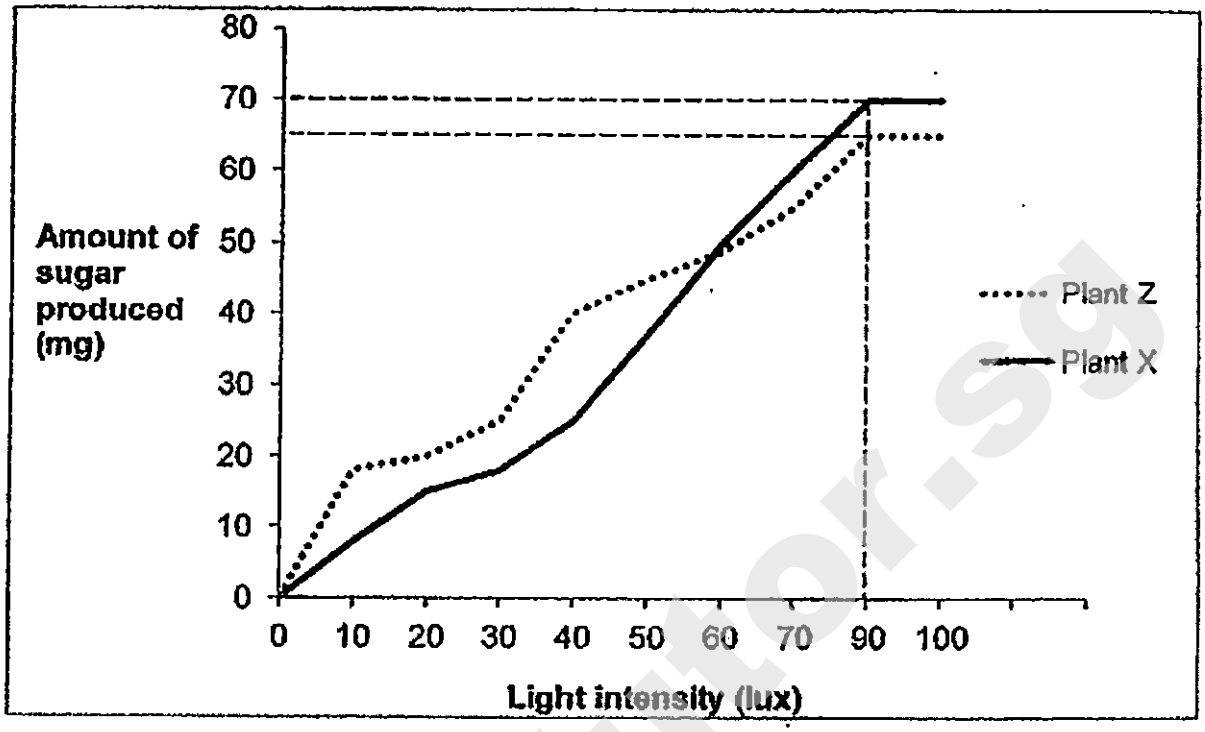
b) Which coloured light(s) could be used for photosynthesis? [1]

c) Hazel's teacher suggested that she repeat her experiment with the same set up. What is the purpose of repeating her experiment? [1]

Score	
	3

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41. Grace studied how the rate of photosynthesis of Plant X and Plant Z is affected by different light intensities. The graph below shows her results.



a) State the relationship between light intensity and the rate of photosynthesis of Plant Z from 0 lux to 100 lux. [2]

_____

_____

b) Based on the results from the graph, suggest which plant is more suitable to be grown in a shaded location? Explain your answer. [1]

_____

_____

c) Predict the amount of sugar produced by both plants when the light intensity is increased to 100lux for each plant. [1]

i) Plant X: _____ mg

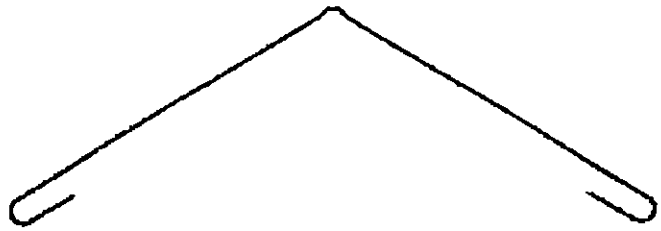
ii) Plant Z: _____ mg

Score	/ 4

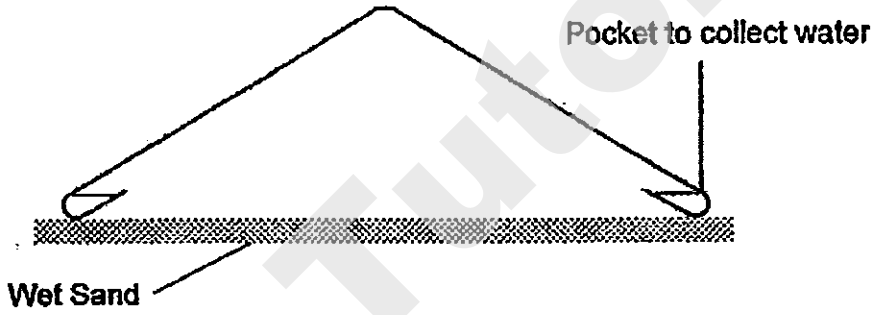
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42. The diagram below shows a water cone that allows clean drinking water to be collected from the ground.



On a sunny day, the water cone is placed on wet ground. Water will be collected at the base of the cone after many hours.



a) Explain how the water is collected. [2]

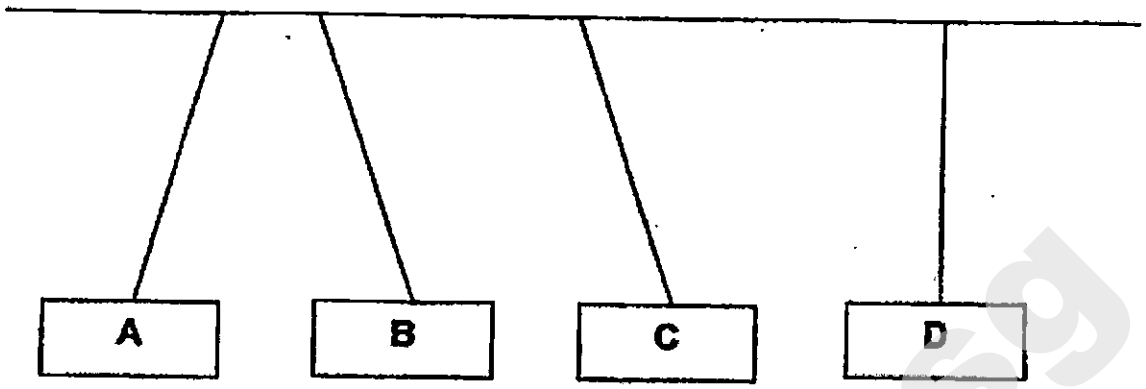
b) It is observed that on a cool and cloudy day, the amount of water collected is much lower. Give a reason for this observation. [1]

Score	3

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43. Four objects are hung from the ceiling as shown below.



a) Which of the objects are definitely magnets? Explain your answer. [2]

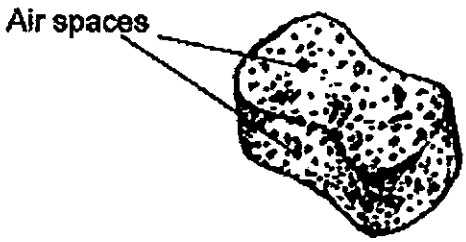
b) For objects A, B and C, what will happen if Object D is removed? Explain your answer. [2]

Score	4

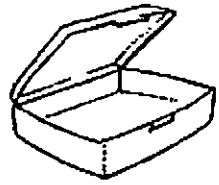
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44. Flora was able to pack a sponge into a container.



Volume of sponge: 15cm^3



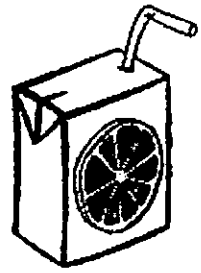
Volume of container: 10cm^3

a) Explain why Flora was successful in doing so? [1]

Flora wants to transfer a full packet of orange juice into a cup.



Volume: 100ml



Volume of juice: 120ml

b) Will Flora be successful in doing so? Explain your answer. [1]

End of paper

Score	2

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EXAM PAPER 2015

SCHOOL : NAN HUA

SUBJECT : P5 SCIENCE

TERM : SA2

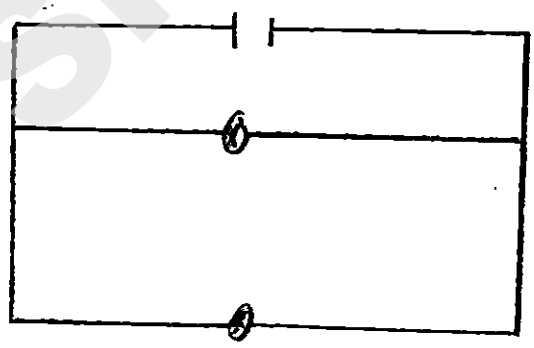
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	1	1	1	1	3	4	2	3	2
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	2	4	2	3	4	1	3	4	1
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	2	3	4	3	4	1	4	3	3

31)a)Seed dispersal. b)Germination.

32)Country Q. There is a lower percentage of humidity in Country Q than Country P, so rate of evaporation is higher in a place of lower humidity.

33)i)No ii)No iii)Yes iv)No

34)



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35)a)0℃。

b)i)Plastic ii)Metal

c)Metal is better conductor of heat than plastic C so the ice in if gained heat faster.

36)a)D.

b)F and G inherited their single eyelids from E or form A to D to them.

37)a)The cell has chloroplast to trap light to make food, thus the cell moves to wards light.

b)Oxygen and Food.

c)No. The nucleus controls the movements in the cell with out it the tail cannot move.

38)a)A and B.

b)To find out whether different length of material effect the amount of electricity that passes through.

c)The meter can give accurate readings on the amount of electrical current passing through the circuit.

39)a)i)J.

ii)

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39)b)i)B. ii)Wood.

40)a)The plants in sections A (red light)and C (blue light)produced oxygen but the plant in section B (green light)did not produce any oxygen.

b)Red and Blue light.

c)To ensure the results are reliable.

41)a)The amount of sugar produced by the plant increased when the light intensity increased from) lux to 90 lux. However, above 90 lux,the amount of sugar produced remained the same.

b)Z. It can produce more sugar at a low intensity although not highest at the end.

c)i)70mg ii)65mg

42)a)The water from the wet ground evapourated into water vapour. The water vapour then condenses into water droplets on the cooler surface of the cone leaking into the pocket as clean drinking water.

b)Rate of evaporation is lower when the surrounding temperature is lower.

43)a)A, B, C. Magnets repel and since A repels B and B repels C. The three object are definitely magnets.

b)The objects will stay the same. D is not a magnet nor a magnetic material as it does not attract or repel the magnets.

44)a)The were air spaces in the sponge to compress to be able to put the sponge in to the container.

b)No. Liquids cannot be compressed thus 20ml of juice will not be able to enter the cup.

END.

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NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 2
2015

BOOKLET A

Date : 27th October 2015
Duration : 1 h 45 min

Name : _____ **( )**

Class: Primary 5 ( )

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

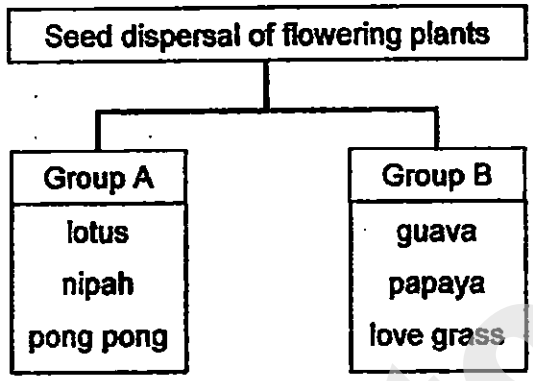
Booklet A consists of 21 printed pages including this cover page.

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Section A (30 x 2 marks = 60 marks)
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. The classification table below shows how some plants are grouped according to the way their seeds are dispersed.



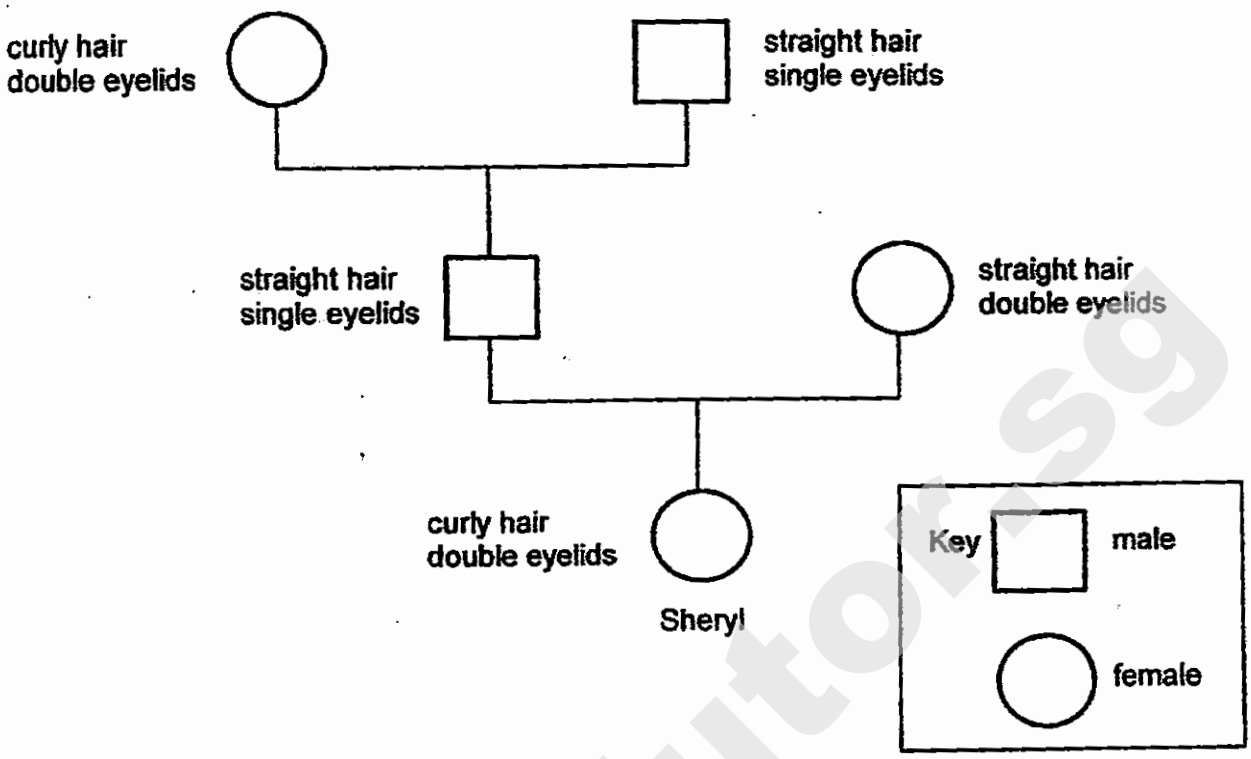
Which one of the following is the most suitable sub-heading for Groups A and B respectively?

	Group A	Group B
(1)	By splitting	By wind
(2)	By water	By animals
(3)	By wind	By water
(4)	By water	By wind

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2. The diagram below shows Sheryl's family tree.



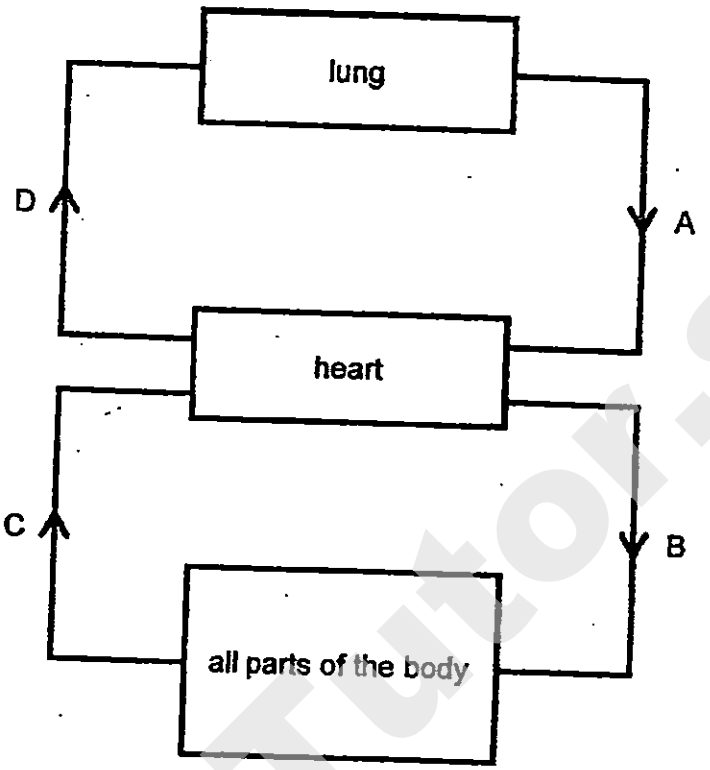
Based on the diagram above, which characteristic does Sheryl have that is not present in her parents?

(1) straight hair
(2) curly hair
(3) single eyelids
(4) double eyelids

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3. The diagram below shows the flow of blood in blood vessels A, B, C and D in certain parts of the body.



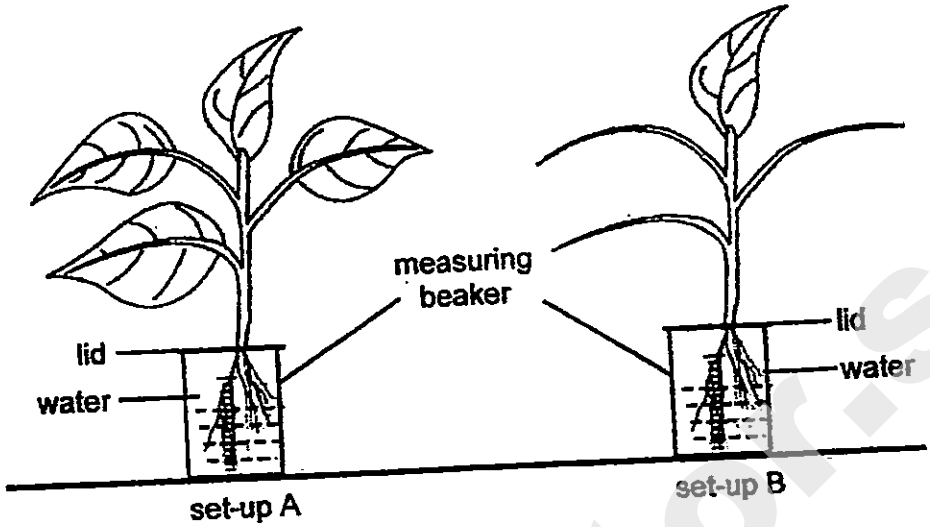
Which one of the following blood vessels contains blood that has the most amount of carbon dioxide?

(1) A
(2) B
(3) C
(4) D

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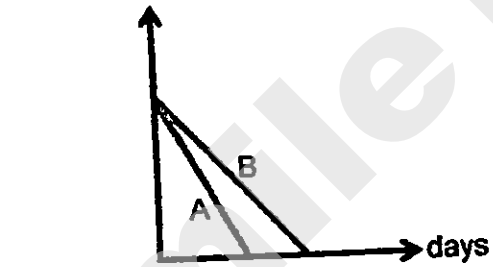
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4. Jessica prepared two set-ups using identical plants as shown below. An equal amount of water was poured into each measuring beaker before sealing it tightly with a lid. She removed most of the leaves in set-up B.

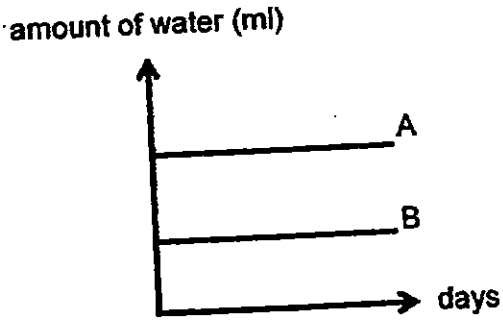


Which one of the following graphs correctly shows the amount of water in each set-up over a period of time?

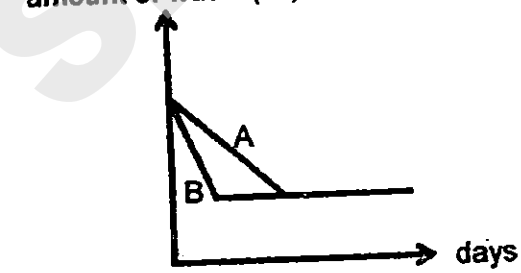
(1)



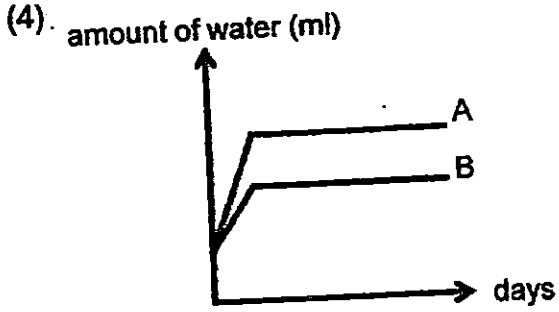
(2)



(3)



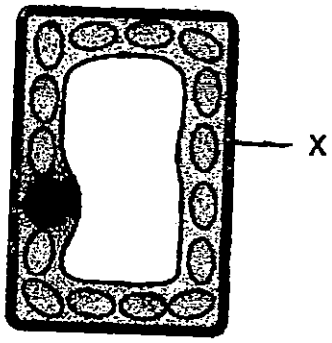
(4)



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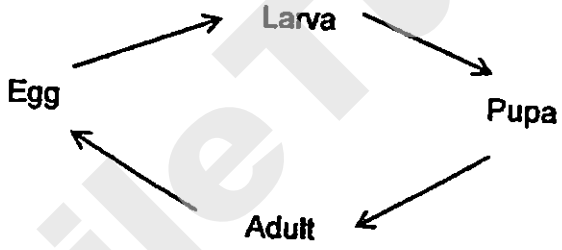
5. The diagram below shows a cell.



What is the function of X?

(1) It makes food for the plant.
(2) It gives the plant its fixed shape.
(3) It controls substances entering and leaving the cell.
(4) It allows substances to move around within the cell.

6. Study the life cycle below.



Which of the following organisms have a similar life cycle as the one shown above?

A Frog
B Mosquito
C Grasshopper
D Mealworm beetle

(1) A and C only
(2) B and D only
(3) A, B and D only
(4) B, C and D only

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7. Which one of the following does not follow a cycle?

(1) A chick growing into a hen.
(2) A papaya tree producing fruits.
(3) The movement of clouds in the sky.
(4) The shadow cast by a building at different times of the day.

8. Mary carried out an experiment with seeds A, B, C, D and E to find out the necessary conditions for seeds to germinate. She recorded her investigations in the table below.

Seed	Mineral salts	Water	Light	Air	Warmth
A	Present	Present	Absent	Present	Present
B	Present	Present	Present	Absent	Present
C	Absent	Present	Present	Present	Present
D	Present	Absent	Present	Present	Absent
E	Absent	Present	Absent	Present	Present

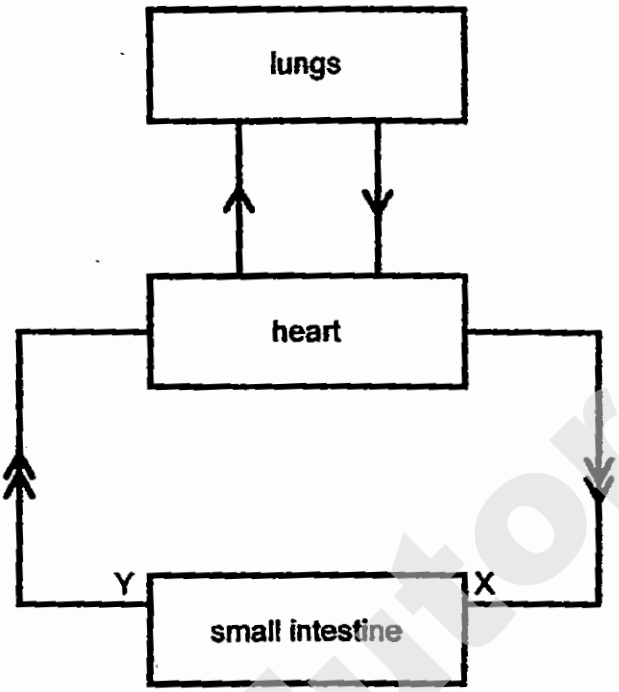
Which of the seeds above will most likely germinate?

(1) A, B and C only
(2) A, C and E only
(3) B, C and D only
(4) C, D and E only

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9. The diagram below shows how blood flows in certain parts of the body a few hours after a meal.



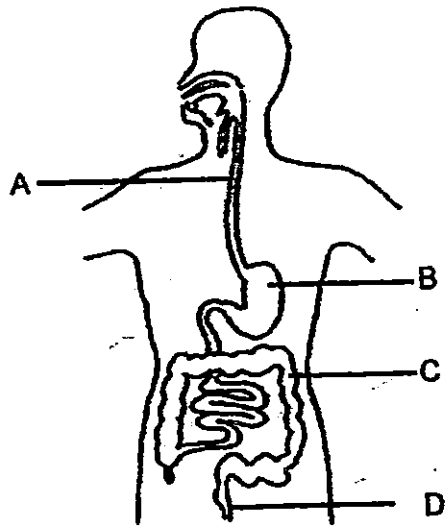
Which of the following statement(s) is/are true of the blood flowing in blood vessels located at X and Y?

A Blood in X contains more waste than blood in Y.
B Blood in Y contains more digested food than blood in X.
C Blood in X contains more dissolved oxygen than blood in Y.
D Blood in Y contains more dissolved carbon dioxide than blood in X.

(1) A only
(2) B and C only
(3) A, C and D only
(4) B, C and D only

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10. The diagram below shows the human digestive system.



In which part A, B, C or D is digestive juices produced?

(1) A
(2) B
(3) C
(4) D

11. Which of the following methods help to conserve water?

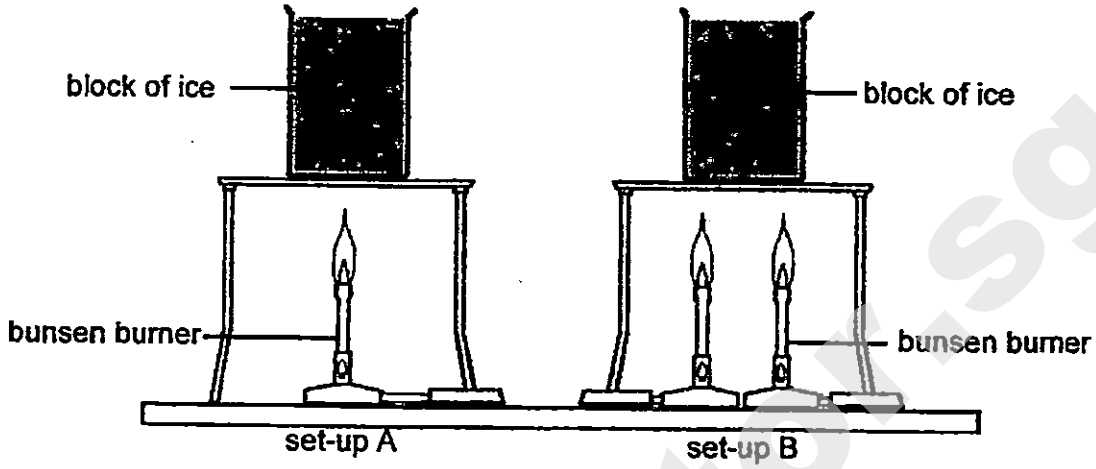
A Using a hose to wash the floor.
B Turning off the tap when one is soaping the body.
C Using tap water instead of rain water to wash the car.
D Using the washing machine only when the load is full.

(1) A and B only
(2) B and D only
(3) A, B and C only
(4) A, B, C and D

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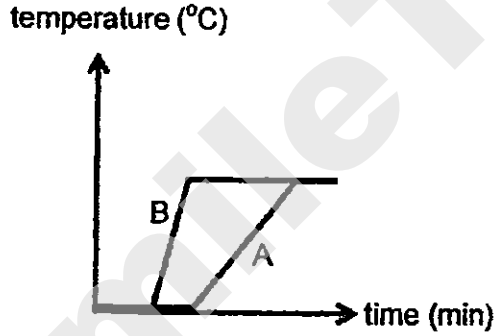
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12. The set-up below shows two similar beakers filled with a block of ice. The beakers were heated with bunsen burners. The ice in the beakers eventually melted and boiled.

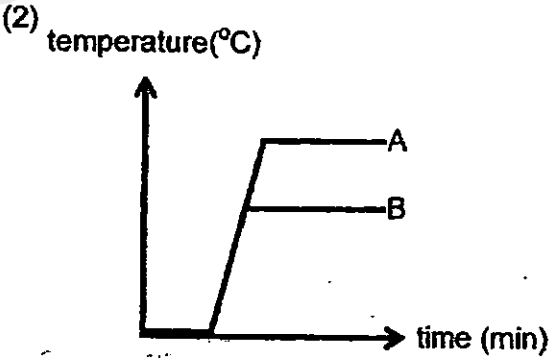


Which one of the following graphs correctly shows the temperature of water inside the beaker throughout the experiment?

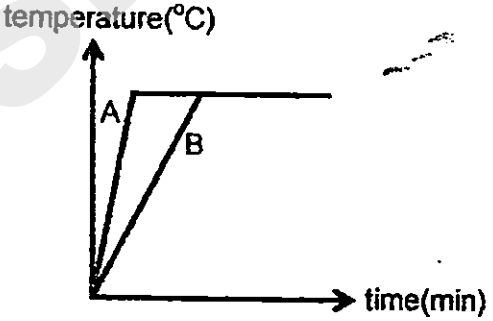
(1)



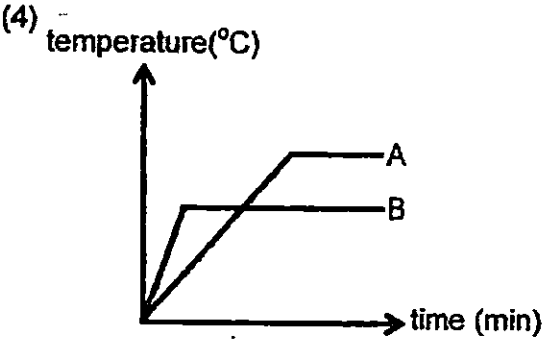
(2)



(3)

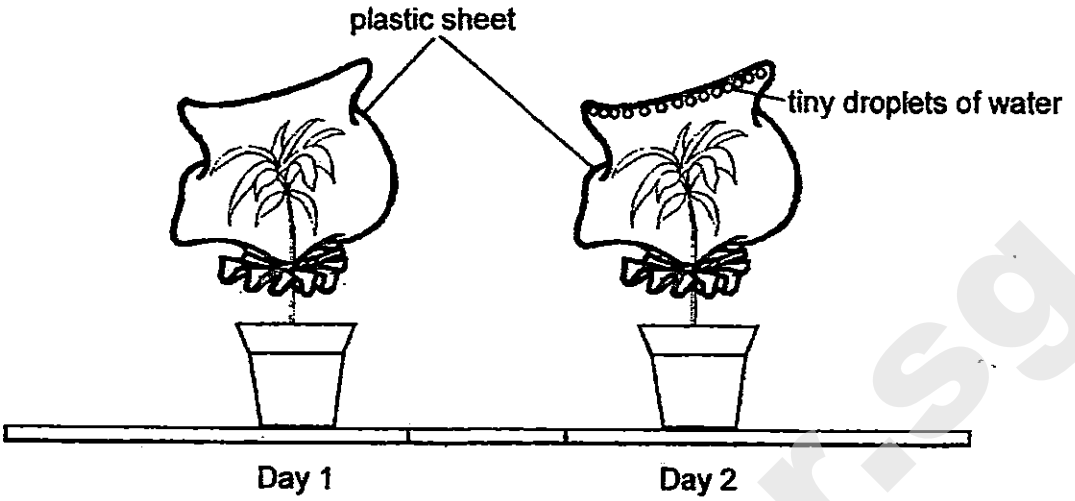


(4)



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13. Joy wrapped a sheet of clear plastic around a potted plant on day 1 as shown below. She left the potted plant overnight in the balcony.



On day 2, she observed tiny droplets of water on the inside of the plastic sheet as shown in the diagram.

Which of the following statement(s) possibly explained her observation?

A The plants released droplets of water through its leaves.
B Water in the soil evaporated and condensed to form water droplets.
C Water vapour inside the plastic sheet came into contact with the cooler plastic sheet.
D Temperature of the plastic sheet during the night was higher than that of the gases inside it.

(1) C only
(2) A and B only
(3) A, B and C only
(4) B, C and D only

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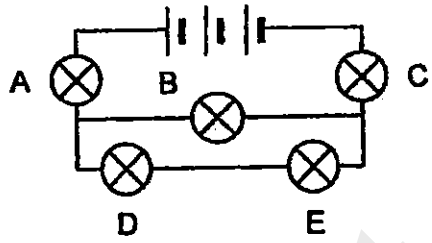
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14. Which of the following are sources of electricity?

A motor
B battery
C lightning
D light bulb

(1) A and B only
(2) B and C only
(3) A, B and C only
(4) A, B, C and D

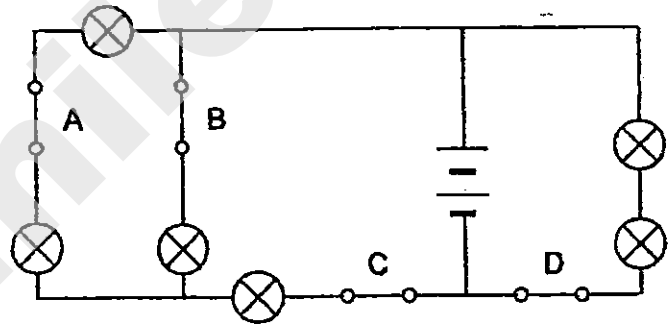
15. Study the circuit below.



Which of the bulbs will still light up when bulb E fuses?

(1) A and C only
(2) A, B and C only
(3) A, B, C and D only
(4) None of the bulbs

16. Jimmy set up a circuit as shown below.



All six bulbs were lit when all four switches A, B, C and D were closed. He wanted the fewest number of bulbs to be lit by opening only one switch.

Which switch should he open?

(1) A
(2) B
(3) C
(4) D

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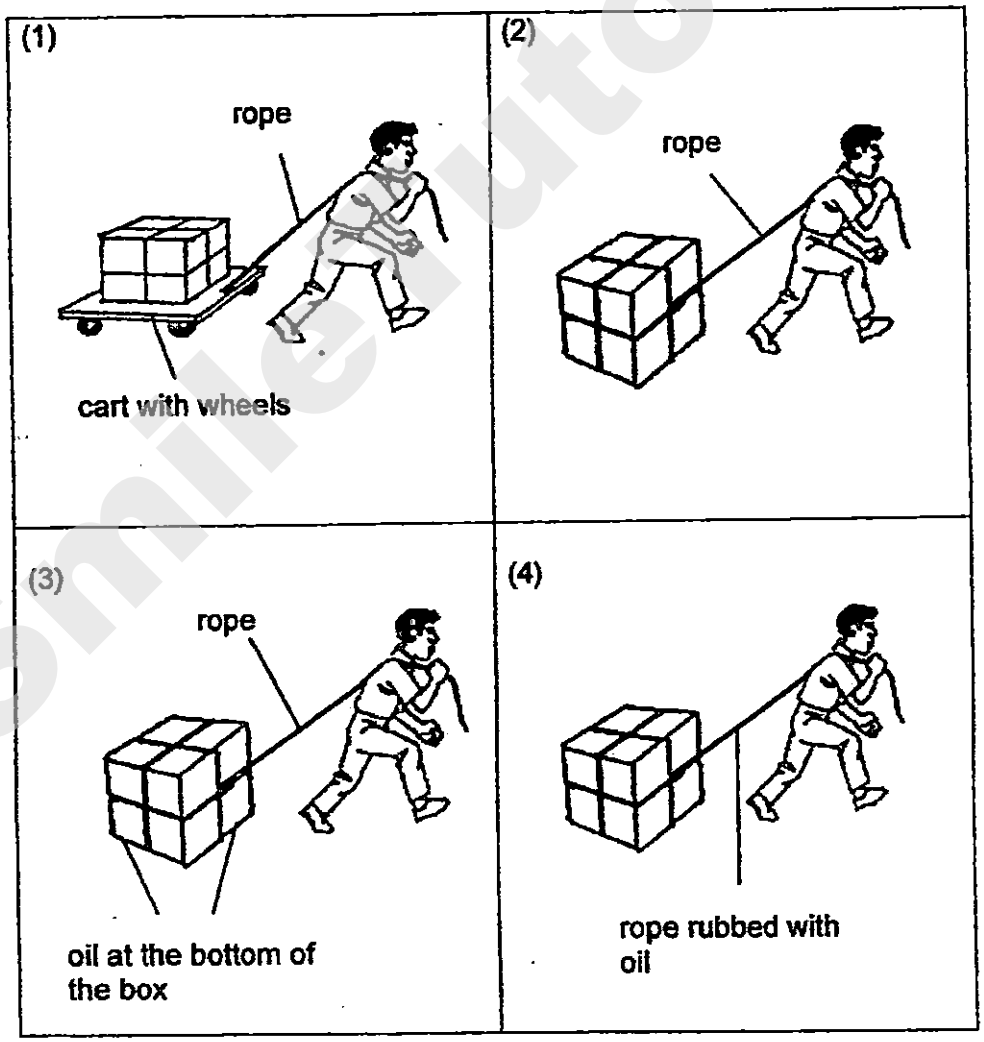
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24. Which of the following are ways that we can conserve electrical energy?

A Use air- conditioners.
B Use energy-saving light bulbs.
C Switching on the water heater only when you are using it.
D Switching off the electrical appliances when they are not in use.

(1) A and B only
(2) B and C only
(3) A, C and D only
(4) B, C and D only

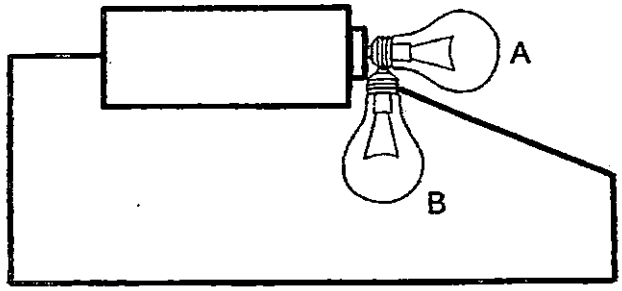
25. Kenneth is trying to move 4 similar boxes along the same stretch of floor using similar ropes as shown below. All 4 boxes have the same mass and size. In which scenario will Kenneth find it the most difficult to move the box along the floor?



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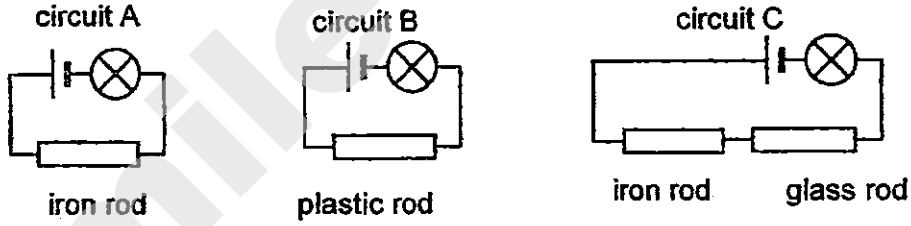
21. Two bulbs, A and B, are connected to a battery as shown below.



Which one of the following statements is correct?

(1) Both bulbs light up.
(2) Only bulb A lights up.
(3) Only bulb B lights up.
(4) Both bulbs did not light up.

22. Three circuits, A, B and C as shown below were connected with rods made of different materials.



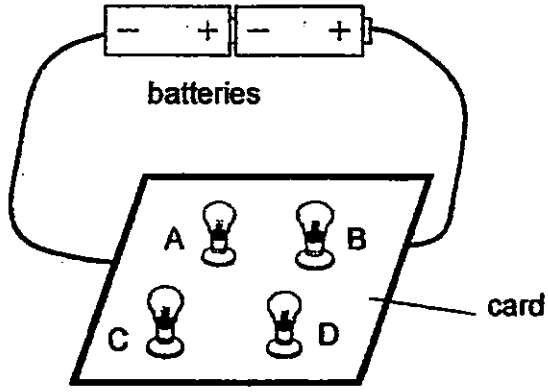
Which of the above circuit(s) would the bulb light up?

(1) A only
(2) B only
(3) C only
(4) A and C only

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23. Judy created a circuit board game for a Science Fair. The game consisted of 2 batteries and 4 light bulbs placed in bulb holders. The wires were hidden behind the board.

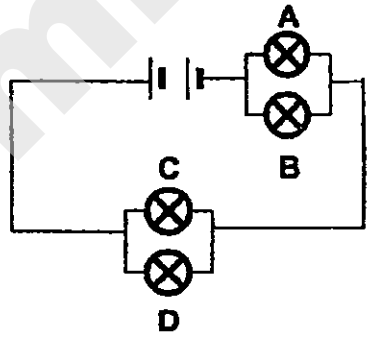


In this board game, all the bulbs are lighted in the beginning. A participant is required to remove one bulb at a time to observe the effect on the other bulbs. The results are shown below.

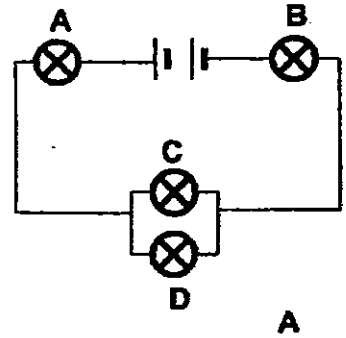
Bulb removed	Findings
A	Bulbs B, C and D did not light up
B	Bulbs A, C and D did not light up
C	Bulbs A, B and D remained lighted
D	Bulbs A, B and C remained lighted

Which one of the following shows the correct circuit for the board game?

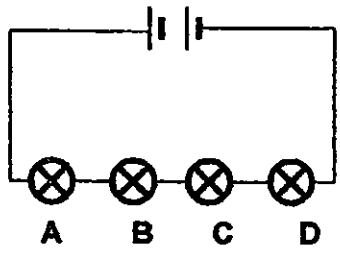
(1)



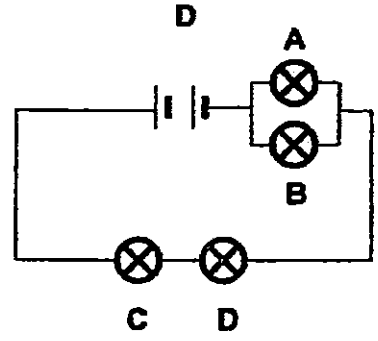
(2)



(3)



(4)



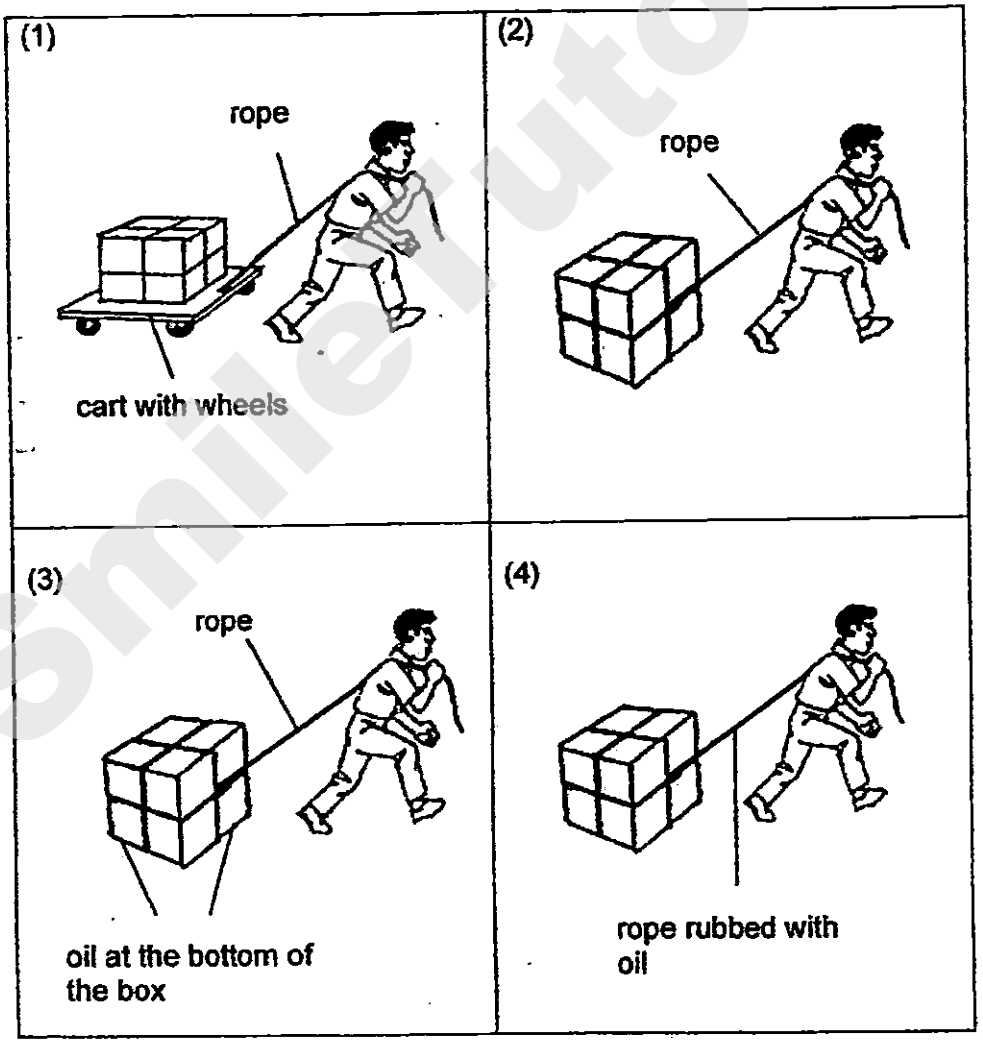
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24. Which of the following are ways that we can conserve electrical energy?

A Use air- conditioners.
B Use energy-saving light bulbs.
C Switching on the water heater only when you are using it.
D Switching off the electrical appliances when they are not in use.

(1) A and B only
(2) B and C only
(3) A, C and D only
(4) B, C and D only

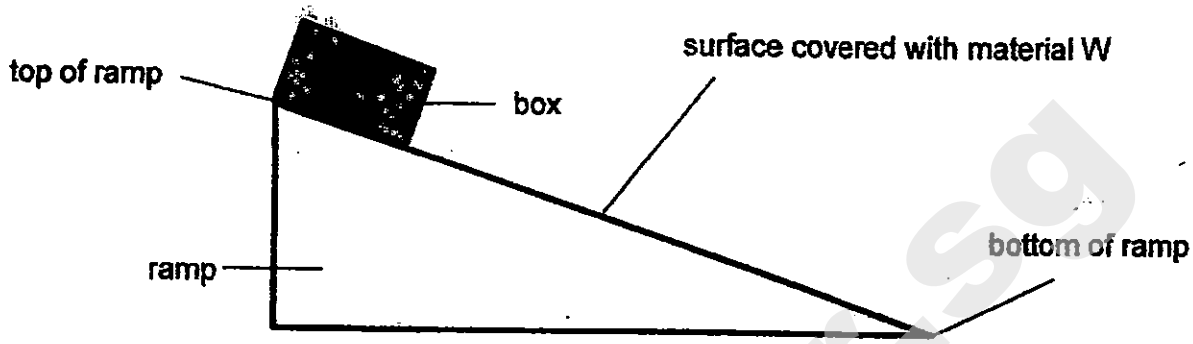
25. Kenneth is trying to move 4 similar boxes along the same stretch of floor using similar ropes as shown below. All 4 boxes have the same mass and size. In which scenario will Kenneth find it the most difficult to move the box along the floor?



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26. Mary covered the surface of the ramp with material W. Then, she released a box at the top of the ramp. She recorded the time taken for the box to reach the bottom of the ramp.



She repeated the experiment with another 3 identical ramps of different materials, X, Y and Z, covering the surfaces. She recorded the results in the table below.

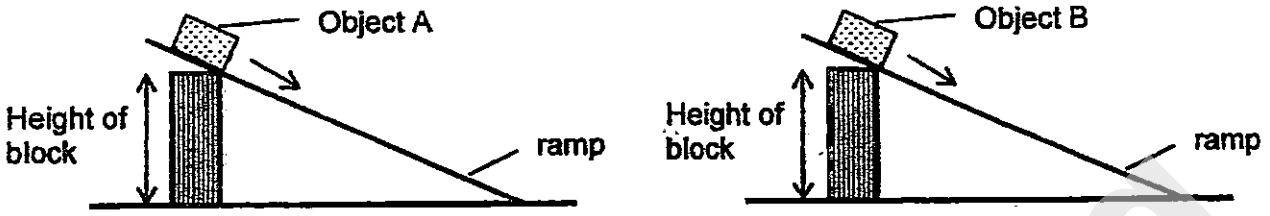
Type of surface	Time taken for the box to move from top to bottom of ramp (seconds)
W	20
X	35
Y	18
Z	47

Which material, W, X, Y or Z, is the most suitable to be used to make an anti-slip bathroom mat?

(1) W
(2) X
(3) Y
(4) Z

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27. Xie Min wanted to find out if the mass of an object would affect the time taken for it to reach the end of the ramp. She set up the experiment as shown below. She then pushed objects A and B down the ramp.

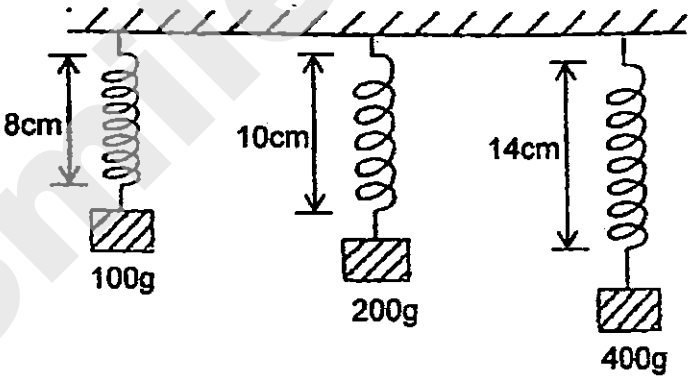


Based on the above experiment, which of the following variables should be kept the same?

A Height of the block
B Mass of the objects used
C The material used to make the ramp
D The starting position from which the objects were released

(1) A and B only
(2) B and C only
(3) A, C and D only
(4) B, C and D only

28. The diagram below shows how the length of a spring changes when different weights are hung on it. The spring returns to its original length when the weights are removed.

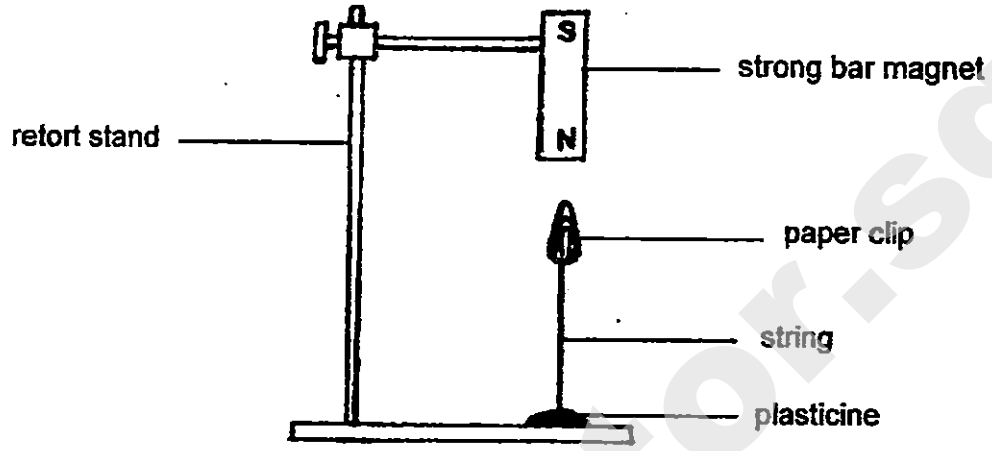


What is the original length of the spring, without any weights hung on it?

(1) 2 cm
(2) 4 cm
(3) 6 cm
(4) 8 cm

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29. Miss Yacob sets up an experiment using a strong bar magnet and a paper clip, as shown in the diagram below. The paper clip appears to be suspended in mid-air.



What will happen to the paper clip when she cuts the string?

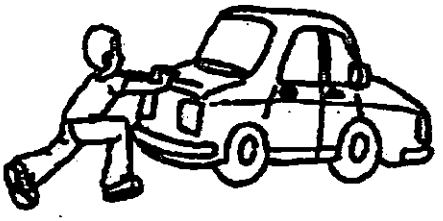
(1) The paper clip will drop.
(2) The paper clip will break.
(3) The paper clip will be attracted to the magnet.
(4) The paper clip will remain suspended in mid-air.

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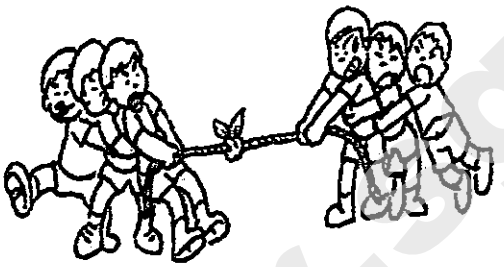
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30. Which of the following actions involve a pull?

(A) Moving a car forward



(B) Playing a game of tug of war



(C) Dragging a heavy bag of rubbish



(D) Cutting the fingernails with a nail clipper



(1) A and D only
(2) B and C only
(3) A, B and D only
(4) B, C and D only

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NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

SEMESTRAL ASSESSMENT 2
2015

BOOKLET B

Date : 27th October 2015

Duration : 1 h 45 min

Name : _____ ( )

Class: Primary 5 ( )

Marks Scored:

Booklet A:		**60**
Booklet B :		**40**
Total :		**100**

Any query on marks awarded should be raised by 6 November 2015.
We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.

Parent's signature: ....

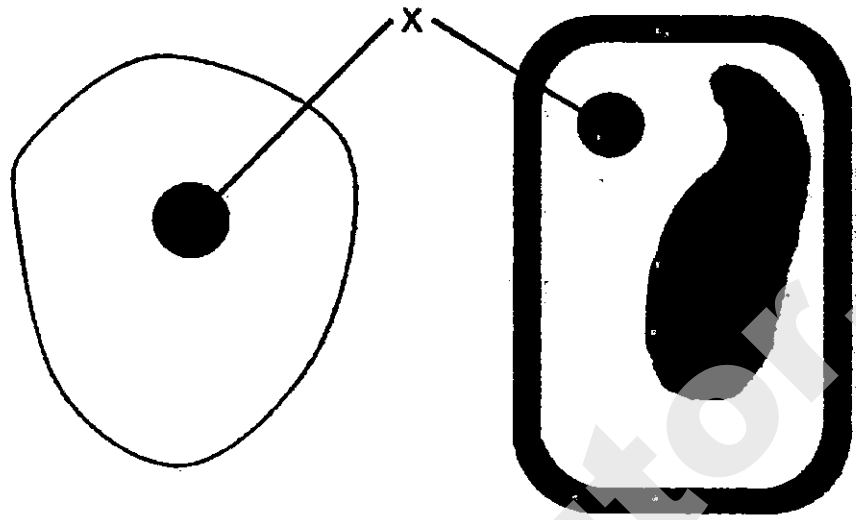
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet B consists of 17 printed pages including this cover page.

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Section B (40 marks)
Write your answers to questions 31 to 44 in the spaces provided.

31. Rick was asked to observe two different types of cell as shown below.



cell A cell B

(a) What is the function of part X? [1]

_____

(b) Based on the diagrams above, which cell A or B is an animal cell? Explain your answer. [1]

_____

_____

(c) Give a reason why it is important for organisms to produce new cells. [1]

_____

_____

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32. Ravi conducted an experiment to find out how his pulse rate varied with different activities. He measured his pulse rate immediately after each activity and recorded the results in the table below.

Activity	Pulse rate per minute
A	80
B	90
C	100
D	120

(a) Suggest one variable with regard to the **activities** that Ravi had to keep constant to ensure a fair test. [1]

_____

_____

(b) The pulse rate of a person who is reading a book is approximately 65 per minute. Explain why Ravi's pulse rate increased to 120 beats per minute after engaging in activity D. [2]

_____

_____

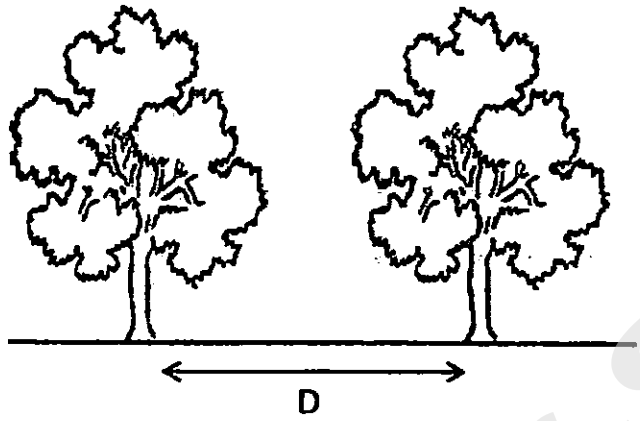
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33. Farmer Peter owned an apple farm. He planted apple trees in rows as shown in the diagram below.



Farmer Peter planted the apple trees in rows with different distances between the apple trees. He recorded the distances between the apple trees and the average number of fruits produced by each tree in the table below.

Distance between the trees (D) in metres	3	4	5	6	7	8
Number of apples produced per tree	30	40	50	55	55	55

(a)(i) Based on the table above, what is the relationship between the distance between the trees and the number of apples produced per tree? [1]

_____

_____

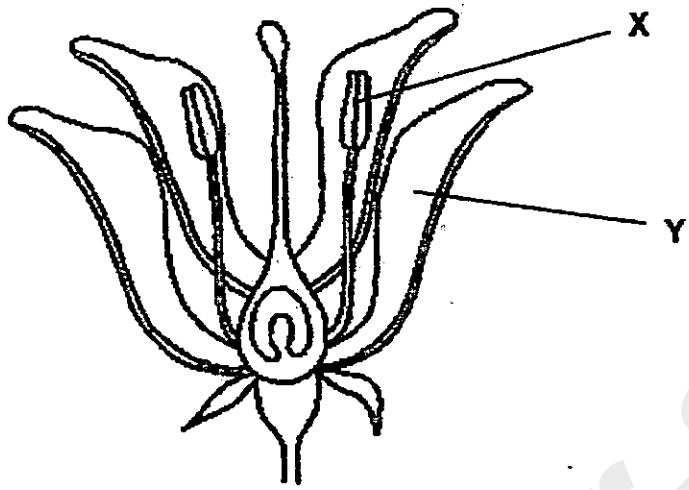
(ii) Explain why the trees produce lesser fruits when they are too near to one another. [1]

_____

_____

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(b) The diagram below shows the cross-section of an insect-pollinated flower, similar to that of an apple tree.



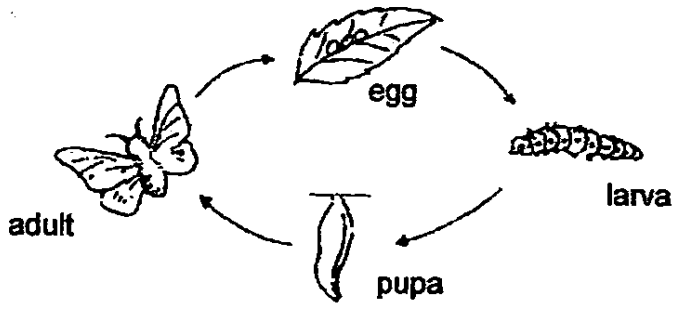
Identify parts X and Y and state their main functions in the table below. [2]

Part	Name	Function
X		
Y		

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34. The diagram below shows the life cycle of a butterfly.



(a) The larva is considered a pest to farmers. Explain why the adult butterfly is not considered a pest by the farmers. [1]

_____

_____

(b) State 2 differences between the life cycle of the butterfly and the life cycle of a cockroach. [2]

(i) _____

_____

_____

(ii) _____

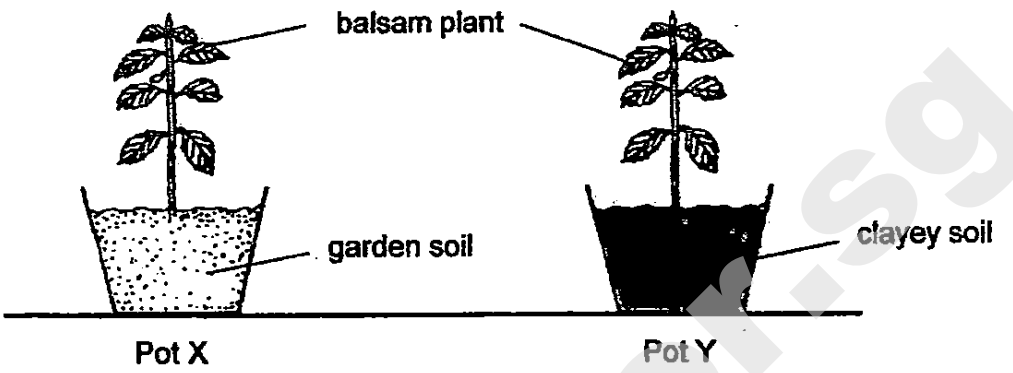
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35. Jia Wei wanted to find out if the presence of sunlight affected the growth of plants. He planted 2 similar balsam plants in similar pots as shown in the diagram below.



He recorded the following information in the table below.

	Type of soil	Amount of soil in pot	Amount of water per day	Location of pots
Pot X	Garden soil	750 ml	250ml	In the cupboard
Pot Y	Clayey soil	750 ml	300 ml	In the basketball court

What were 2 changes that Jia Wei had to make to ensure that his experiment was a fair one? [2]

(i) _____

_____

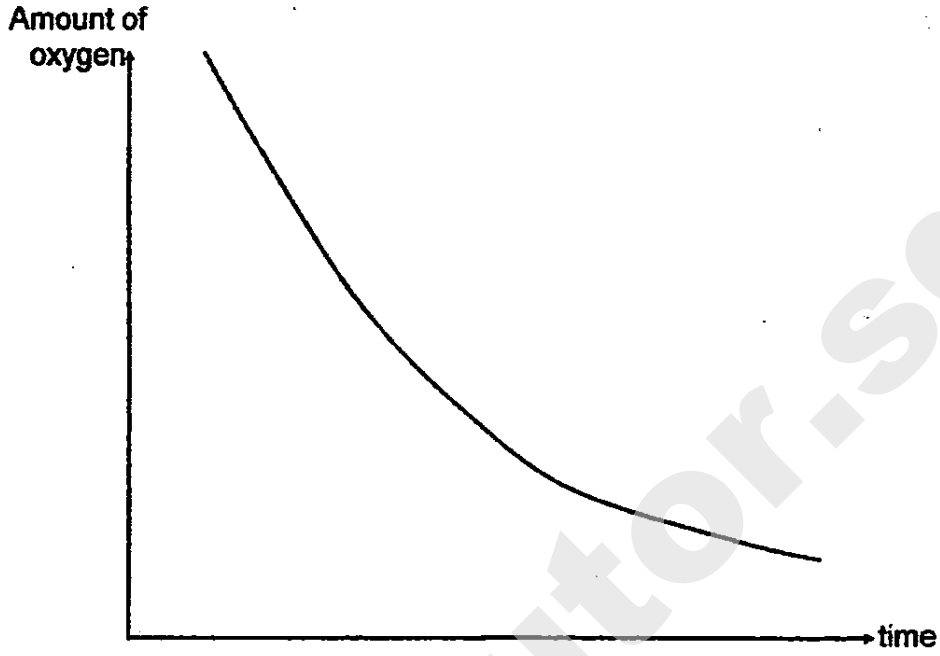
(ii) _____

_____

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36. Herman was trapped in an enclosed lift with no ventilation. The graph below showed the amount of oxygen inside the lift over a period of time.



(a) Based on the information above, what was the relationship between the amount of oxygen inside the lift and the number of breaths Herman took? [1]

_____

_____

(b) Based on the answer in part (a), explain why the number of breaths Herman took changed with time. [1]

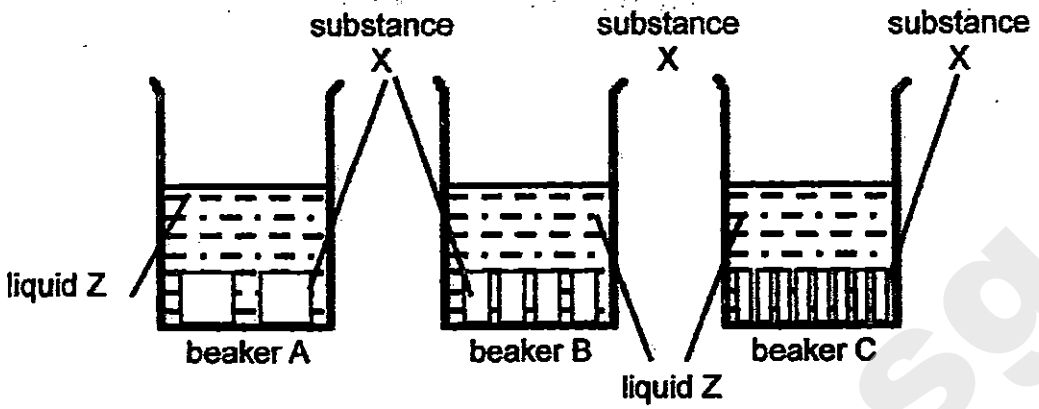
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37. The diagram below shows the same amount of substance X cut into different sizes and placed into beakers containing liquid Z respectively.



The table below shows the time taken for substance X to dissolve completely.

Beaker	Time taken for substance X to dissolved completely (minutes)
A	10
B	( )
C	3

(a) In the table above, **fill** in the blank to indicate the time needed for substance X to dissolve completely in beaker B. [1]

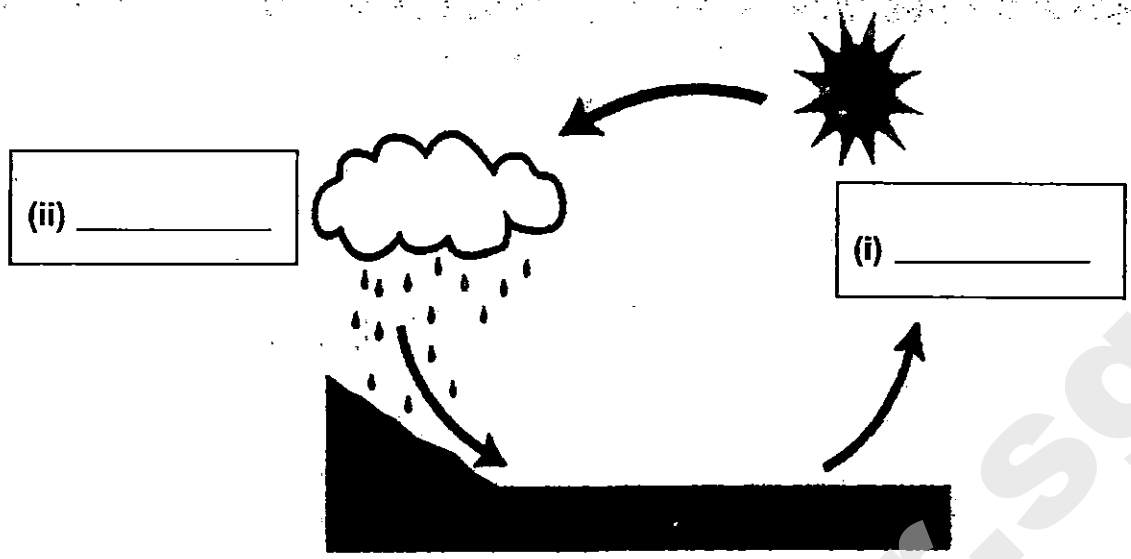
(b) How does chewing our food more times before swallowing helps in speeding up the time needed for digestion? [1]

_____

_____

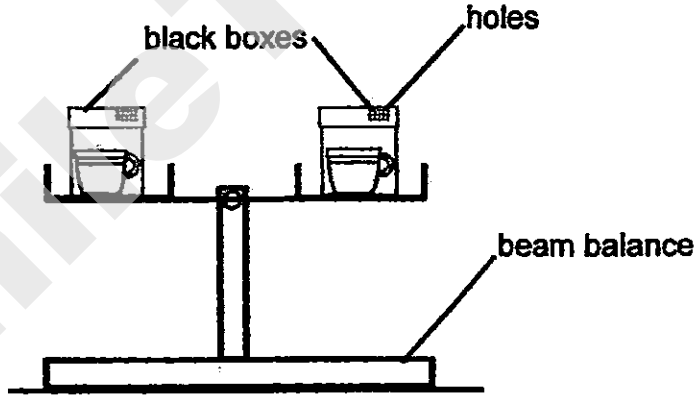
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38. The diagram below shows a water cycle.



(a) In the boxes above, identify the **state** of water found in the water cycle above. [1]

Samuel poured equal amount of hot and cold water into identical cups respectively. The temperature of the hot water and cold water was 95°C and 5°C. He placed the respective cups of water into identical black boxes and covered them with a lid that had tiny holes. Samuel put the black boxes onto a beam balance and showed it to Jack as shown in the diagram below.



(b) How was Jack able to determine which was the box that contained the cup with cold water? Explain your answer. [2]

_____

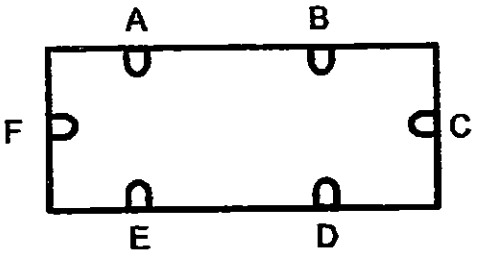
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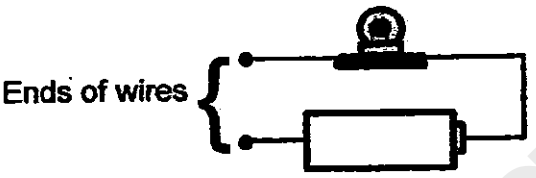
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39. Albert constructed a circuit card. The diagram below shows the circuit card with points A, B, C, D, E and F. Four of the points were connected with wires hidden behind the card.



Circuit card (Front View)

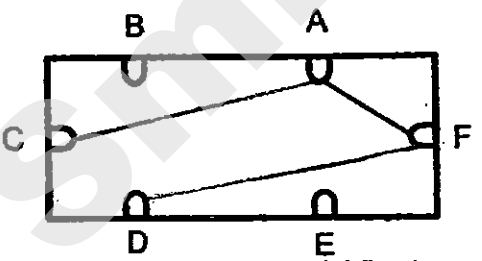


Circuit tester

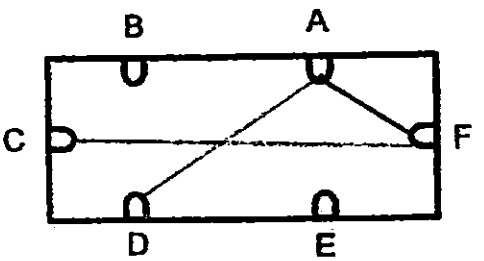
The circuit card was tested with a circuit tester. The ends of the wires of the circuit tester were connected to two points at a time. The table below shows the results.

Pair of points tested	Bulb lit up	Bulb did not light up
A and F	✓	
B and D		✓
A and C	✓	
D and F	✓	
E and F		✓
A and D	✓	

From the results above, draw **two lines** in the diagrams below to show how Albert connected the points with wires. [2]



Circuit card (Back View)

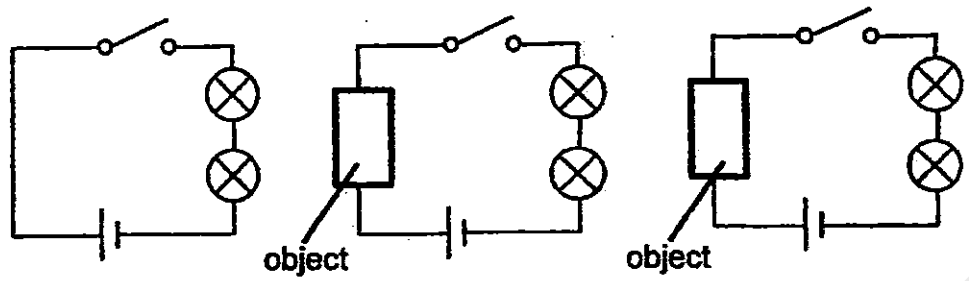


Circuit card (Back View)

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40. Jonathan set up 3 circuits using identical bulbs and batteries as shown below. Two similar objects were added to setups Q and R.



He made the following observations when the three switches were closed at the same time.

Setup	Bulbs
P	Lit up
Q	Lit up brighter as compared to setup P
R	Did not light up

(a) What was the same object that was added to both setups Q and R? [1]

_____

(b) Explain why the bulbs in setup R did not light up when the object was added? [1]

_____

(c) What would happen to the brightness of the bulbs if another bulb was added in series to setup P? [1]

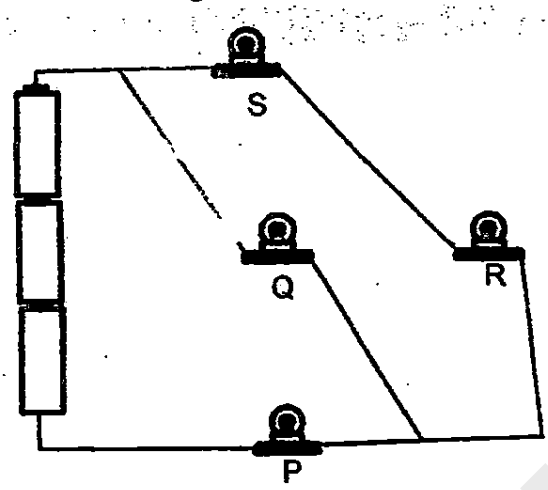
_____

(d) Explain why the bulbs in setup Q did not light up when Jonathan added 1 more battery. [1]

_____

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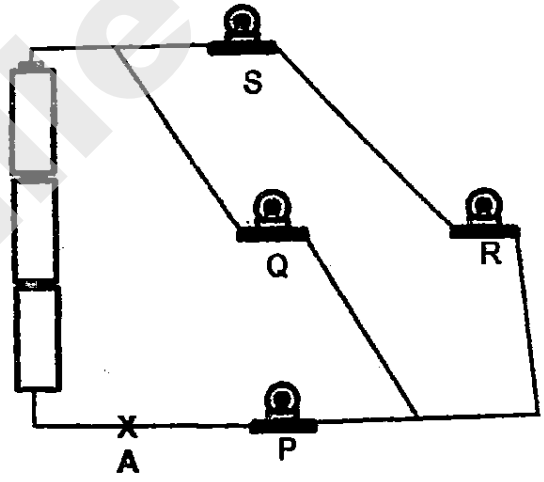
41. The diagram below shows 4 lighted bulbs P, Q, R and S in a circuit.



(a) A switch was to be installed so that a particular bulb could be switched on or off while the other 3 remained lighted.

Mark "X" on the circuit **above** to show where you should connect the switch. [1]

Study the diagram below.



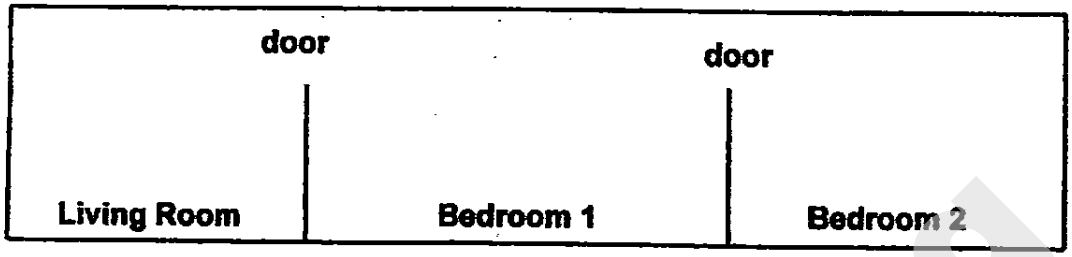
(b) Would the bulbs light up if the wire was cut at point A as indicated in the diagram above? Explain your answer. [1]

_____

_____

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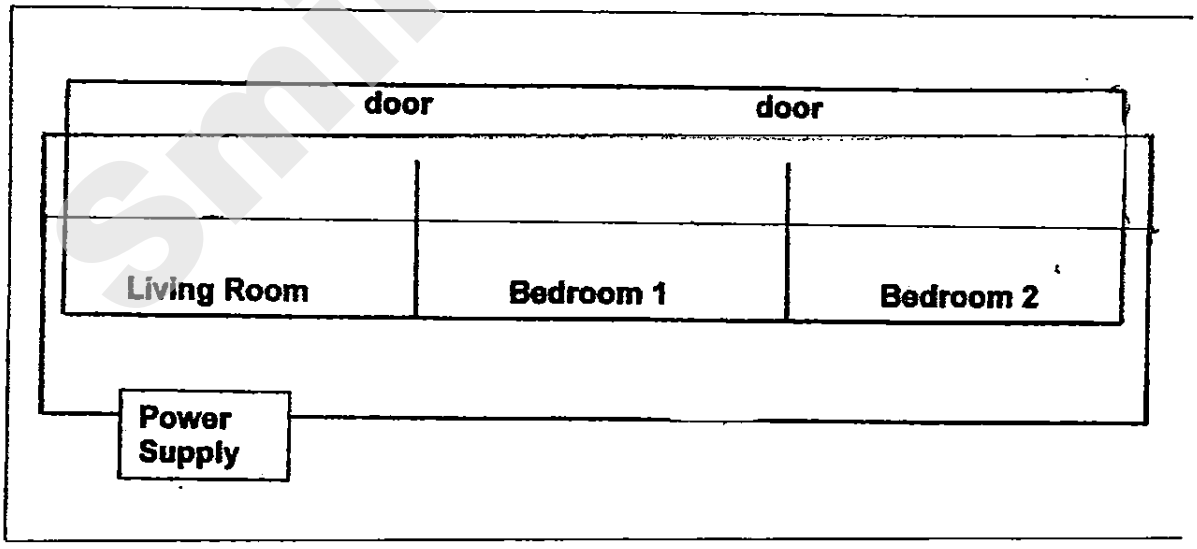
(c) Matthew wanted to install a bulb in each of his bedroom such that he could switch on or off the bulb in each room individually.



Top view of the living room and 2 bedrooms

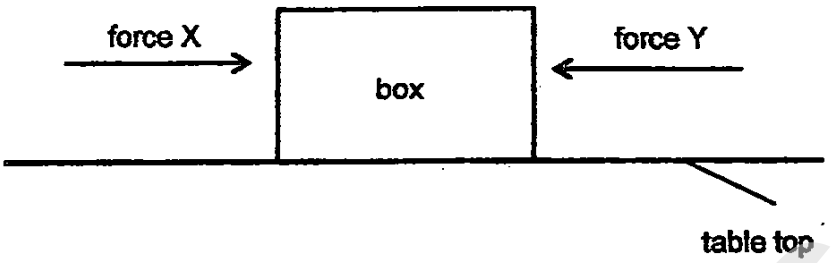
In the box below, construct a circuit diagram to show how he can use the two individual bedroom switches to control the bulbs in each of the two bedrooms. [2]

Symbols to use	
Bulb	
Switch	
Wire	



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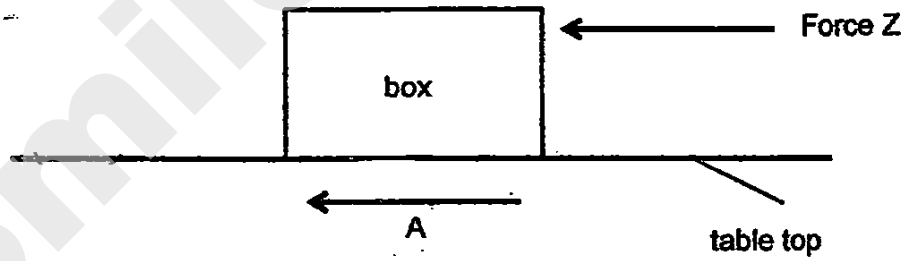
42. Forces X and Y are acting on a box as shown in the diagram below. The box is placed on a smooth table top.



(a) In the table below, fill in the value for Force Y such that the box will remain stationary. [1]

Force X (N)	Force Y (N)
20	

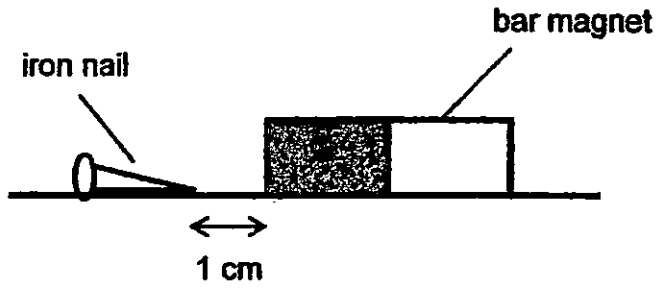
Force Z is applied to the box causing it to move in direction A as shown in the diagram below.



(b) In the diagram above, draw and label one other force which is acting on the box. [1]

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43. Daisy placed a bar magnet 1 cm away from an iron nail as shown in the diagram below. She observed that the iron nail moved towards the bar magnet.



(a) Name the force that was exerted on the nail by the magnet. [1]

_____

Daisy repeated the experiment with another small object of the same mass. She observed the result as shown in the diagram below.



(b) Explain why the object moved in the way as shown in the diagram above. [1]

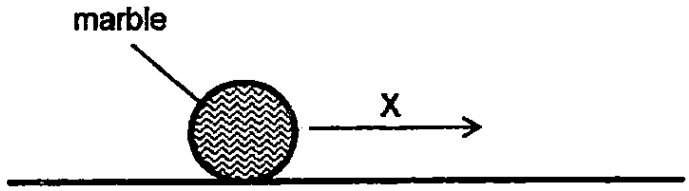
_____

_____

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44. Ding Jie rolled a marble on the floor in the direction as indicated by arrow X. He noticed that the marble rolled on the floor for a while and gradually stopped rolling.



(a) Explain why the marble stopped rolling. [1]

_____

_____

(b) Suggest one way in which Ding Jie could make the marble roll over a longer distance on the same floor before stopping. [1]

_____

_____

(c) Ding Jie was watching a football match at the stadium. He noticed that the players exerted forces on the moving ball using their legs. State 2 possible effects on the moving ball when a force was exerted on it. [2]

Effect 1 : _____

_____

Effect 2 : _____

_____

END

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : NANYANG PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
2	**2**	**4**	**1**	**3**	**2**	**4**	**2**	**2**	**2**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
2	**1**	**1**	**1**	**2**	**3**	**1**	**3**	**4**	**2**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	**1**	**2**	**4**	**4**	**4**	**3**	**3**	**3**	**2**

Q31a. Controls the cell and also contains genetic information.

Q31b. A. It does not have a cell wall.

Q31c. As the old cells are damaged, cells have to go through cell division so the cells contain hereditary traits.

Q32a. The time he took to do each activity.

Q32b. The heart had to pump faster to pump more blood rich in oxygen and digested food to other parts of the body and removes more carbon dioxide.

Q33ai) The further the distance between the trees, the more the number of apples produced per tree, but the number of fruits produced remains the same.

Q33aii) They would be overcrowded and have to compete for sunlight, water , mineral salts and oxygen when they are too near to one another.

Q33b. Part X : Anther – Produces pollen grains
Q33b. Part Y : Petals – To attract insects by their colourful petals.

Q34a. The butterfly helps in pollinating the flowers.

Q34bi) The butterfly has a 4 – stage life cycle while a cockroach has a 3 – stage life cycle.

Q34bii) The butterfly's young does not look like the adult but the cockroaches' young looks like the adult.

Q35i) He had to put the same type of soil for both pots.

Q35ii) He had to give the same amount of water per day for both plants.

Q36a. The more the number of breaths Herman took, the lesser amount of oxygen inside the lift.

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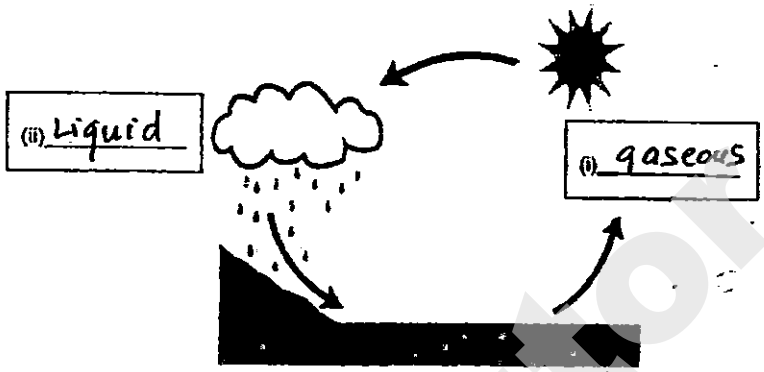
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Q36b. Herman has to increase the number of breaths in order to take in the same amount of oxygen.

Q37a. B – 6

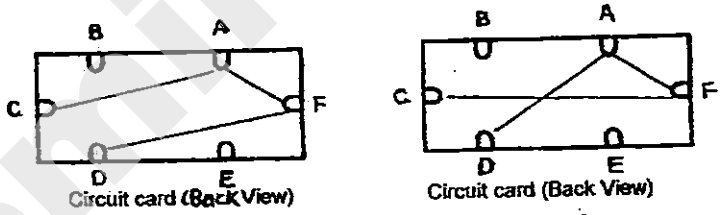
Q37b. It will be digested into smaller pieces, helping it to be digested faster, our food will have a greater surface area / smaller pieces in contact with the digestive juices.

Q38a. **SEE PICTURE**



Q38b. The side with the boy that tilt downward is the box that contains cold water. Warmer water vapour in the air touches a cooler surface and condenses to form tiny droplets of water, causing the beam balance to tilt.

Q39. **SEE PICTURE**



Q40a. Battery

Q40b. Batteries are connected with the positive ends

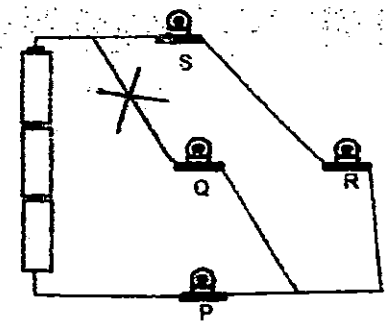
Q40c. The brightness of the bulb would be dimmer.

Q40d. Too much current flowing through, the bulb will fuse.

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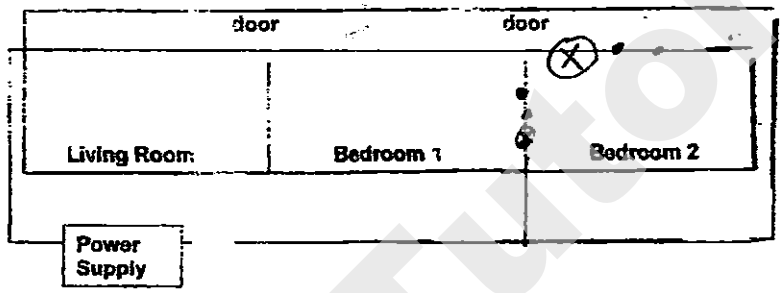
Q41a. **SEE PICTURE**

41. The diagram below shows 4 lighted bulbs P, Q, R and S in a circuit.

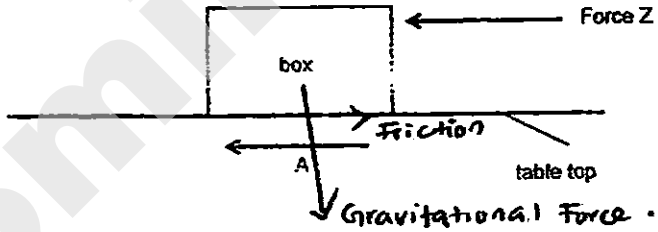


Q41b. No. Electricity will not be able to flow through as it would be an open circuit.

Q41c. **SEE PICTURE** Q42a. Force Y (N) - 20



Q42b. **SEE PICTURE**



Q43a. Magnetic force of attraction

Q43b. The small object is repelled by the bar magnet.

Q44a. There is friction between the marble and the ground.

Q44b. Exert more force on the marble.

Q44c. Effect 1 : The ball will move faster.
Q44c. Effect 2 : The ball will change its direction.

THE END

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RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT (2)
2015

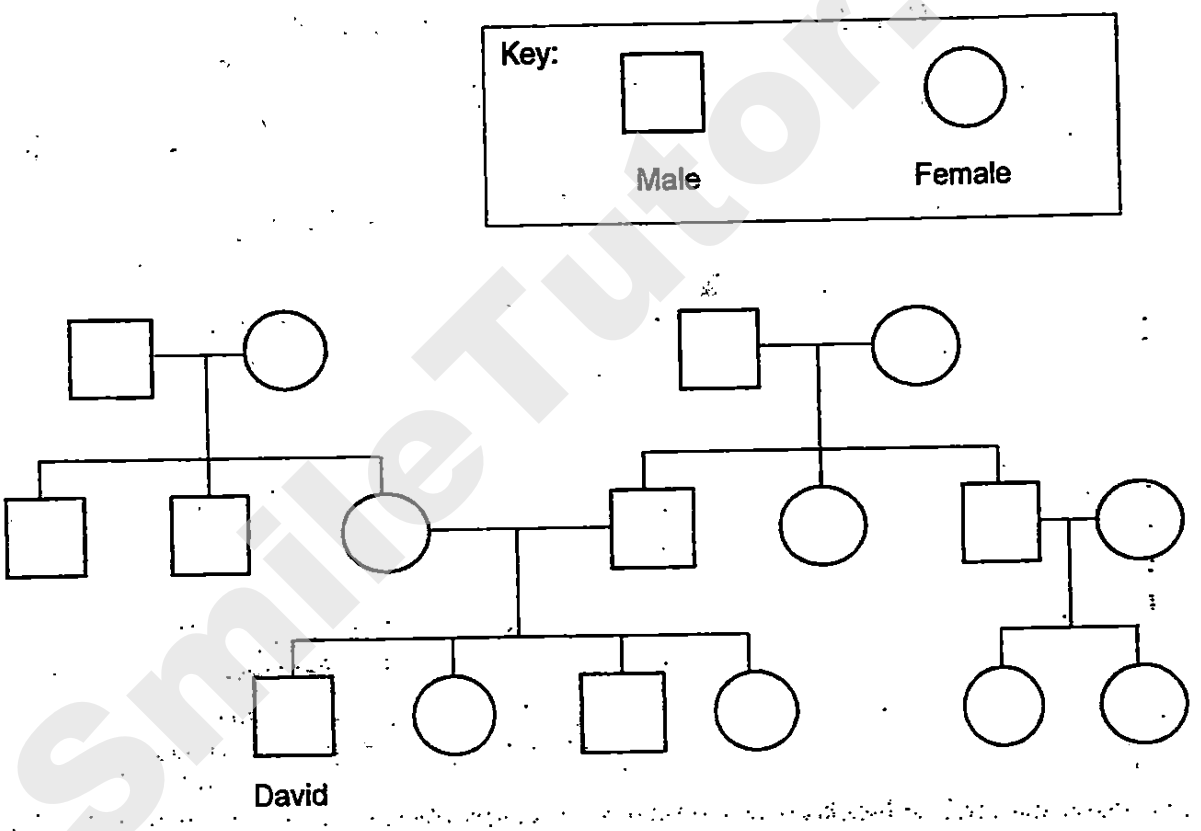
Section B	40
Your score out of 90	90
Parent's signature	

Name : _____ **Index No:** ____ **Class: P 5** ___

27 October 2015 **SCIENCE** **Attn: 1 h 30 min**

SECTION A (25 X 2 marks)
For each question from 1 to 25, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval on the Optical Answer Sheet.

1. The diagram below shows David's family tree.



Which of the following about David's family tree is true?

(1) David has four uncles
(2) David has three aunts
(3) David has two male cousins.
(4) David has two sisters and one brother.

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... show the parts of the reproductive system of a plant and the human reproductive system.

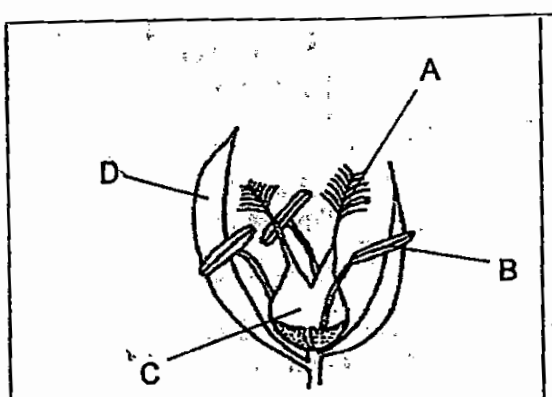


Diagram 1

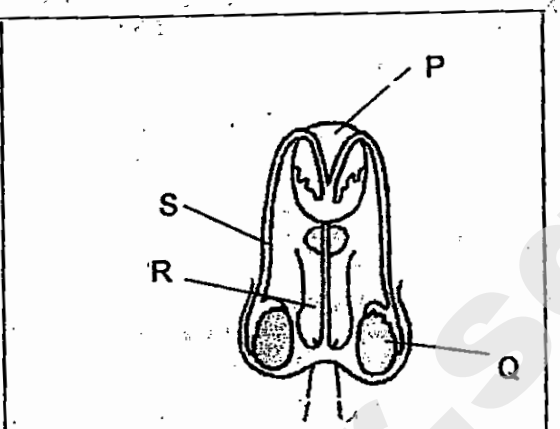


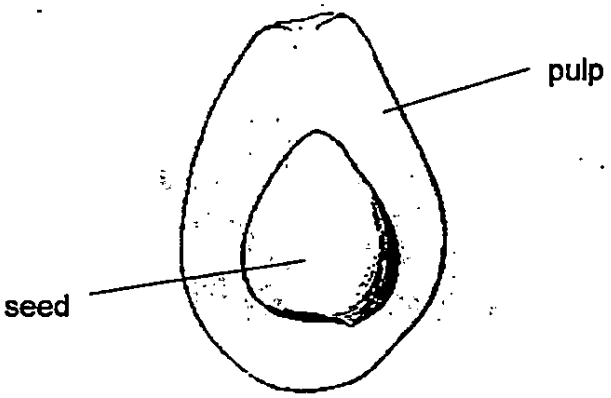
Diagram 2

Which one of the following is correct?

	Diagram 1	Diagram 2
	Part that produces female sex cells	Part that produces male sex cells
(1)	A	R
(2)	B	P
(3)	C	Q
(4)	D	S

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Fruit Z

Which of the following statements are most likely to be true about the flower which fruit Z has developed from?

A The flower has only one ovary.
B The flower does not have a stigma.
C The fruit was developed from a flower with only female parts.
D The flower went through fertilisation before the fruit was developed.

(1) A and B only
(2) A and D only
(3) B and C only
(4) B and D only

4. An experiment was set up using 4 pots of identical insect-pollinated flowers in a garden. Different parts of the flowers were removed. Insects were observed to be visiting the flowers. A tick (√) shows the presence of the parts of the flowers in the table below.

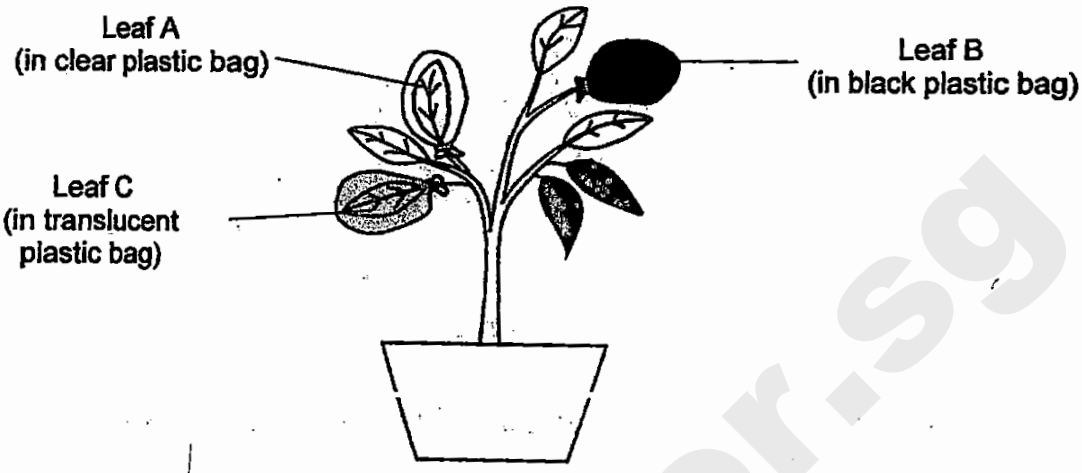
Group of flowers	Anthers	Stigma	Petals
P		√	
Q	√		
R		√	√
S	√		√

Which group of flowers, P, Q, R or S, are most likely to develop into fruits after three weeks?

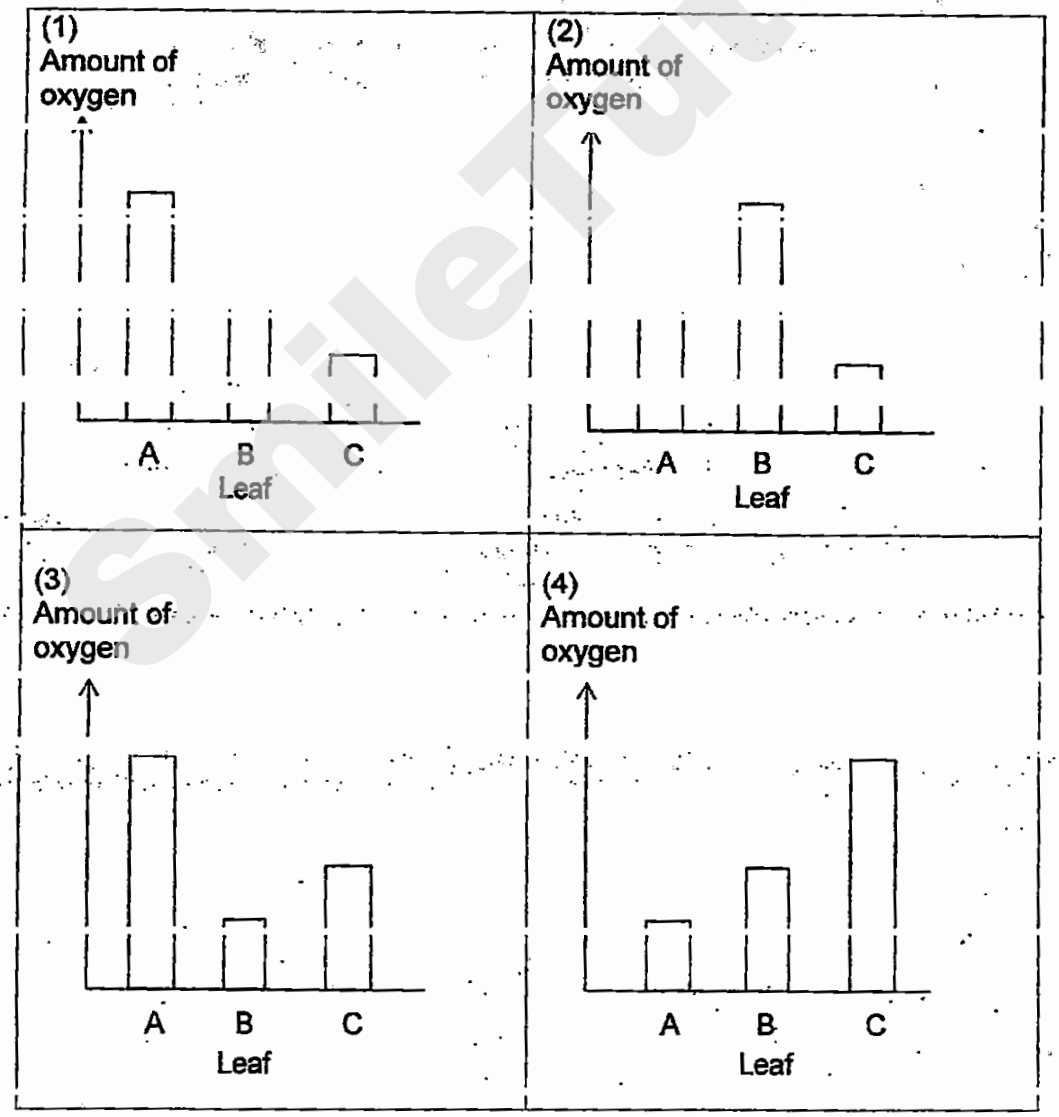
(1) P and S
(2) P and R
(3) Q and R
(4) Q and S

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... up an experiment as shown below. She wrapped three leaves from a plant in 3 different types of plastic bags. The plastic bags were of the same size. She left the plant under bright light for some time.

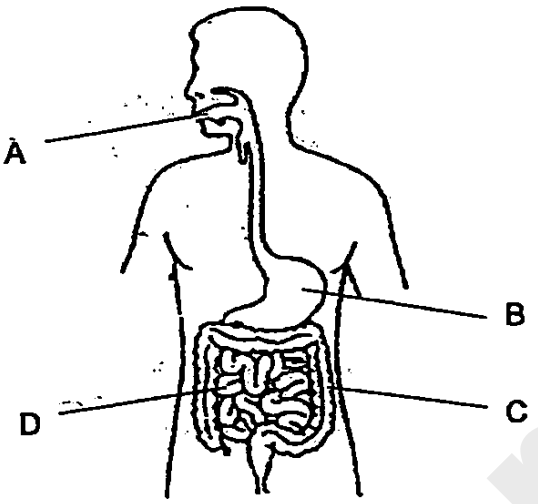


Which one of the following graphs correctly represents the amount of oxygen in the plastic bags after several hours?



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6. The diagram below shows parts of the human digestive system.



Based on the diagram, which one of the following is correct?

	Organs involved in digestion of food	Organs involved in the absorption of digested food
(1)	A and B only	C and D only
(2)	A, B and C only	C only
(3)	A, B and D only	D only
(4)	A, B, C and D	C and D only

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Table 1 and 2 below show the PSI Readings (Pollutant Standards Index) on a particular day, the air quality descriptor and health advisory. PSI is an index to show the level of air quality. In order to reduce the ill effects from being exposed to haze, people should reduce outdoor activities and outdoor physical exertion.

Table 1: PSI Readings

Time	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm
PSI	310	286	255	189	165	138	115	91	79

Table 2: Air Quality Descriptors and Health Advisory

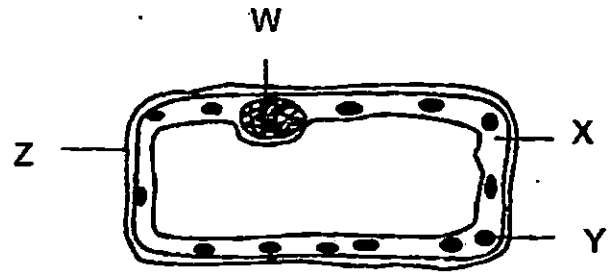
PSI Value	Air Quality Descriptor	Health Advisory for healthy persons
0 – 50	Good	Normal activities
51 – 100	Moderate	Normal activities
101 – 200	Unhealthy	Reduce outdoor physical exertion
201 - 300	Very unhealthy	Avoid outdoor physical exertion
Above 300	Hazardous	Minimise outdoor activity

Based on the information above, which is the best time of the day for Peter (a healthy person) to go for a run at the park?

(1) 8 am
(2) 10 am
(3) 12 pm
(4) 3 pm

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After looking at the cell, four children made the following statements:

Alice : It is likely to be an animal cell.

Bernice : W controls all the activities of the cell.

Charlie : X is a substance that contains different parts of the cell.

Dan : Y controls the movement of substances in and out of the cell.

Whose statement(s) is/are correct?

(1) Alice only
(2) Charlie and Dan
(3) Bernice and Charlie
(4) Alice, Bernice and Charlie

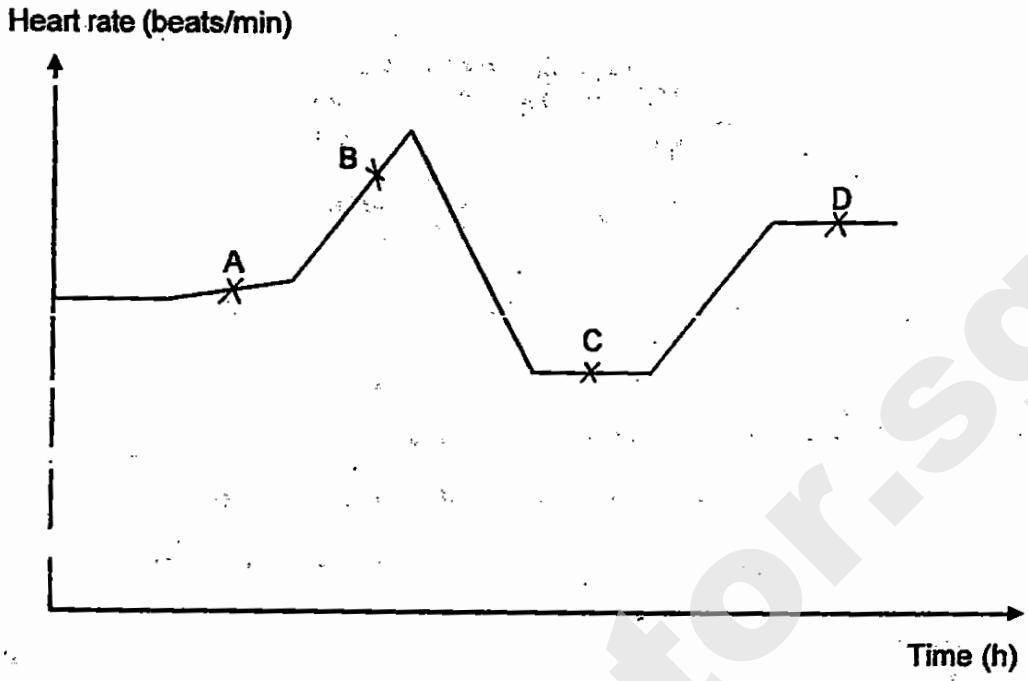
9. Which of the following statements about the circulatory system is true?

(1) It does not carry waste materials.
(2) It transports air from the nose to the heart only.
(3) It transports blood to the heart and lungs only.
(4) It transports digested food to various parts of the body.

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The following graph shows Gina's heart rate over a few hours.



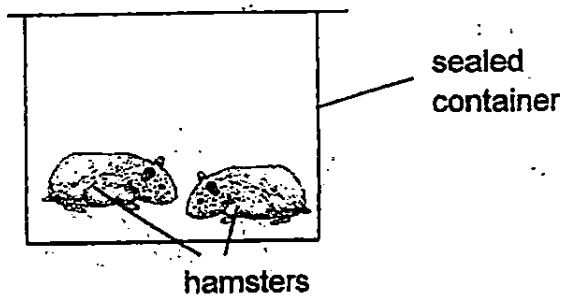
Which one of the following **best** represents Gina's activities as shown by the graph above?

	A	B	C	D
(1)	sleeping	skipping	walking	reading
(2)	reading	skipping	sleeping	walking
(3)	sleeping	walking	running	reading
(4)	walking	reading	running	sleeping

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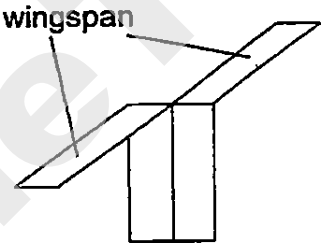
11. An experiment was carried out by placing two hamsters in a sealed container for one hour.



Which one of the following shows the change in amount of gases in the container after one hour?

	Carbon Dioxide	Oxygen	Water Vapour
(1)	increased	decreased	increased
(2)	increased	decreased	decreased
(3)	decreased	increased	remained the same
(4)	decreased	increased	increased

12. Devi wants to carry out an experiment to investigate the effect of the length of the wingspan on the time taken for a paper spinner to reach the ground.



paper spinner

Which are the variables she should keep constant to ensure a fair test?

A Colour of the paper spinner.

B Length of wingspan of paper spinner.

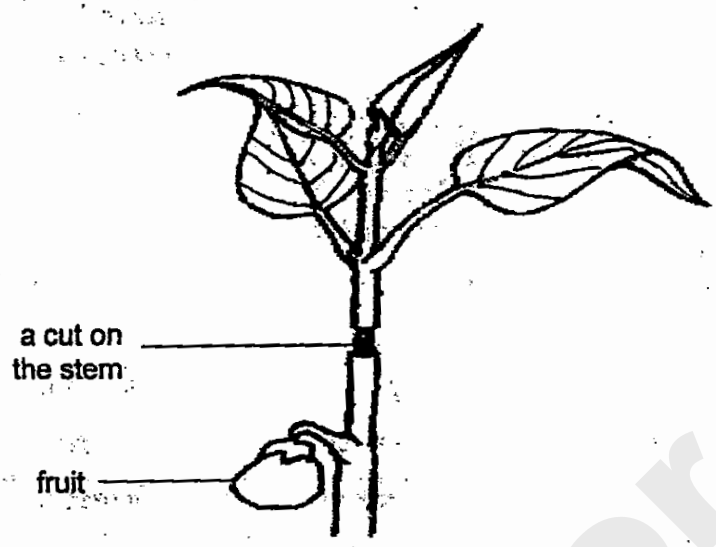
C Type of paper the paper spinner is made of.

D Height from which the paper spinner is released.

(1) A and B only
(2) C and D only
(3) B, C and D only
(4) A, B, C and D

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Tom removed the outer covering on a part of the stem of a plant as shown in the diagram below. After one week, Tom observed that a fruit, which was growing below the cut, became smaller and shrivelled up.



Based on the information above, which one of the following diagrams will represent the appearance of the stem where the cut was made after one week?

(1)



(2)



(3)



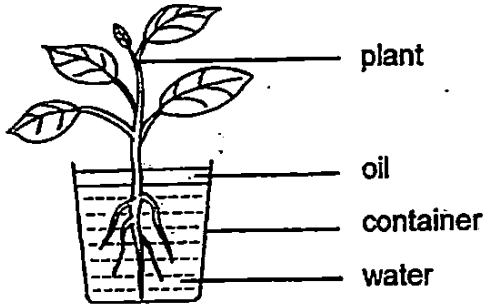
(4)



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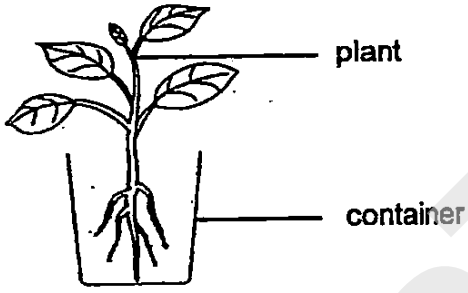
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of water taken in by a plant. She placed a plant in a container as shown in the diagram below.

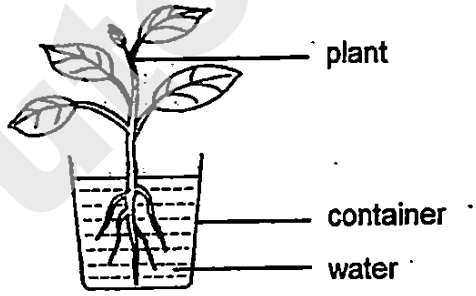


Which one of the following set-ups should she compare with in order to ensure a fair test?

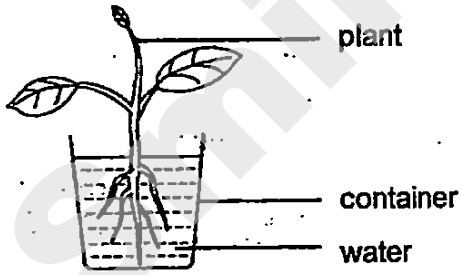
(1)



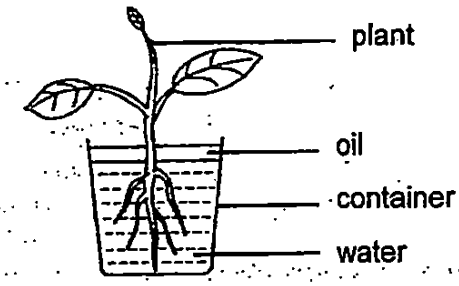
(2)



(3)



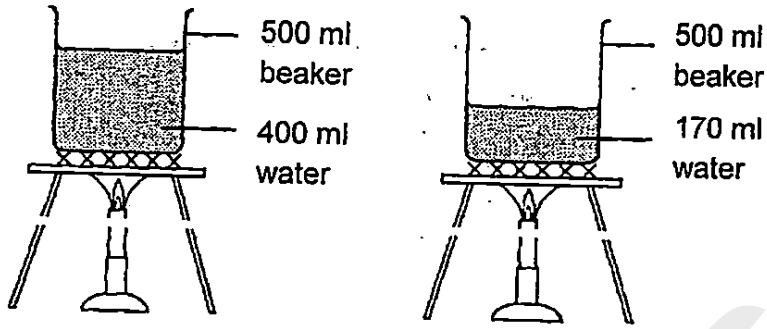
(4)



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shown in the diagram below.



Which of the statement(s) about the two beakers of water is/are true?

A Both beakers of water would boil at the same time.

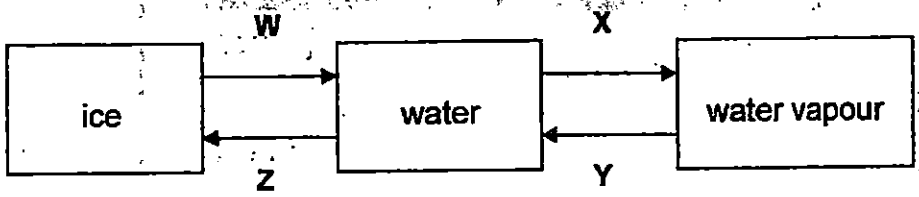
B The boiling water in Beaker P would have more amount of heat than the boiling water in Beaker Q.

C Both beakers of water would have the same temperature when they were boiling.

(1) C only
(2) A and B only
(3) B and C only
(4) A and C only

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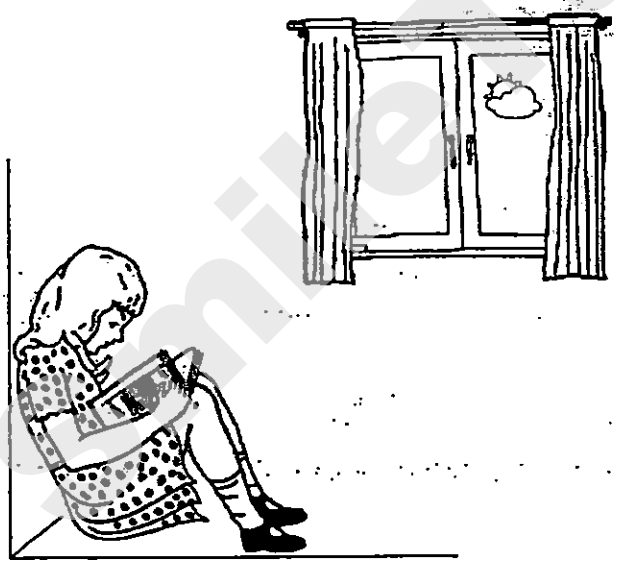
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Based on the diagram above, which one of the following correctly represents the processes W, X, Y and Z?

	W	X	Y	Z
(1)	Melting	Condensation	Freezing	Evaporation
(2)	Evaporation	Freezing	Melting	Condensation
(3)	Melting	Evaporation	Condensation	Freezing
(4)	Freezing	Condensation	Evaporation	Melting

7. Susan is sitting at a corner of a room reading a book as shown in the diagram below.

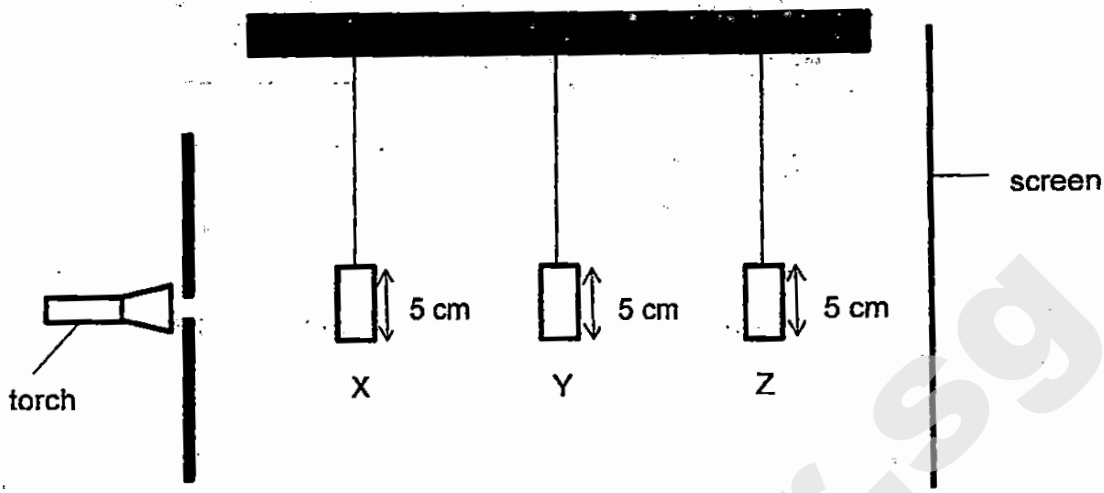


Which one of the following statements correctly explains why she could see the words on her book clearly?

(1) Light from the sun enters Susan's eyes.
(2) Light produced by the book enters Susan's eyes.
(3) Susan's eyes reflect light from the sun into the book.
(4) The book reflects light from the sun into Susan's eyes.

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The diagram below show a torch shining on three objects X, Y and Z. Objects X AND Z are shapes made of cardboard. They are placed at different distances from the torch.



The shapes of the objects are as follows:



The diagram below shows the shadow that was cast on the screen.



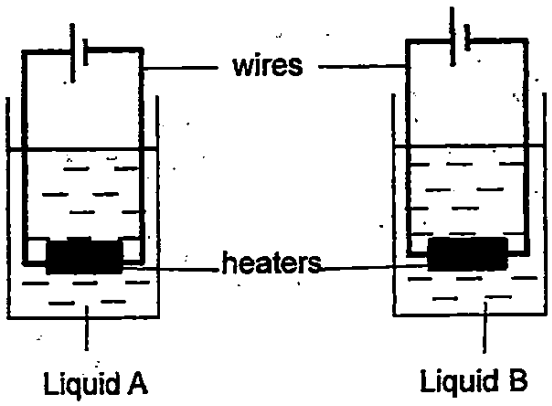
Which one of the following represents correctly objects X, Y and Z respectively?

	X	Y	Z
(1)			
(2)			
(3)			
(4)			

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19. Ahmad set up an experiment as shown below. He poured equal amounts of two different liquids, A and B, into identical beakers. The liquids were heated using identical heaters with the same amount of heat that were immersed in the liquids.



The table below shows the results recorded by Ahmad after 20 minutes.

Liquid	Temperature (°C)	
	At the start of the experiment	At the end of the experiment
A	20	30
B	20	35

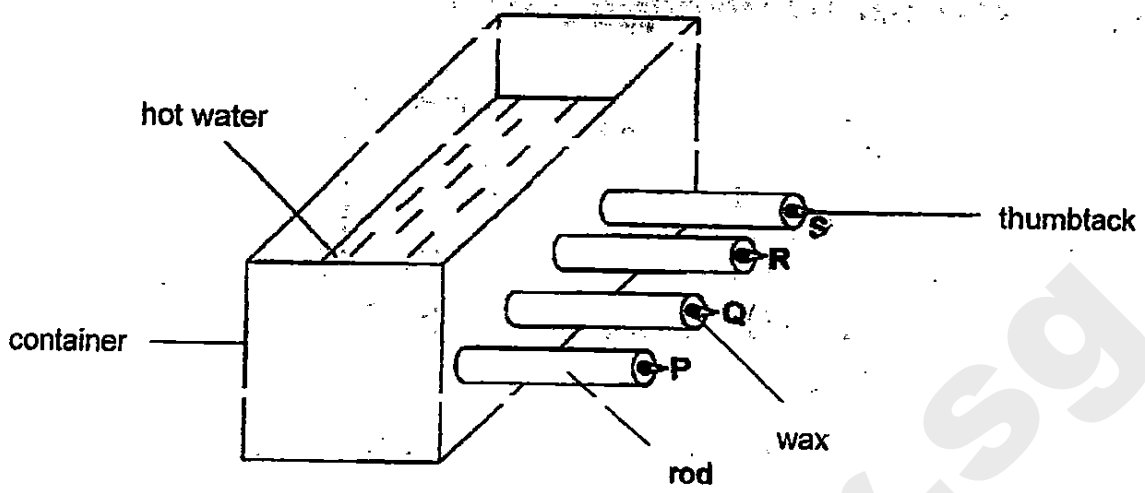
Based on the results above, which one of the following statements correctly explains the results?

(1) Liquids A and B take up space.
(2) Liquid B gains heat faster than Liquid A.
(3) Liquids A and B have no definite volume.
(4) Liquid A is a better conductor of electricity than Liquid B.

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The diagram below shows rods P, Q, R and S of the same length inserted into a container of hot water. Equal amount of wax was used to attach the thumbtacks to the respective rods.



It was observed that thumbtack on rod P dropped off first, followed by the thumbtack on Q, then R and lastly S.

Which one of the following staements correctly explains the above observations?

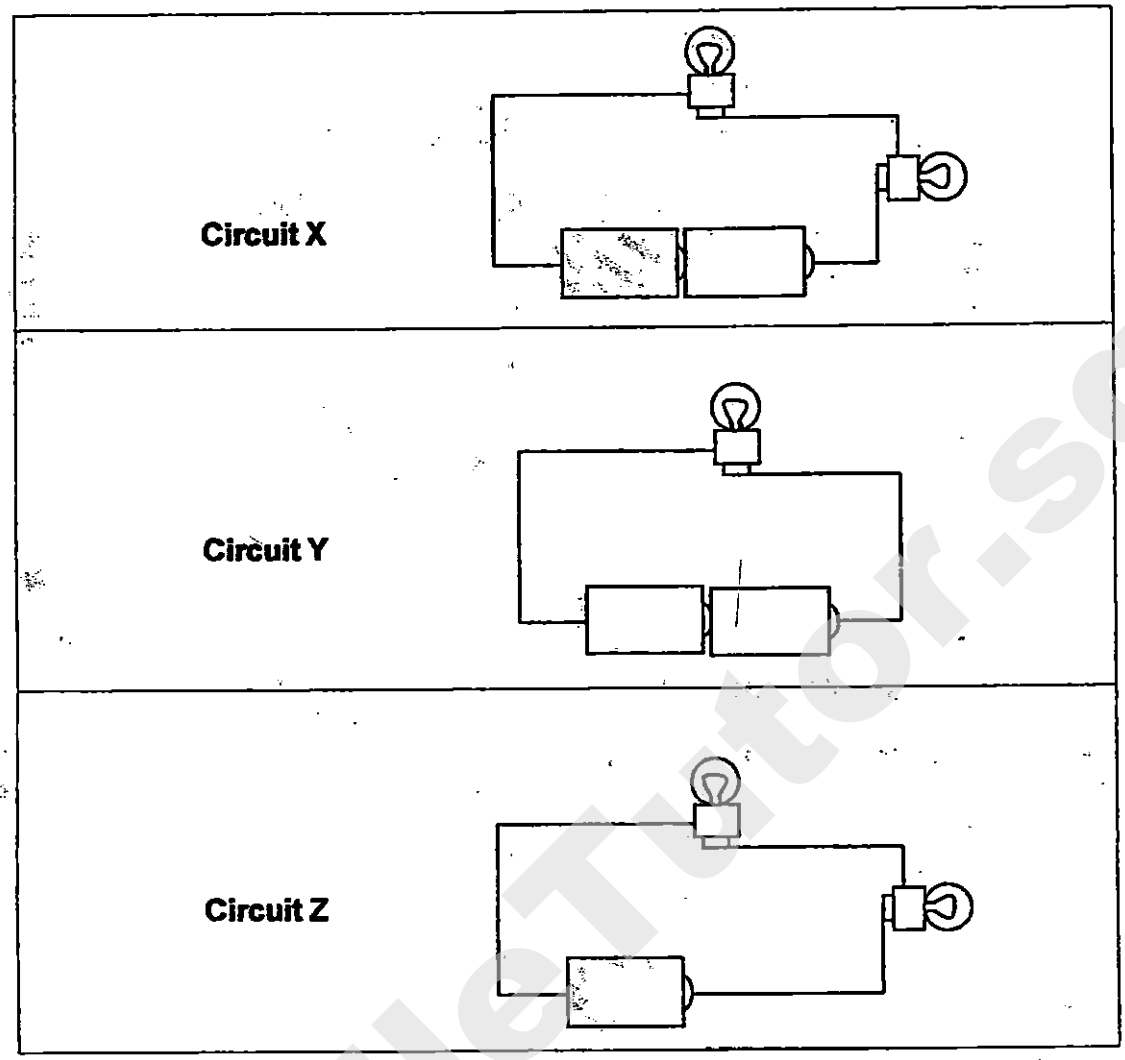
(1) **Rods P and Q lose heat quickly.**
(2) **Rods S is the poorest conductor of heat.**
(3) **Rod S is a better conductor of heat than Rod R**
(4) **Rod Q is a poorer conductor of heat than Rod R**

21. Which one of the following shows the safe way to use electricity?

(1) **Switching on the fan with wet fingers.**
(2) Replacing an exposed wire with a new insulated wire.
(3) Overloading an electrical outlet with many electrical appliances.
(4) Inserting a metal rod into an electrical outlet to help insert a plug.

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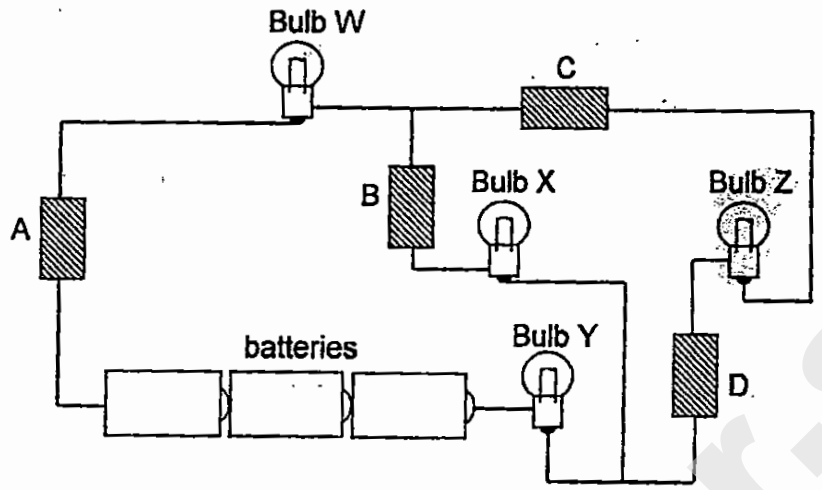
Which one of the following shows the correct order of the electric circuits when arranged according to the brightness of the bulbs, from the brightest to the dimmest?

(1) X, Y, Z
(2) X, Z, Y
(3) Y, X, Z
(4) Z, Y, X

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28. The diagram below shows four bars, A, B, C and D, connected to a circuit.



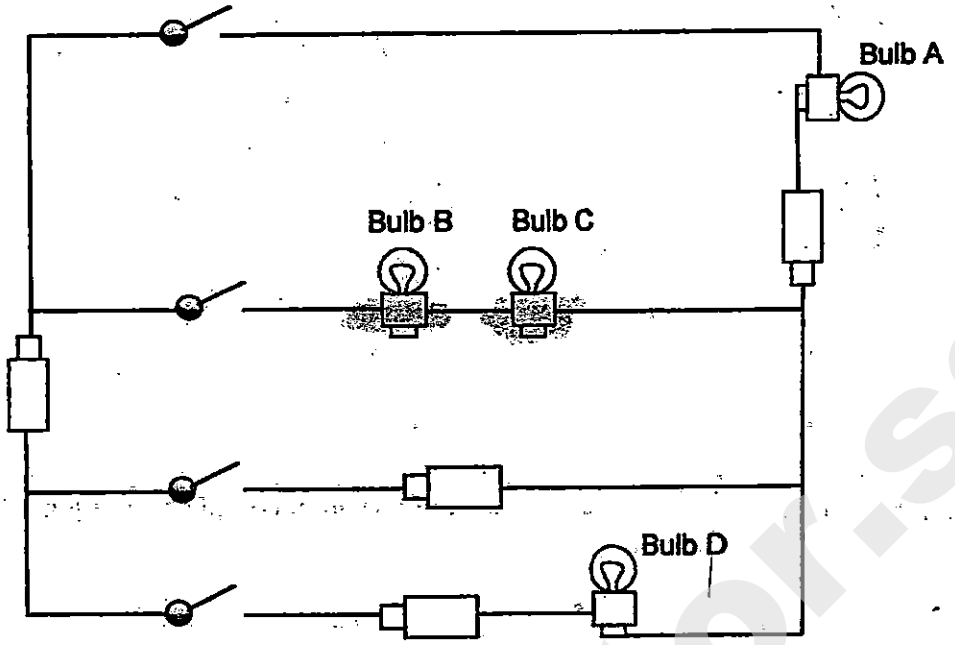
It was observed that only bulb Z did not light up.

Which one of the following materials could bars A, B, C and D be possibly made of?

	A	B	C	D
(1)	glass	plastic	aluminium	copper
(2)	copper	glass	iron	aluminium
(3)	iron	aluminium	copper	glass
(4)	plastic	copper	glass	iron

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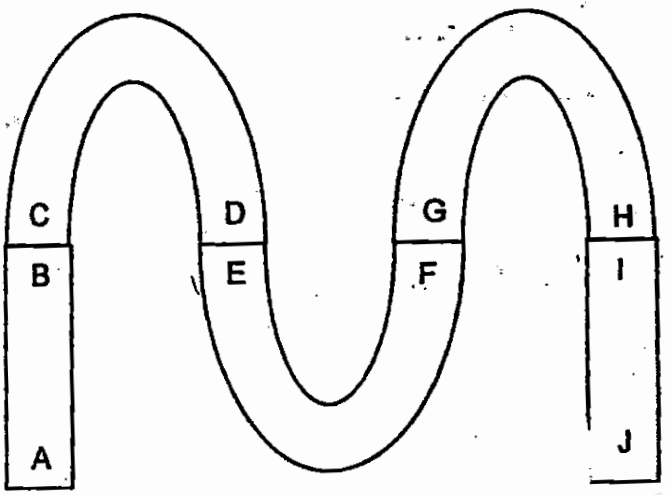
Which bulb(s) will light up when all the switches are closed?

(1) Bulb A only
(2) Bulbs A and D only
(3) Bulbs A, B and C only
(4) Bulbs A, B, C and D

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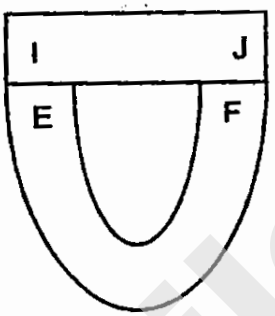
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25. The diagram below shows the arrangement of five magnets when they are attracted to each other.

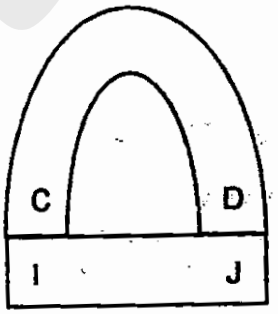


Which of the following shows the correct interaction between two of the magnets?

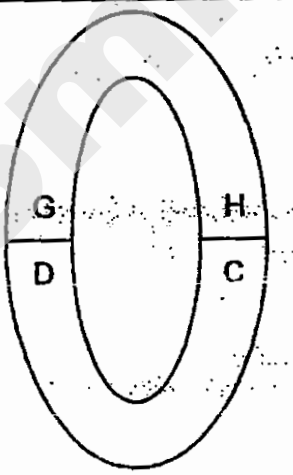
(1)



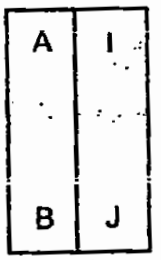
(2)



(3)



(4)



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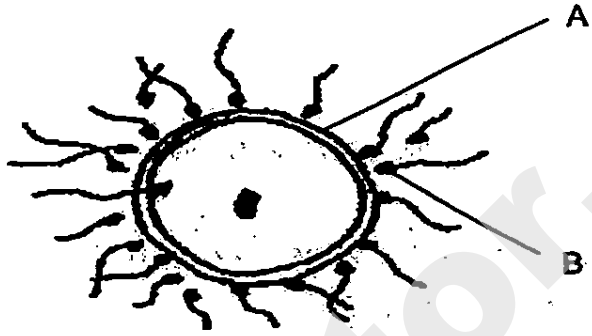
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Name: _____ Index No: _____ Class: P5 _____

40

SECTION B (40 marks)
For questions 26 to 39, write your answers clearly in the spaces provided.
The number of marks is shown in brackets [ ] at the end of each question or part question.

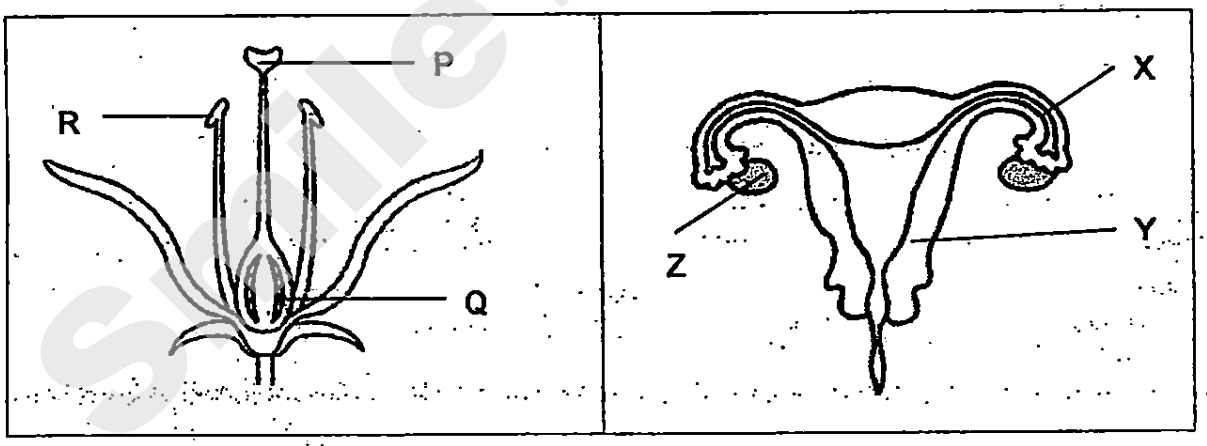
26. The diagram below shows the human fertilisation process. A and B are necessary for fertilisation to take place.



(a) Identify A and B. [1]

A: _____ B: _____

(b) The diagram below shows the parts of the reproductive system of a plant and human.



Identify the parts where fertilisation will take place in the plant and female reproductive system respectively. Write the letters that represent the parts in the boxes below. [2]

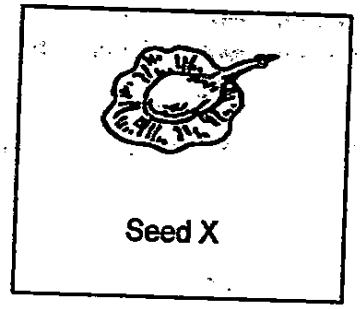
		Letter that represents the part
(i)	Reproductive system of a plant	
(ii)	Reproductive system of a human	

SCORE ___/3

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carried out an experiment to find out if the presence of a wing-like structure would affect the time taken for a seed to the reach the ground. He dropped Seed X, from a height of 6 metres and recorded the time taken for it to reach the ground. Then he cut off the wing-like structure, as shown in Diagram A, and repeated the above experiment.

He repeated the experiment two more times to get a second and third reading.



Seed X

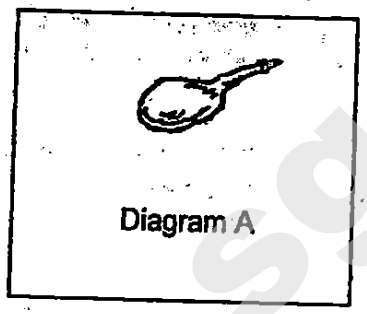


Diagram A

He recorded his results in a table as shown below.

	Time taken by seed to reach the ground (seconds)	
	Seed with wing-like structure	**Seed without wing-like structure**
1st reading	7.9	4.5
2nd reading	8.2	5.0
3rd reading	7.3	4.8
Average	7.8	4.8

Answer the following questions based on the results in the table above.

(a) State the method of dispersal of Seed X. [1]

(b) Why did Jun take more than one reading for his experiment? [1]

(c) Explain clearly why the seed with wing-like structure took a longer time to reach the ground. [1]

SCORE	3

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28. Siti conducted an experiment to find out the effects of different coloured lights on the size of stomata of tomato seedlings. She recorded her results in the table below.

Types of light	Average width of stomata (units)	Average length of stomata (units)
Sunlight *(Control)*	19.6	32.1
Green	23.4	33.4
Orange	18.5	29.7
Purple	18.8	28.9
Yellow	23.2	35.1

Answer the following questions based on the results in the table above.

(a) Comparing with the control set-up, name the type(s) of light that will cause the stomata to be larger. [1]

_____

_____

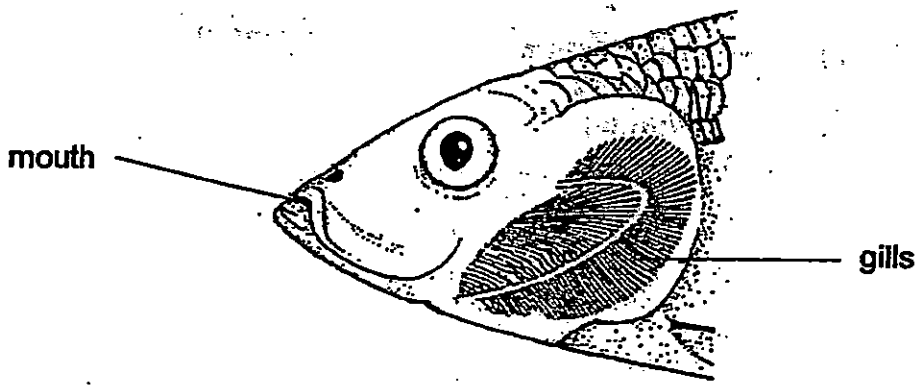
(b) Stomata allow the exchange of gases between the plant and the surrounding air. Under certain light conditions, the stomata become larger. State one advantage and disadvantage for the enlarged stomata. [2]

Advantage	
Disadvantage	

SCORE	3

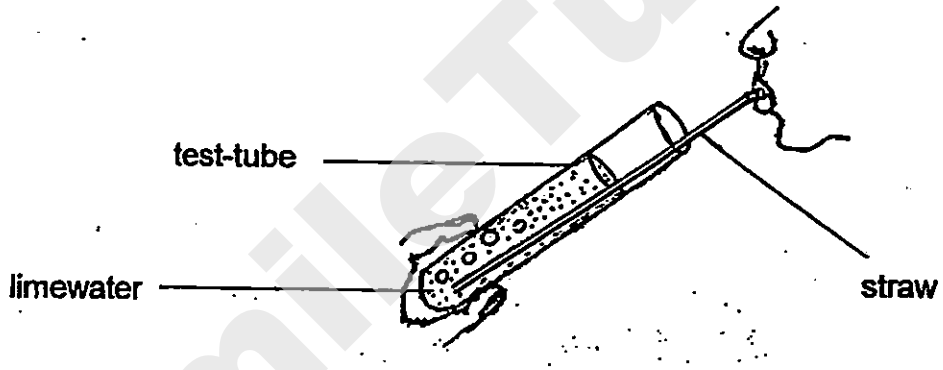
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(a) Explain clearly how the increased surface area of the gills will benefit the fish. [2]

(b) The diagram below shows a woman blowing air into a test-tube of limewater.

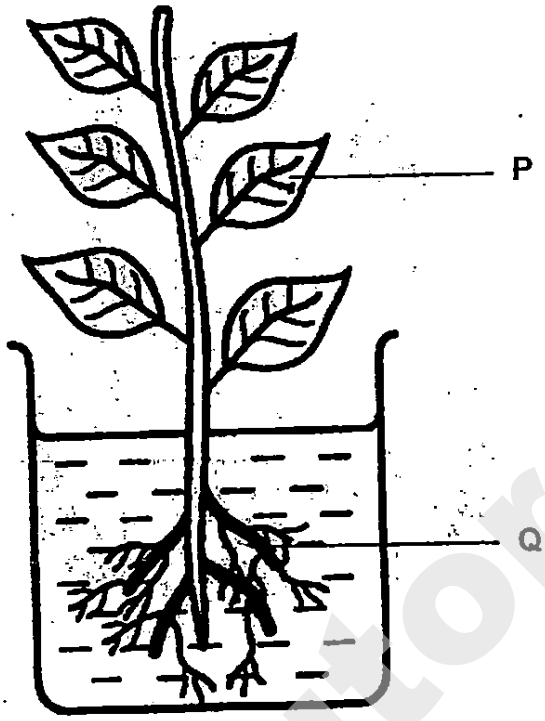


After a while, Mary noticed that the limewater turned chalky. Give a reason why the limewater turned chalky. [1]

SCORE	3

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30. Ming Ming obtained cells X and Y from two parts of the plant shown. Cells X was taken from P and cells Y was taken from Q.



Ming Ming prepared the specimens of cells X and Y on two separate slides and observed the cells under a microscope.

(a) State one difference between cells X and Y that Ming Ming would observe. [1]

_____

_____

(b) Explain your answer in (a). [1]

_____

_____

(c) State 2 similarities between cells X and Y and an animal cell. [1]

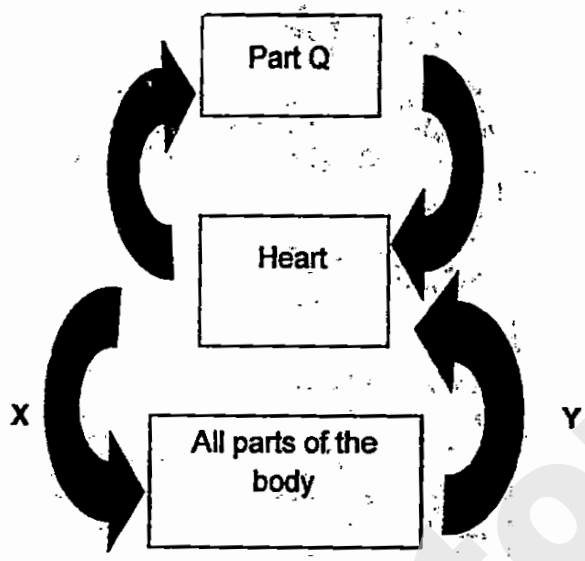
_____

_____

SCORE	/ 3

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... below shows the flow of blood in blood vessels X and Y in a human system.



(a) Identify Part Q. [1]

_____

(b) What is the difference between the amount of carbon dioxide in the blood flowing through blood vessels X and Y? [1]

_____

_____

SCORE	2

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32. Harold wanted to find out if the mass of an animal affects the amount of carbon dioxide it produces. He placed an ant, a lizard and a mouse in bell jars, A, B and C respectively, as shown in the diagram below. No animal was placed in bell jar D. He placed all the bell jars in a room with a constant temperature.



bell jar A bell jar B bell jar C bell jar D

(a) Put a tick (√) beside the variable(s) that Harold should keep constant for a fair test. [2]

	Variable	Constant (√)
(i)	Mass of animal	
(ii)	Type of bell jar	
(iii)	Amount of air in bell jar	
(iv)	Composition of air in bell jar	
(v)	Duration of each animal kept in bell jar	

The table below shows the percentage of carbon dioxide in the bell jar at the end of the experiment.

Bell Jar	Animal kept in bell jar	Mass of animal kept in bell jar (milligrams)	Percentage of carbon dioxide in bell jar after the experiment (%)
A	Ant	3	0.05
B	Lizard	9000	0.09
C	Mouse	35000	0.15
D	-	-	0.03

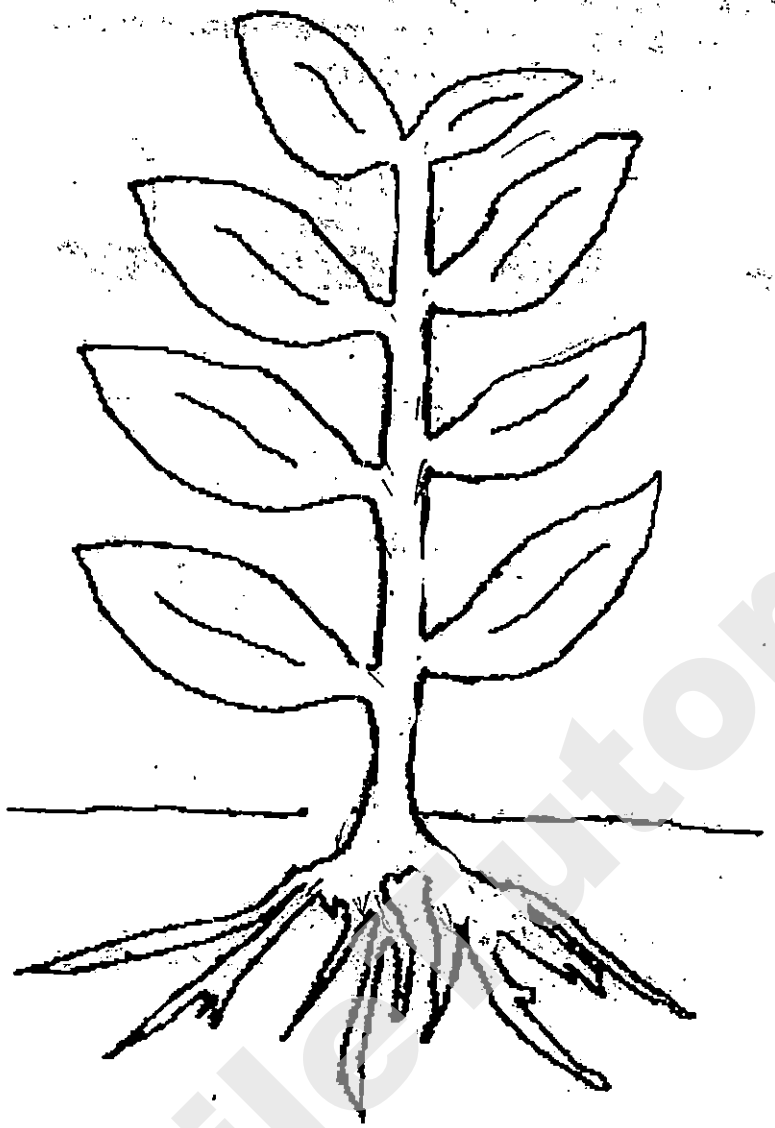
(b) Based on the results above, what is the relationship between the mass of an animal and the amount of carbon dioxide it produces? [1]

_____

_____

SCORE	3

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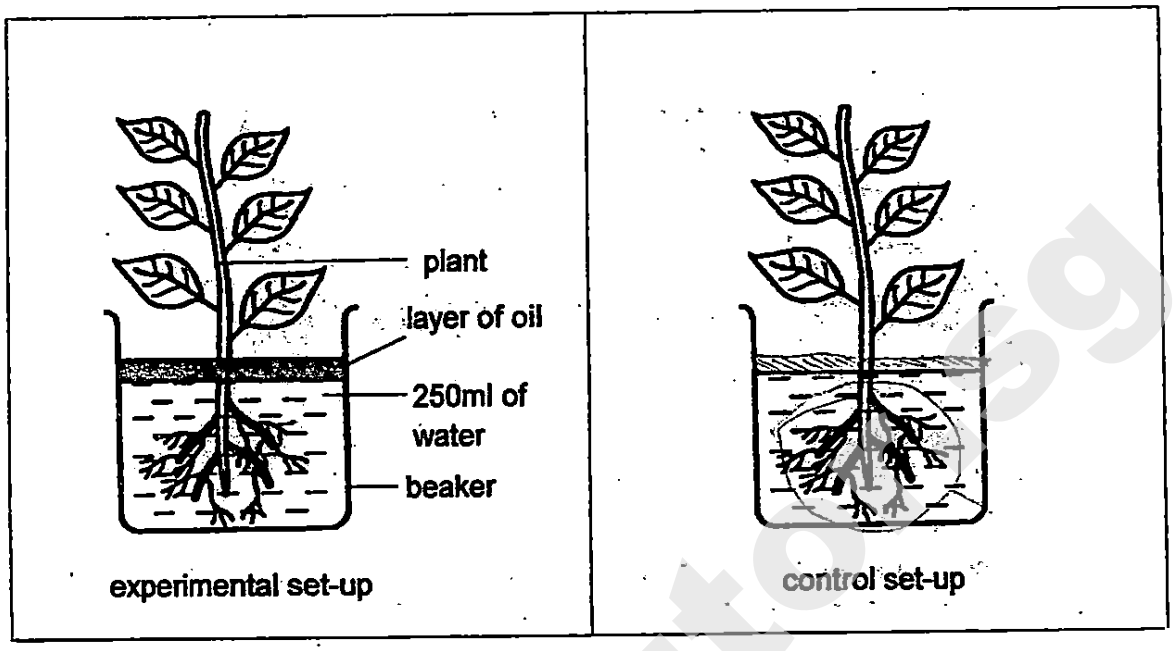
(a) In the diagram above, label and name the part of the plant which makes food. [1]

(b) Draw arrows (→) in the diagram above to show how the food produced is being transported to all parts of the plant. [1]

SCORE	2

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34. Gopal wanted to find out if the roots of a plant take in water. He prepared the experiment set-ups as shown below.



(a) His teacher told him that his control set-up was incorrect. Without removing any part(s) of the plant in the control set-up, **draw and label in the diagram above** two changes that need to be made to the control set-up. [1]

(b) What is the purpose of the control set-up in this experiment? [1]

_____

_____

(c) Why did Gopal add a layer of oil to the beaker of water in the experimental set-up? [1]

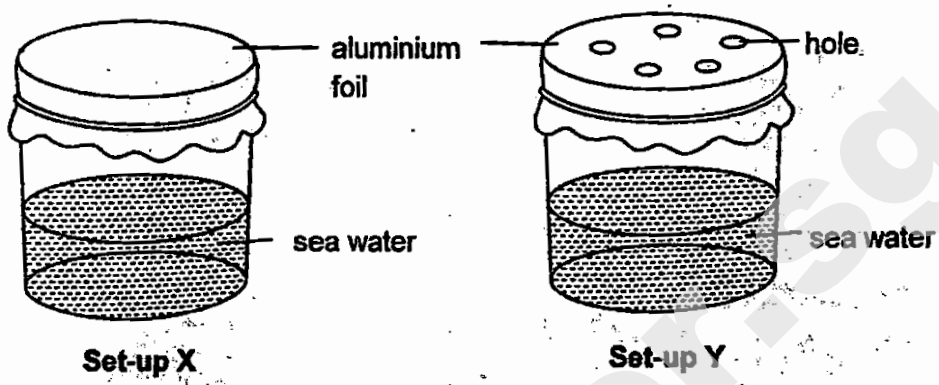
_____

_____

SCORE	/ 3

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water, as shown below to demonstrate the water cycle. She then left the set-ups at the same location under the sun.



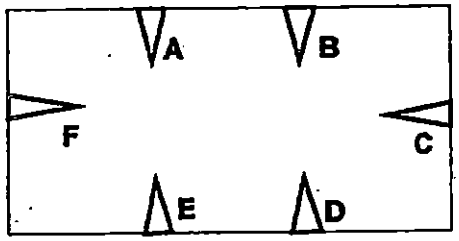
She checked the set-ups an hour later and found that different amount of water droplets were formed on the underside of the aluminium foil of set-ups X and Y.

(a) Which set-up would have less water droplets formed on the underside of the aluminium foil? Explain your answer clearly. [2]

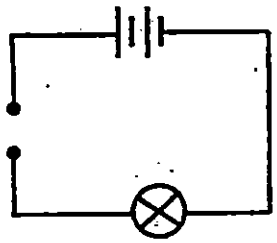
(b) Suggest what Helen could do to further increase the rate of condensation in set-up X without replacing any parts of the set-up. [1]

SCORE	3

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circuit card

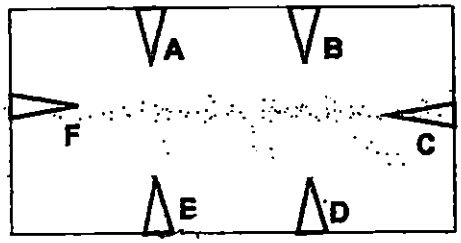


circuit tester

She tabulated the results in a table as shown below. A tick (√) shows that the bulb lit up when the pair of paper clips was tested.

	A	B	C	D	E	F
A		√		√		
B	√					
C						
D	√					
E						√
F					√	

(a) Based on the information given, using the least possible number of lines, draw how the wires are connected in the circuit card shown below. [1]



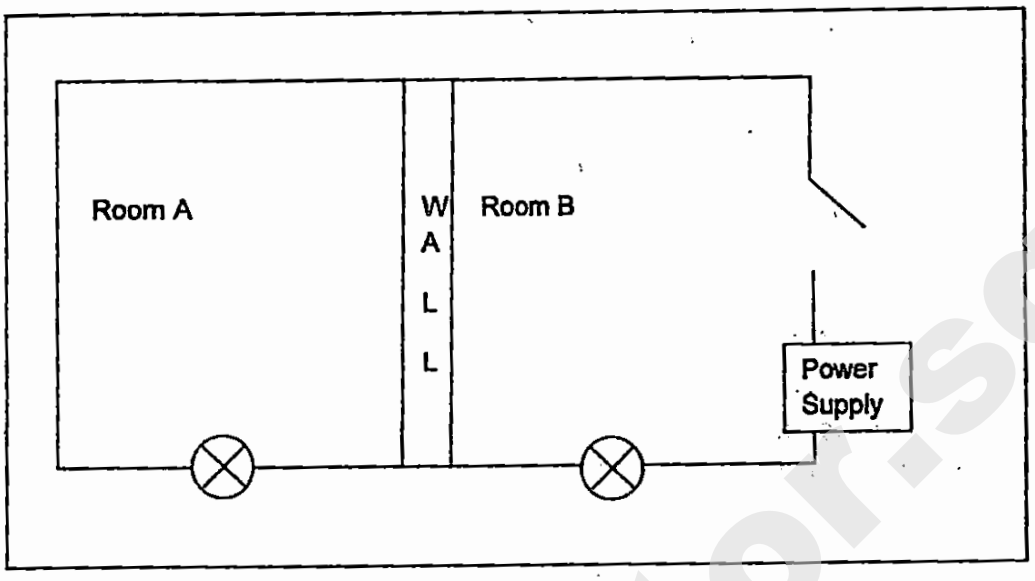
(b) Name **ANOTHER** pair of paper clips, **NOT** shown in the table above, which would result in the bulb lighting up when connected. [1]

_____

SCORE	2

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The diagram below shows the electrical circuit arrangement for two bulbs in the rooms, A and B.



(a) Write down two disadvantages on the above circuit arrangement. [2]

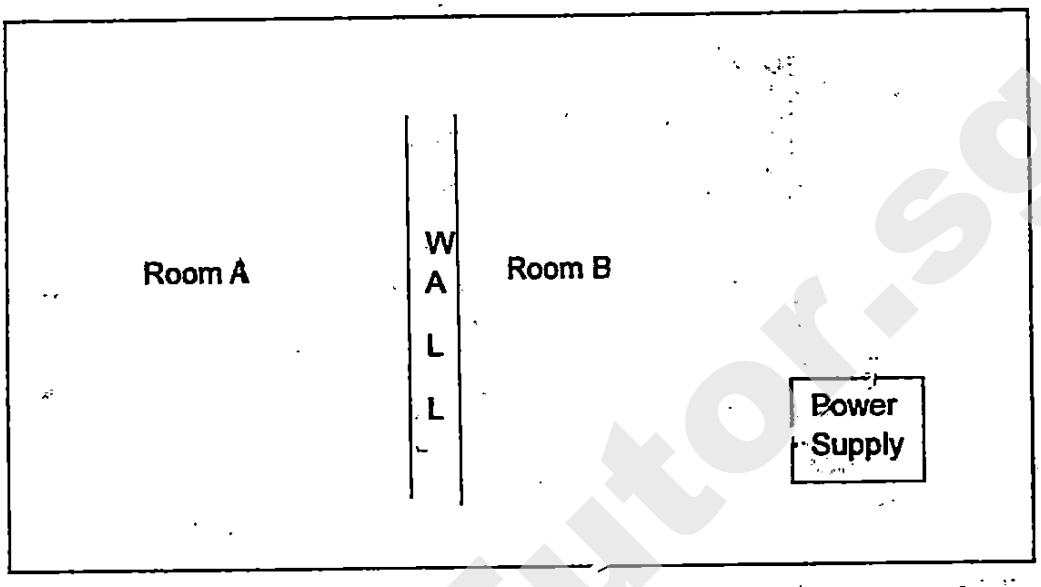
Disadvantage 1	
Disadvantage 2	

SCORE 2

Continue on the next page

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(b) In the diagram below, draw a circuit diagram to address the disadvantages you wrote down in (a) using 2 bulbs, 2 switches and some wires. [2]

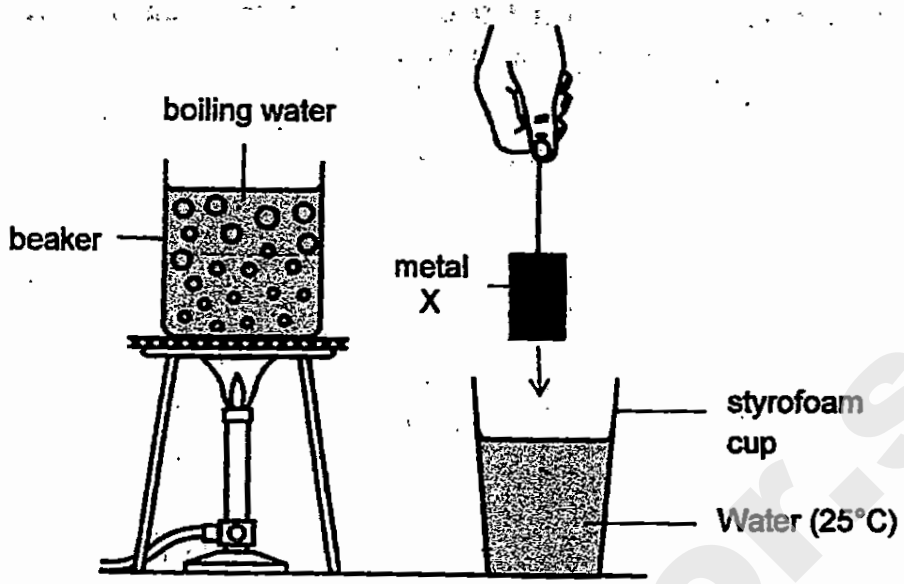


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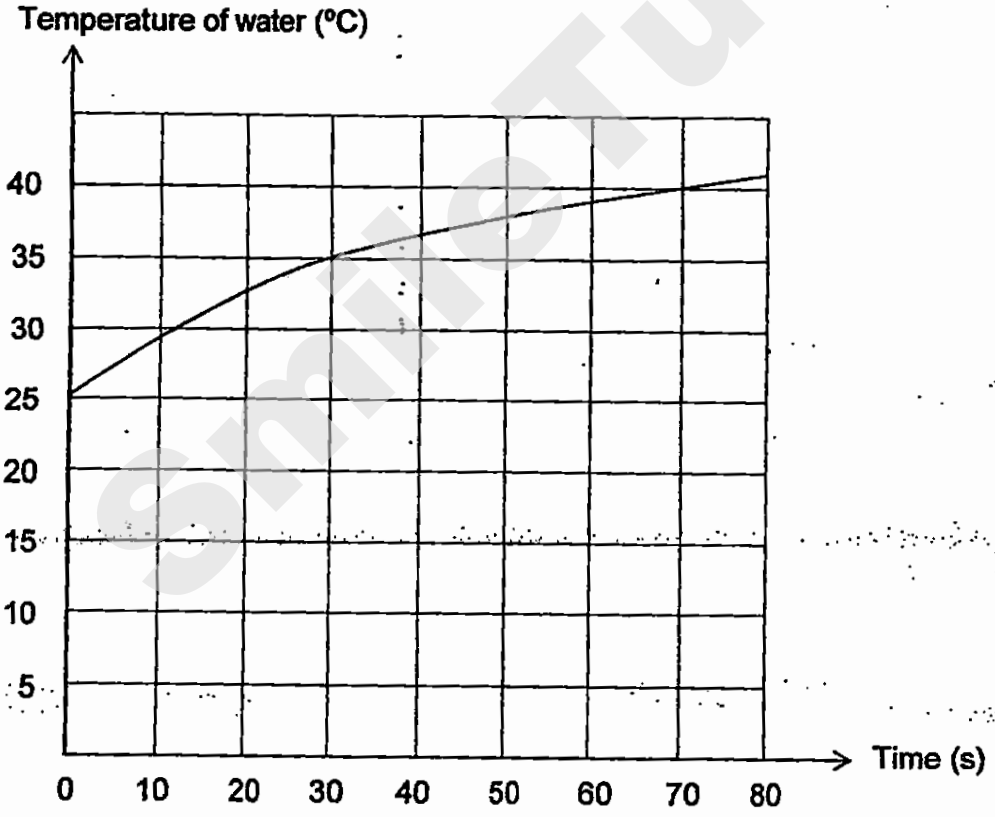
SCORE 2

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water for 20 minutes. After that, metal X was taken out of the boiling water and was transferred to a styrofoam cup which contained some water at 25°C.



When metal X was immersed into the water in the styrofoam cup, the temperature of water in the styrofoam cup was recorded as shown below.



Continue on the next page

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(a) Based on the graph, what is the temperature of water in the styrofoam cup at the 30th second? [1]

_____

(b) Explain the change in temperature of metal X when it was immersed in the boiling water and when it was immersed into the styrofoam cup respectively. [2]

In the boiling water: _____

_____

_____

In the styrofoam cup: _____

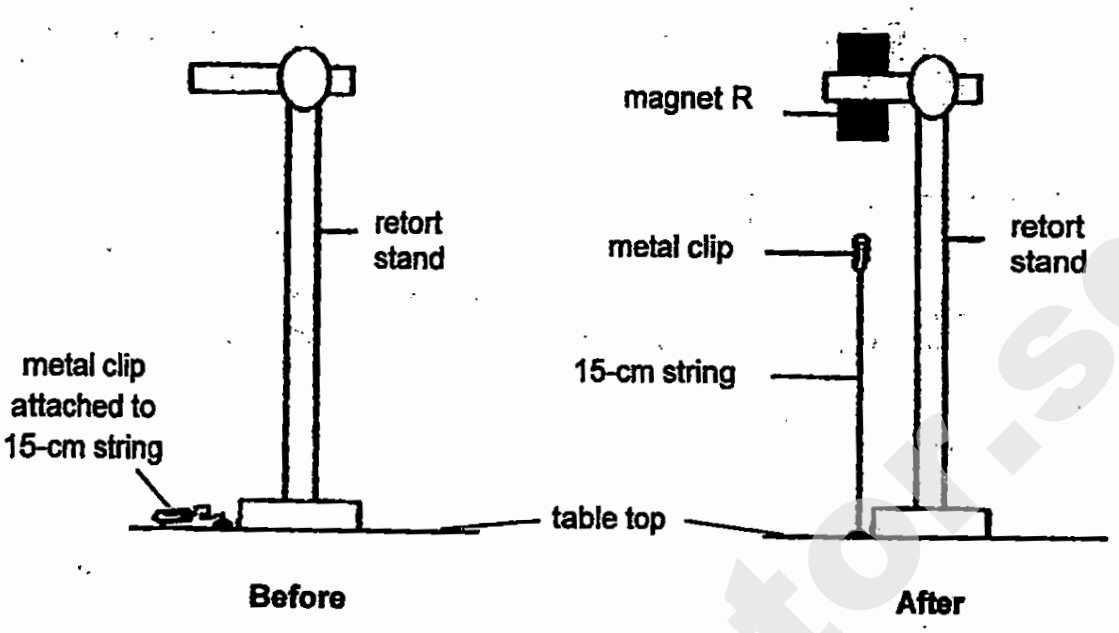
_____

_____

SCORE	3

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the following experiment as shown in the diagram. A metal clip was tied to the table by a string of length 15 cm. When he clamped magnet R to the retort stand, the metal clip was suspended in the air.



(a) Explain why the metal clip remained suspended in the air. [1]

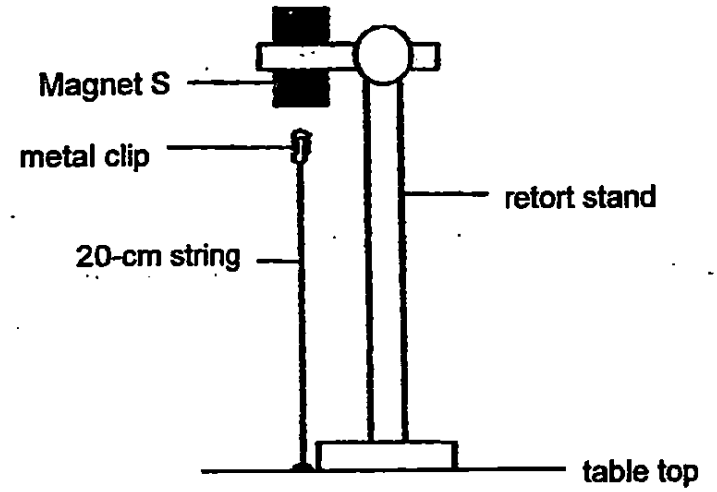
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SCORE	/ 1

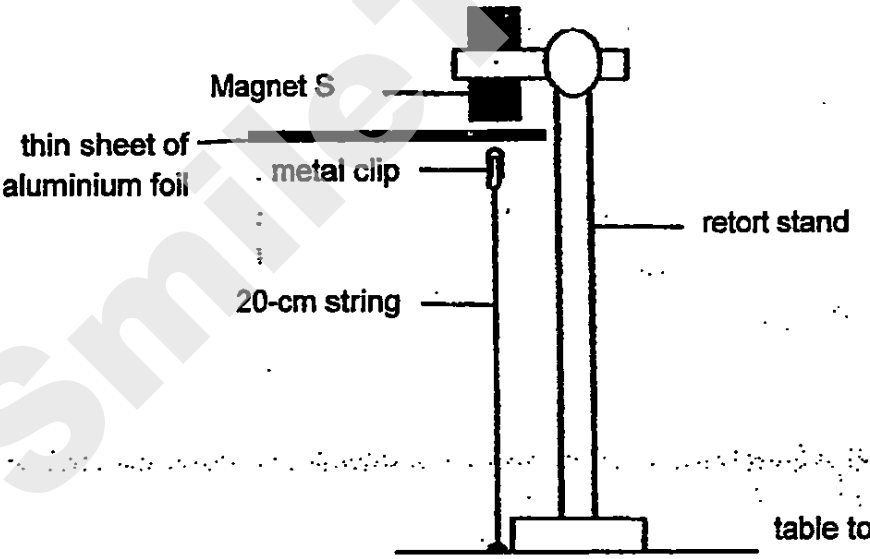
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dropped unless he used a longer string of length 20 cm.



(b) Give a reason why he had to use a longer string for the set-up with magnet S in order for the metal clip to be suspended in the air. [1]

Justin then placed a thin sheet of aluminium foil between magnet S and the suspended metal clip.



(c) What would happen to the metal clip when Justin placed the thin sheet of aluminium foil between Magnet S and the paper clip? Explain your answer. [1]

- END OF PAPER -

SCORE 2

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SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
4	**3**	**2**	**2**	**3**	**3**	**4**	**3**	**4**	**2**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
1	**2**	**1**	**4**	**3**	**3**	**4**	**1**	**2**	**2**
Q21	Q22	Q23	Q24	Q25					
2	**3**	**3**	**2**	**4**					

Q26a. A: egg Q26a. B: sperm

Q26bi) Q Q26bii) X

Q27a. Wind

Q27b. To ensure that his experiment to be reliable.

Q27c. The seed with wing – like structure took a longer time to reach the ground as the wing like structure allowed the seed to floating the air for a longer period of time than the seed without the wing – like structure.

Q28a. Green and Y

Q28b. Advantage - The stomata would be able to take in more air for a faster rate of gaseous exchange.

Q28b. Disadvantage – The stomata would have more water – loss.

Q29a. The gills will be able to take in more dissolved oxygen and remove more carbon dioxide during gaseous exchange in the gills.

Q29b. When the lady blew into the test tube, she blew in carbon dioxide, when carbon dioxide and limewater are in contact, the lime water will turn chalky, hence, the limewater turned chalky when the lady blew into the limewater.

Q30a. Cell X would have chloroplasts while Cell Y would not.

Q30b. Cell X came from leaves, leaves need to have chloroplast to trap sunlight to make food during photosynthesis. Y came from roots and roots do not need to make food, hence, cell Y would not.

Q30c. Cells X, Y and animal cells all have cytoplasm and cell membrane.

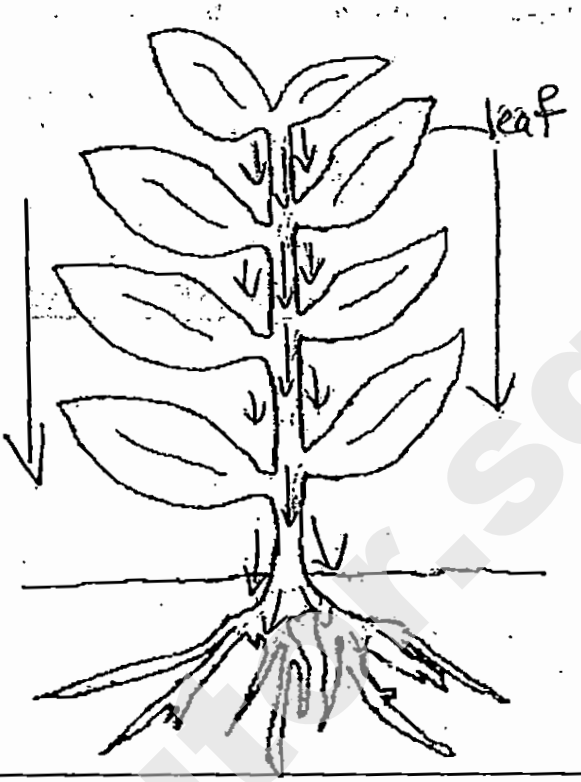
Q 31a. Lungs Q31b. There would be a higher amount of carbon dioxide in the blood flowing through blood vessels Y than X.

Q32aii) ✔ Q32aiii) ✔ Q32aiv) ✔ Q32av) ✔

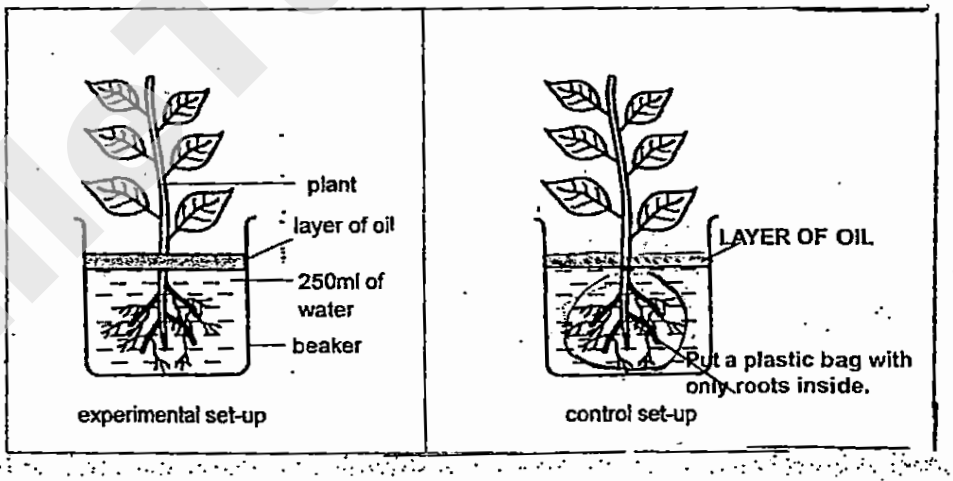
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it produces.

Q33a and Q33b. **SEE PICTURE**



Q34a. **SEE PICTURE**



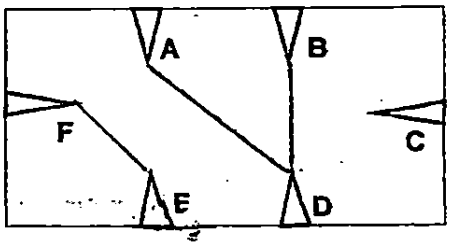
Q34b. It is to ensure that the only reason for water loss is by the roots.

Q34c. To prevent water in the beaker from evaporating.

Q35a. Some of the water in the container gained heat and evaporated into water vapor which escaped through the holes on the aluminum foil. Hence there would be lesser water vapour condensed on the underside of the aluminum foil in Y compared to X.

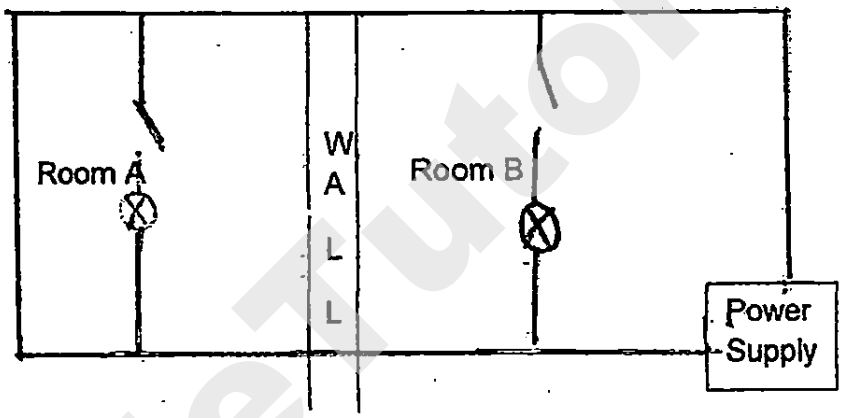
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Q36a. **SEE PICTURE** Q36b. B and D.



Q37a. (1) When one bulb fuses, the other bulb would not light up.

Q37a. (2) The bulbs would be dimmer. Q37b. **SEE PICTURE**



Q38a. 35°C

Q38b. In the boiling water : Metal X gained heat from the boiling water and increase in temperature.

Q38b. In the Styrofoam cup : Metal X lost heat to the water in the Styrofoam cup and decreased in temperature.

Q39a. The metal clip is magnetic and thus it is attracted to the magnet.

Q39b. Magnet R is a stronger magnet than S.

Q39c. The metal clip would remain the same. Aluminum is a non – magnetic material, hence, magnetism can pass it, hence, the metal clip will remain the same.

THE END

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RED SWASTIKA SCHOOL

2015 SEMESTRAL ASSESSMENT 2
SCIENCE
PRIMARY 5

Name : _____ ( )

Class : Primary 5/ _____

Date : 2 November 2015

BOOKLET A

Total time for Booklets A & B: 1h 45 min

Booklet A: 30 questions (60 marks)

Note:

1. Do not open the booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the booklet.
3. Do not waste time. If the question is too difficult for you, go on to the next question.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
   a. Page 1 to Page 22
   b. Questions 1 to 30

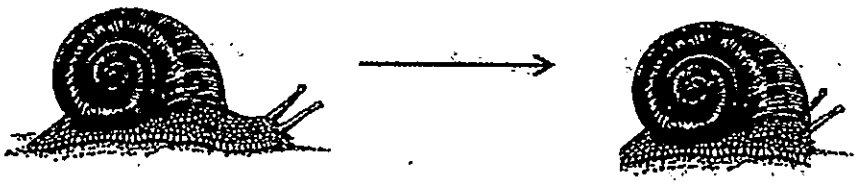
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Section A

For Questions 1 to 30, choose the most suitable answer and shade its number in the OAS provided.

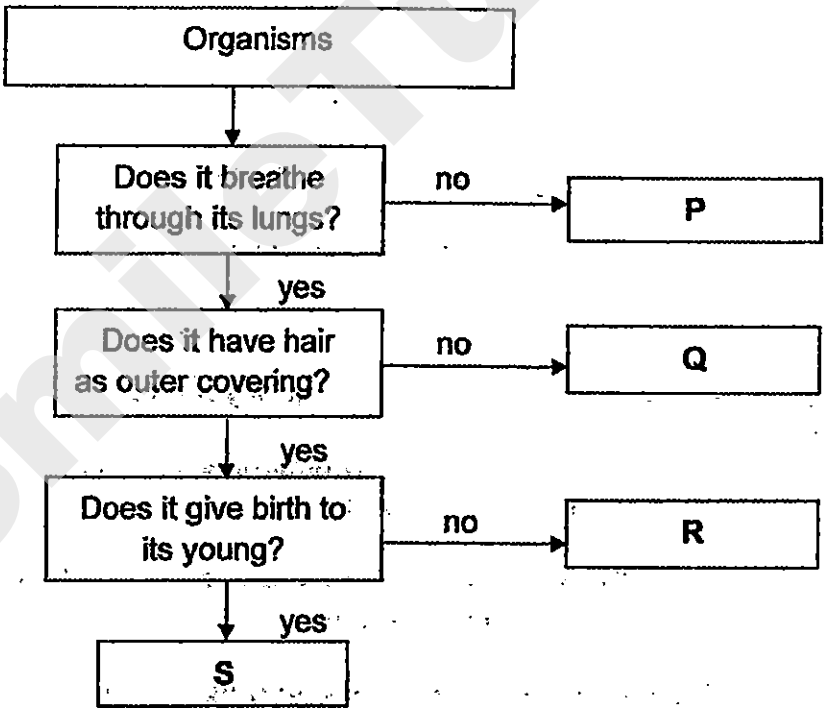
1. The snail curls into its shell quickly when touched.



This shows that the snail is a living thing because it _____.

(1) can move
(2) can reproduce
(3) can respond to changes
(4) needs air, water and food to survive

2. Study the flow chart below.



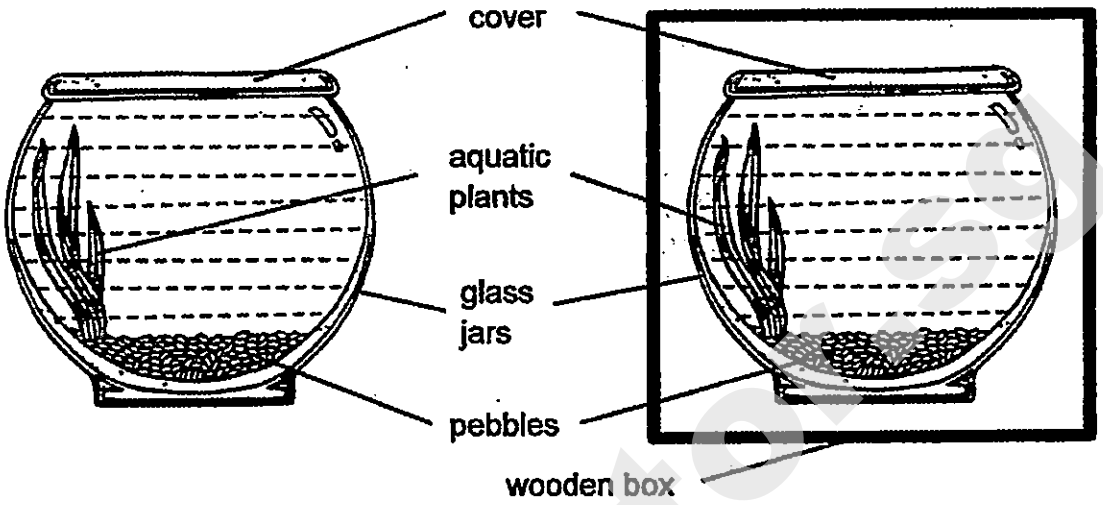
Which letter would best represent a "dog"?

(1) P
(2) Q
(3) R
(4) S

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3. Some aquatic plants were kept in two sealed glass jars as shown below.

Set-up P is exposed to light. **Set-up Q is kept in the dark.**



At the end of two weeks, only the plants in set-up P were alive. What does the results of this experiment show?

(1) Plants need light to survive.
(2) Plants need pebbles to survive.
(3) Plants need water to survive.
(4) Plants need air to survive.

4. In which part(s) of the human digestive system is/are digestive juices added?

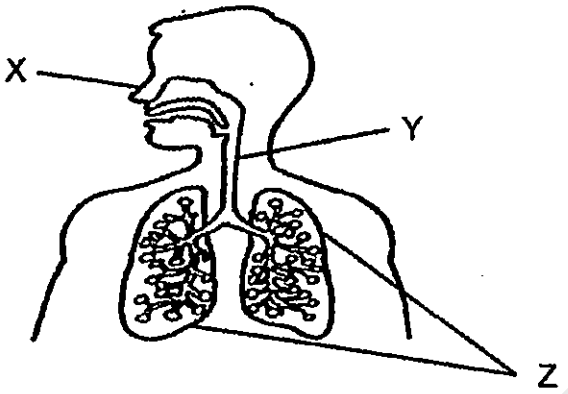
A: stomach
B: small intestine
C: large intestine
D: anus

(1) A only
(2) B and C only
(3) A and B only
(4) C and D only

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5. Study the diagram shown. It shows the human respiratory system.



Which of the following statements about the system is not true?

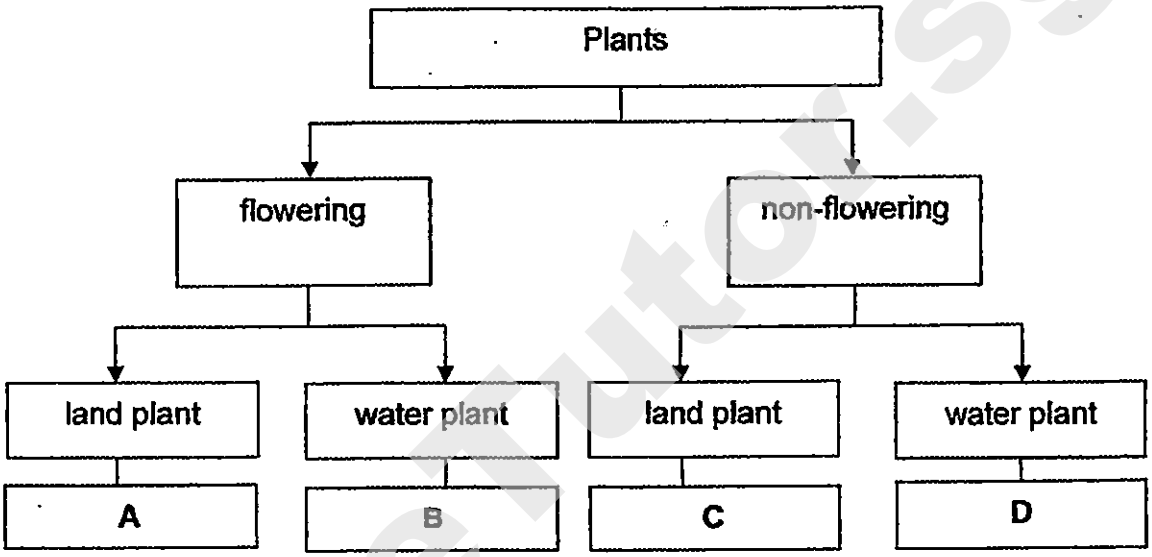
(1) X has fine hairs inside that trap dust in the air that we breathe in.
(2) Y is the main tube that carries air between part X and part Z.
(3) Z has many blood vessels that take in carbon dioxide into the body.
(4) X allows gases to be removed when we breathe out.

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6. The table below gives some information on four plants, P, Q, R and S.
A tick (√) indicates the presence of the characteristic of the plant.

Characteristic \ Plant	P	Q	R	S
It has seeds.		√		√
It has spores.	√		√	
It takes in dissolved oxygen.		√	√	



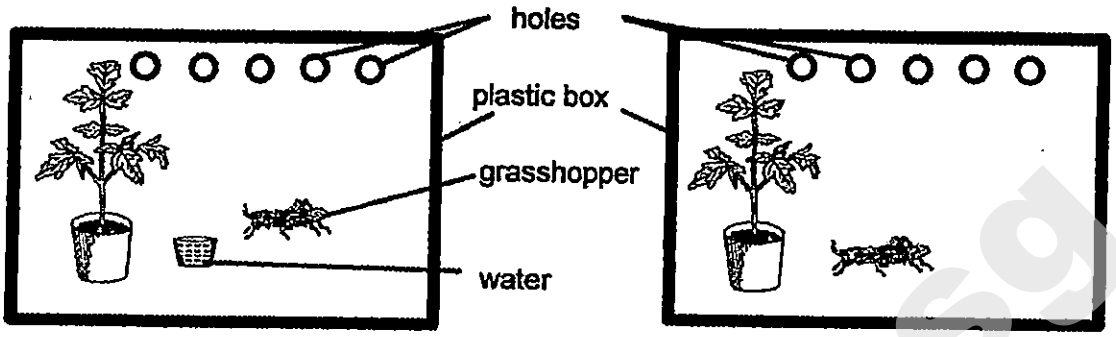
Based on the information above, which of the following shows the correct classification of the plants?

	Plant P	Plant Q	Plant R	Plant S
(1)	A	B	C	D
(2)	B	C	A	D
(3)	C	B	D	A
(4)	D	A	C	B

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7. Jasmine set up the experiment as shown below. Both set-ups A and B were placed in a lighted room for a week. The water in set-up A and the plants in set-ups A and B were changed daily. She observed that one grasshopper died after a week.



Set-up A **Set-up B**

What is the aim of this experiment?

Her aim is to find out whether the presence of _____.

(1) water affect the survival of the plants
(2) water affect the survival of the grasshopper
(3) oxygen affect the survival of the plants
(4) oxygen affect the survival of the grasshopper

8. Kai Ming studied three cells, A, B and C, under a microscope and recorded his observations in the table below.

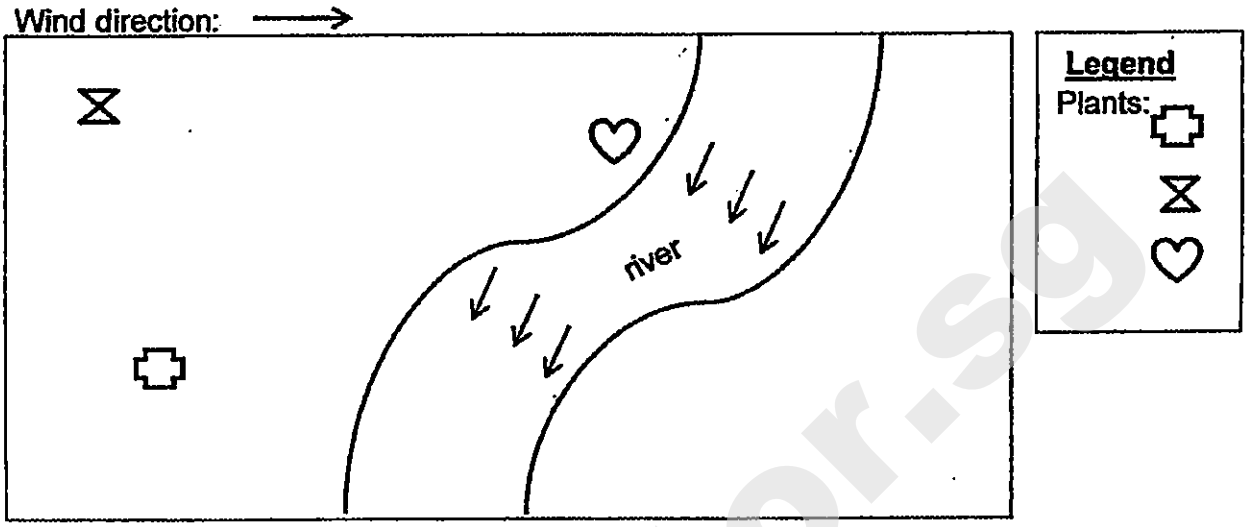
	Cells		
Cell Part	**A**	**B**	**C**
Nucleus	present	present	present
Cell wall	present	absent	present
Chloroplast	present	absent	absent
Cell membrane	present	present	present

Based on the information above, which of the following is correct?

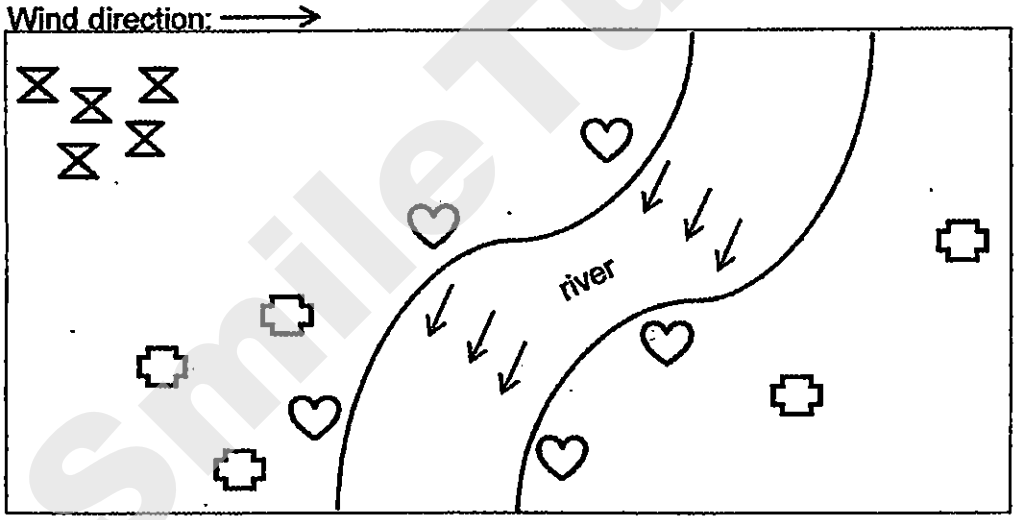
	A	B	C
(1)	cheek cell	leaf cell	onion cell
(2)	leaf cell	cheek cell	onion cell
(3)	onion cell	leaf cell	cheek cell
(4)	cheek cell	onion cell	leaf cell

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9. A group of people discovered an island and named it Jurassiz. They collected data on the number and position of plants found on it. They recorded this data in the map below.



The same group of people then returned one year later and discovered that more plants were found growing on the island as shown below.



Which of the following best represents the method of seed dispersal of the three types of plants?

	⧖	♡	⬡
(1)	wind	animal	water
(2)	water	splitting open forcefully	animal
(3)	animal	wind	splitting open forcefully
(4)	splitting open forcefully	water	wind

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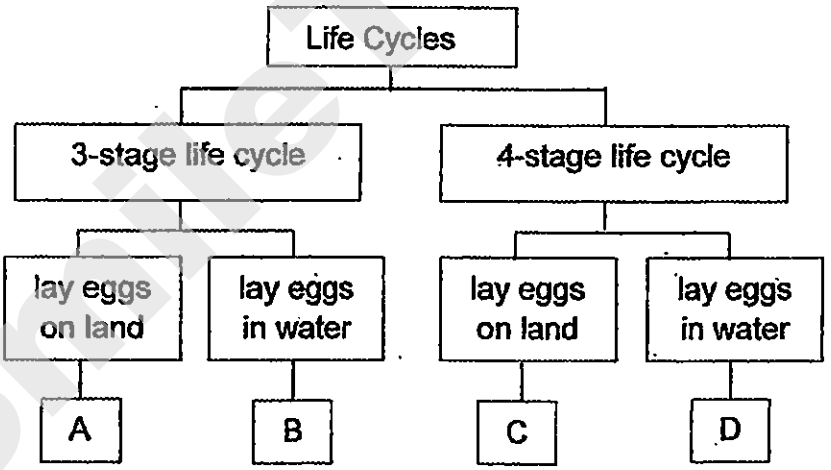
10. Study the table below.

	Description of characteristics
A	attached earlobes
B	ability to roll tongue
C	natural straight hair
D	short fingernails

Which of the characteristics can be passed on from parents to their children?

(1) A and D only
(2) B and C only
(3) A, B and C only
(4) B, C and D only

11. Study the flow chart below.



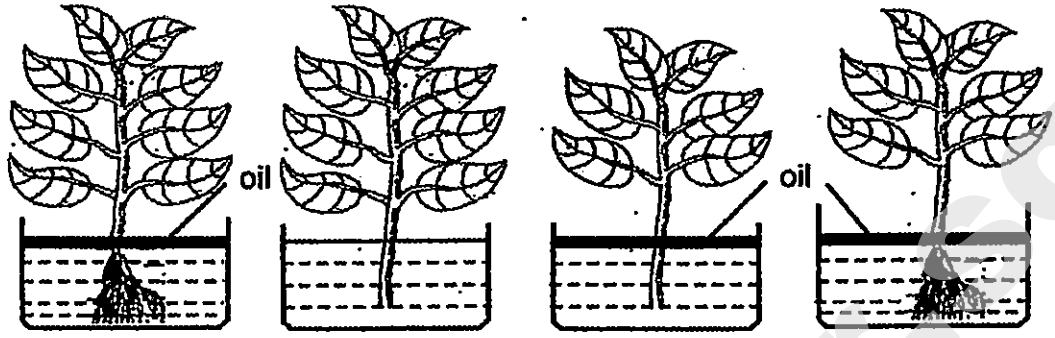
Which one of the following represents animals, A, B, C and D?

	A	B	C	D
(1)	chicken	mosquito	butterfly	frog
(2)	frog	chicken	mosquito	butterfly
(3)	chicken	frog	butterfly	mosquito
(4)	frog	mosquito	chicken	butterfly

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12. Brenda was given four set-ups, A, B, C and D, with similar plants placed in identical containers as shown below. She wanted to conduct an experiment to find out if the roots of a plant take in water. There was 500 ml of water in each container. The set-ups were located on a table in a garden.



Set-up A **Set-up B** **Set-up C** **Set-up D**

She measured the amount of water left in the containers to conclude her experiment.

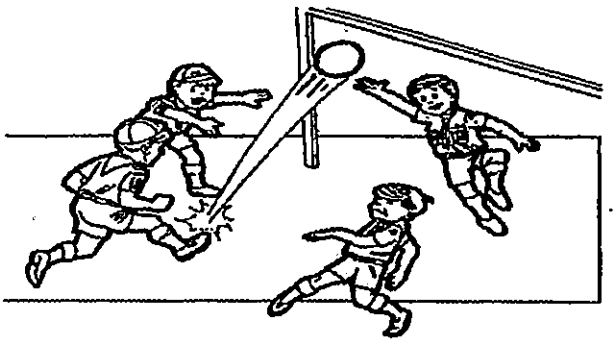
Which two set-ups should she use in her experiment to ensure a fair test?

(1) A and B
(2) B and C
(3) B and D
(4) C and D

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13. Some students participated in the activity shown during the recent School Carnival Day.

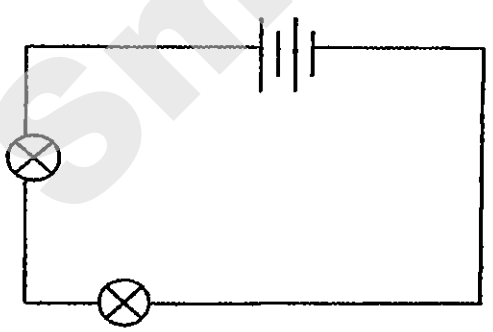


Which human systems stated below are needed to perform these activities?

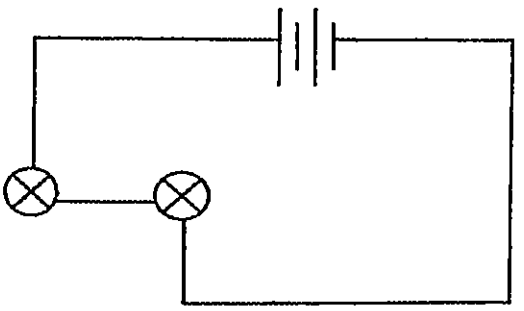
A: Muscular system
B: Skeletal system
C: Respiratory system
D: Circulatory system

(1) A and B only
(2) C and D only
(3) A, C and D only
(4) A, B, C and D

14. Clarice wanted to find out whether the position of bulbs would affect the brightness of the bulbs. She used new batteries, bulbs and wires in her experiment. The length of the wire used in circuits X and Y is the same. She set up two circuits, X and Y, as shown in the circuit diagrams below.



Circuit X



Circuit Y

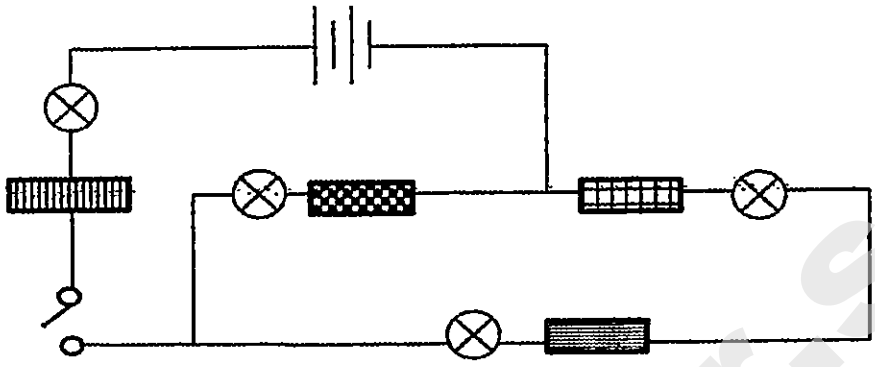
What would be the conclusion for her experiment?

(1) The brightness of the bulbs in X and Y is the same.
(2) The brightness of bulbs in X is dimmer than that in Y.
(3) The brightness of bulbs in Y is dimmer than that in X.
(4) The bulbs in X remain unlit but the bulbs in Y lit up.

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15. Jahida set up a circuit below. Three bulbs lighted up when she closed the switch. She was told that one of the objects in the circuit was an insulator of electricity.



Which one of the following objects was the insulator of electricity?

(1) 

(2) 

(3) 

(4) 

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16. Nicole drew the arrangement of bulbs in diagram 1. She wanted a circuit such that there would be one coloured bulb lighted up at any point in time by closing only one switch each time.

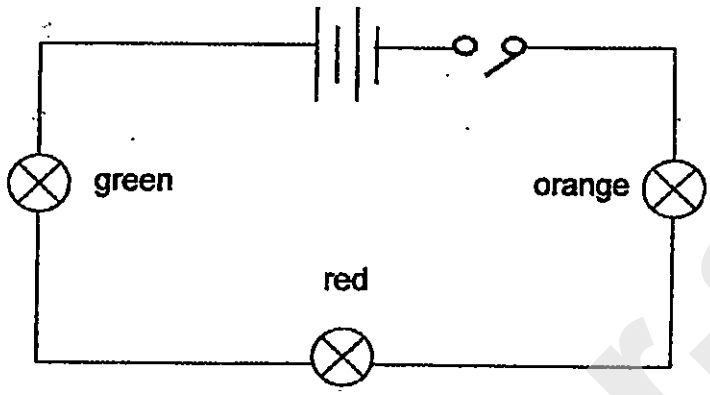
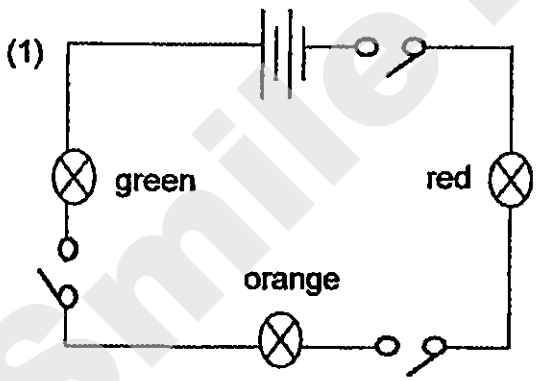


Diagram 1

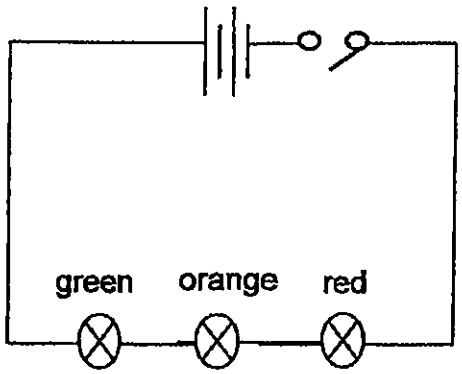
Her father said that the arrangement of her light bulbs would not work according to what she wanted. Then, Nicole changed the circuit diagram so that it would work correctly.

Which of the following best matches the correct circuit arrangement?

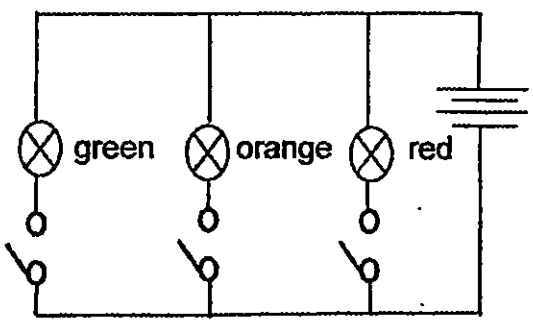
(1)



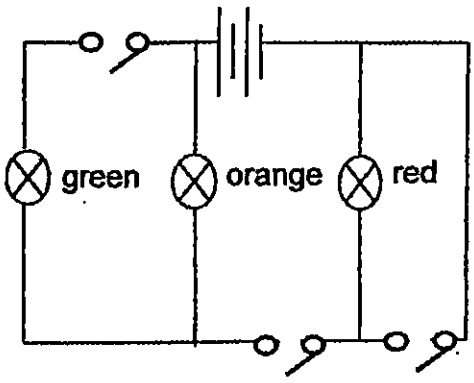
(2)



(3)



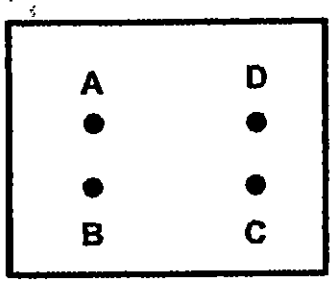
(4)



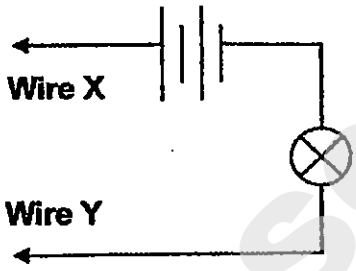
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17. Ben used a circuit tester to test a circuit card.



Circuit card



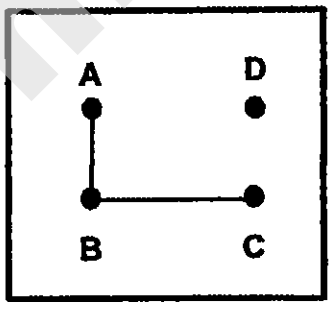
Circuit tester

The table below shows what happened to the bulb when each pair of clips, A, B, C, and D were tested.

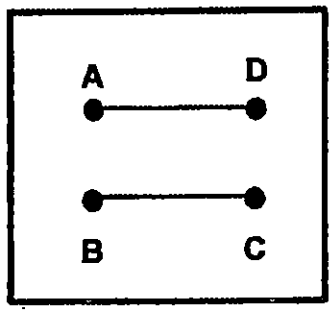
Clips tested	Bulb in circuit tester
A and B	unlit
A and C	lit
C and D	lit
B and C	unlit
A and D	lit

Which one of the following represents the correct circuit card?

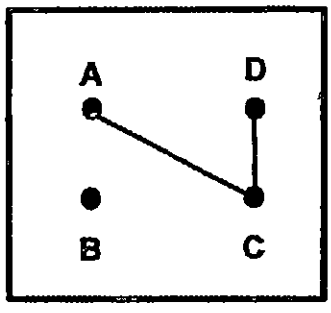
(1)



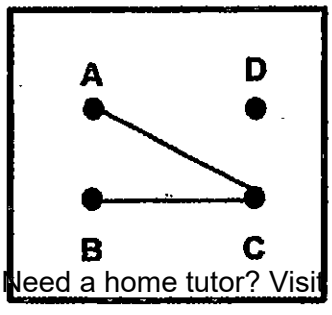
(2)



(3)



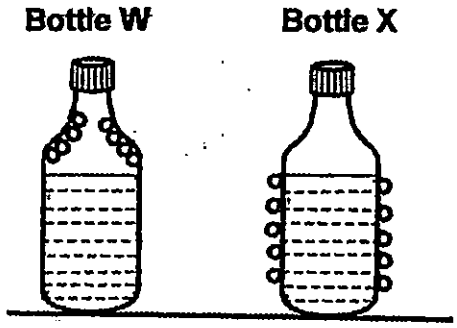
(4)



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18. Xiao Ling sealed two identical glass bottles, W and X. Then, she left them on the table in the Science room. After some time, she noticed that water droplets were formed on the bottles as shown below.



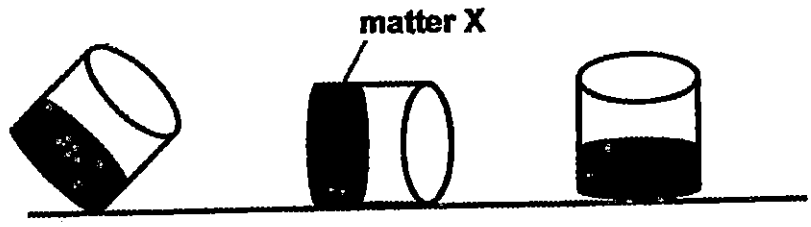
Based on the diagrams above, what type of water could bottles W and X contain?

	Bottle W	Bottle X
(1)	ice-cold water	hot water
(2)	hot water	ice-cold water
(3)	hot water	tap water
(4)	ice-cold water	tap water

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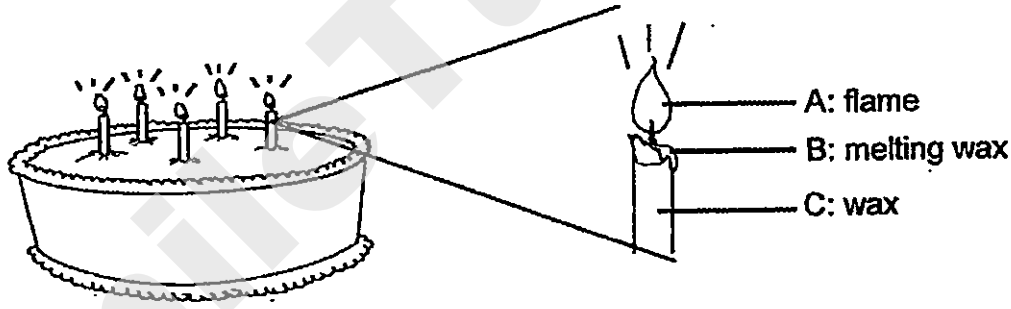
19. The diagrams below show matter X in a container. The container is placed in three different positions on a table in the classroom.



Based on the diagrams above, what could the state of matter for X most likely be?

(1) solid
(2) liquid
(3) gas
(4) solid and liquid

20. The students lighted some candles on a birthday cake.



They made some observations about the candles and wrote their thoughts down into their journals.

Peter: The light at part A can be seen and occupies space.
May Leen: The melting wax at part B occupies space.
Bernard: The flame occupies space and there is heat given out.
Cathy: The wax at part C has no mass.

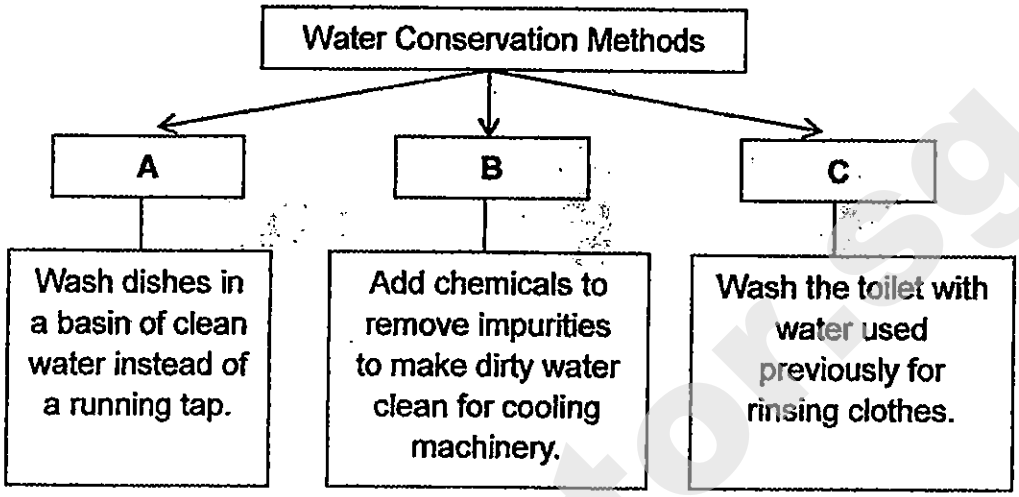
Which of the following students made the correct observation about matter?

(1) Peter
(2) May Leen
(3) Bernard
(4) Cathy

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21. Lily attended a water conservation seminar. She summarised what she had learnt in the chart below.



Which of the following best represents headings for A, B and C?

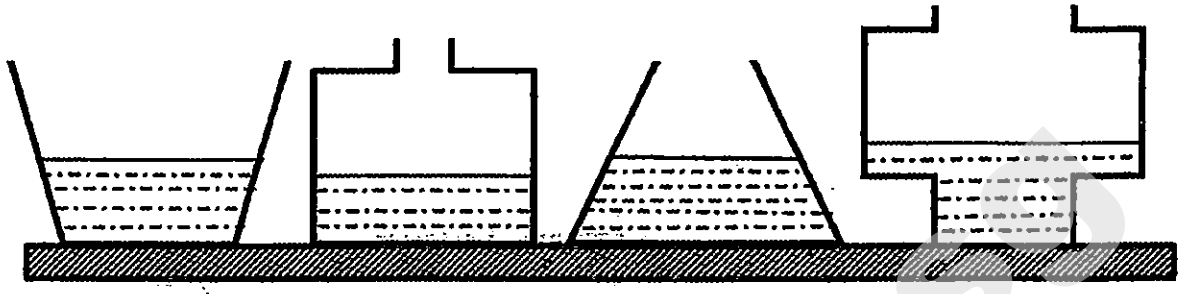
	A	B	C
(1)	Reuse	Reduce	Recycle
(2)	Recycle	Reduce	Reuse
(3)	Reuse	Recycle	Reduce
(4)	Reduce	Recycle	Reuse

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22. Zann set up an experiment as shown below.



Container C Container D Container E Container F

The same amount of water was poured into each of the containers. All the containers were placed in the Science room under similar conditions for two days.

Which of the following best represents the amount of water left in the containers after the experiment?

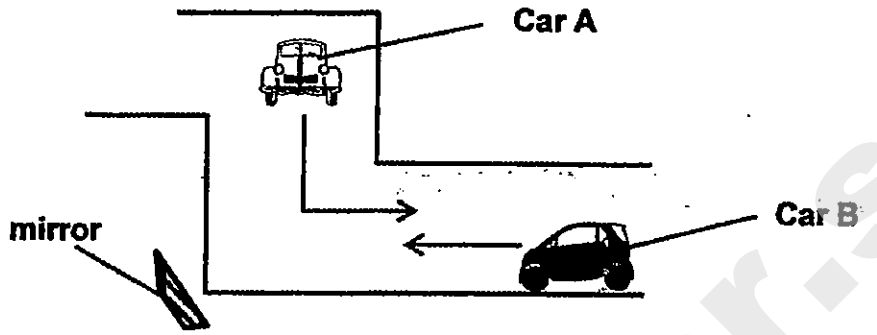
	Least → Most			
(1)	C	F	E	D
(2)	C	F	D	E
(3)	E	D	F	C
(4)	F	D	E	C

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23. The diagram shows the view of a road. There is a mirror located at the bend of the road. Car A and car B are travelling towards the bend in the direction shown by the arrows.



Which of the following properties of light enables the driver of car A to see car B before car B reaches the bend of the road?

A: Light travels in a straight line.
B: Light can be reflected by a mirror.
C: When light is blocked, a shadow is formed.

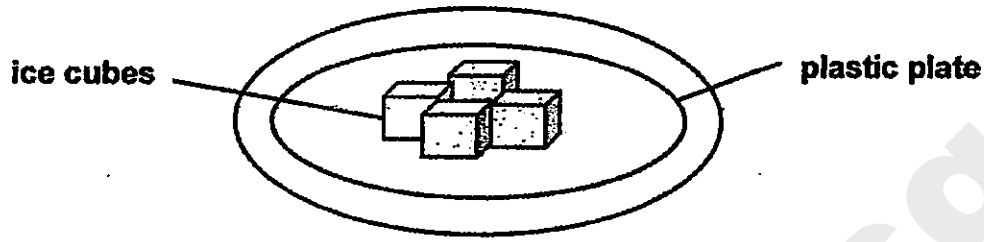
(1) B only
(2) A and B only
(3) A and C only
(4) B and C only

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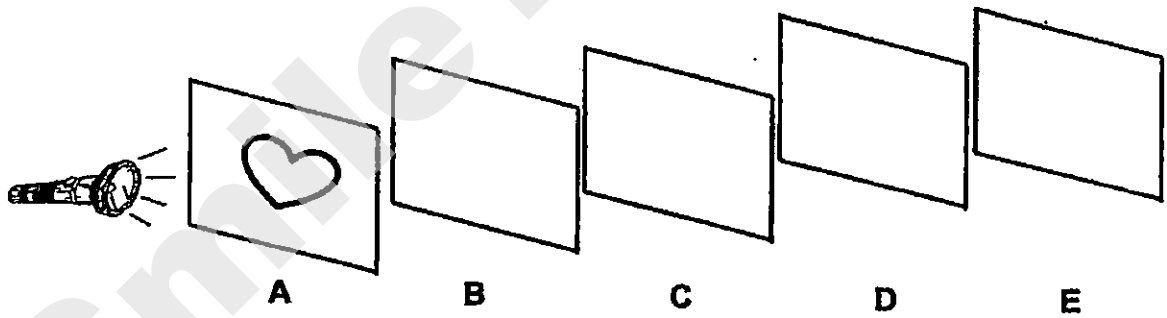
24. Jamal took out some ice cubes from the freezer and left them on a plastic plate in the kitchen as shown. The temperature of the kitchen was 30°C.



Which one of the statements below shows the heat changes that took place in the ice cubes after they were taken out from the freezer and left on the plate?

(1) The ice cubes gained heat from the surroundings.
(2) The ice cubes lost heat to the plastic plate.
(3) The air in the surroundings gained heat from the ice cubes.
(4) The plastic plate gained heat from the ice cubes.

25. A group of students set up an experiment below. Sheets A, B, C, D and E are made of different materials. They have the same thickness and size. A heart-shaped cut-out was made on sheet A.



A patch of light was observed on sheet D when the torch was switched on.

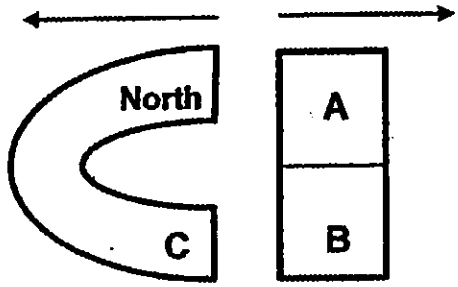
Which of the observations shown in the table below is correct?

	It allows most light to pass through.	It does not allow light to pass through.	It is not possible to tell.
(1)	B, C	D	E
(2)	B, D	C	E
(3)	B, D	E	C
(4)	B, C	E	D

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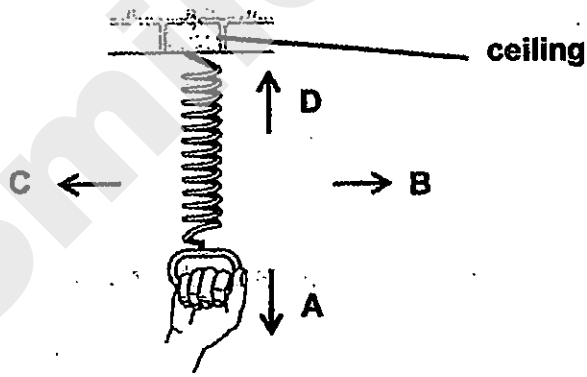
26. Study the interactions of magnets below.



The two magnets repelled each other when they were brought towards each other. What are the poles of A, B and C?

	A	B	C
(1)	North-seeking pole	South-seeking pole	North-seeking pole
(2)	North-seeking pole	South-seeking pole	South-seeking pole
(3)	South-seeking pole	North-seeking pole	South-seeking pole
(4)	South-seeking pole	North-seeking pole	North-seeking pole

27. Lynn pulls a spring that is attached to a ceiling as shown below.



Which direction will the spring move towards when Lynn pulls it downwards?

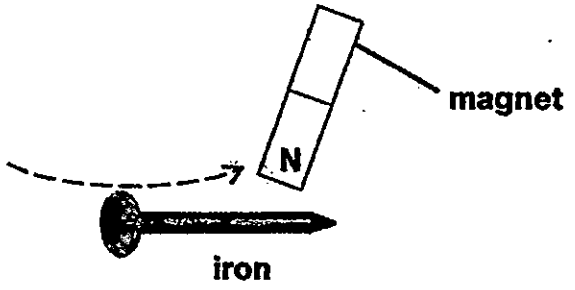
(1) A
(2) B
(3) C
(4) D

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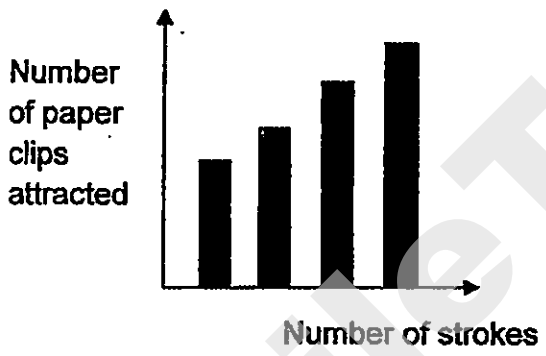
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28. Miffy carried out an experiment to test the magnetic strength of an iron nail when given a certain number of strokes. She used the North-seeking pole of the magnet to stroke the iron nail in the same direction. She recorded the number of paper clips the nail could attract and plotted a graph.

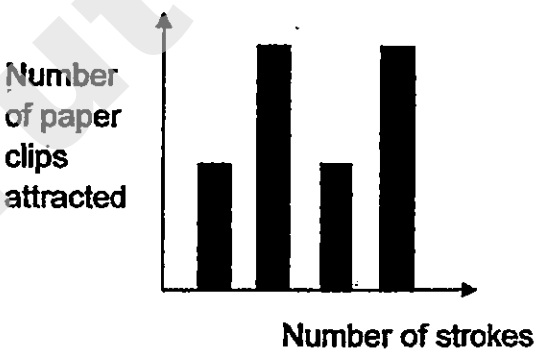


Which one of the graphs best represents the relationship between the number of strokes made and the number of paper clips the nail could attract?

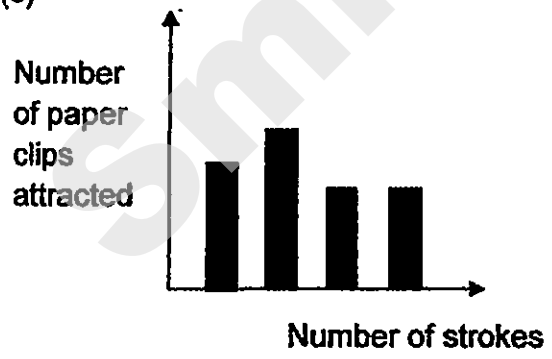
(1)



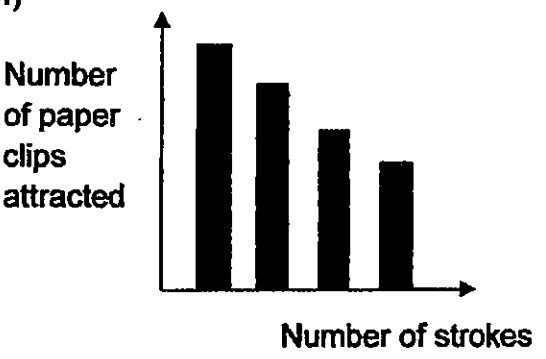
(2)



(3)



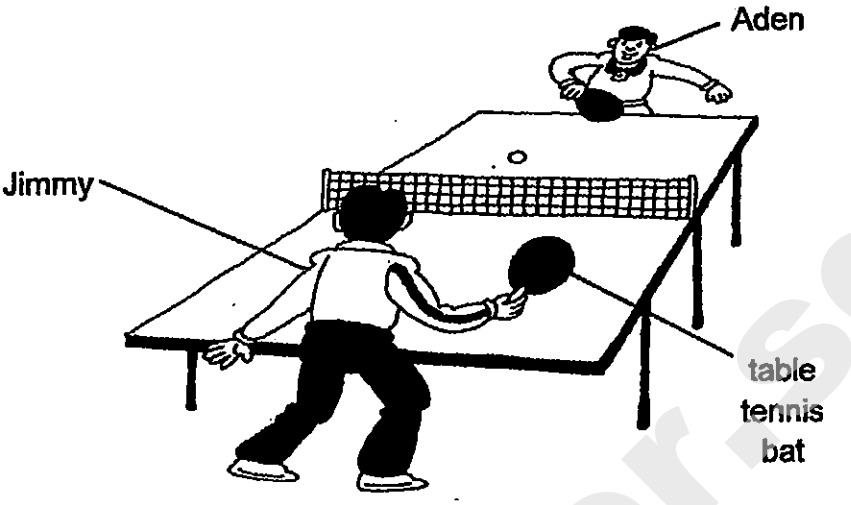
(4)



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29. The diagram shows Jimmy playing table tennis with his cousin, Aden. When the ball came towards Jimmy, he swung his arm forward and used the bat to hit the ball.



Based on the above scenario, which of the following statements are correct?

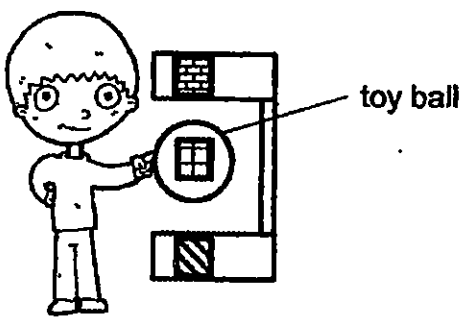
A: Aden exerted a pull on the table tennis ball.
B: Jimmy exerted a push on the table tennis ball.
C: Jimmy exerted a force to change the direction of the table tennis ball.
D: Jimmy exerted a force but could not change the direction of the table tennis ball.

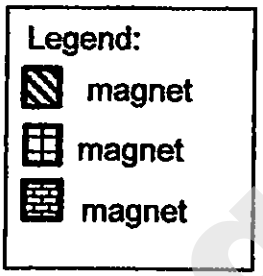
(1) A and B only
(2) B and D only
(3) A and C only
(4) B and C only

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30. The diagram below shows a toy ball that is "floating" in the air between two parts. Henson rotates the ball by turning it with his finger. This toy ball works by making use of magnets.





How should the magnets be placed for the toy ball to "float" in the air?

	(1)	(2)	(3)	(4)
	S N	S N	S N	S N
	S N	S N	N S	N S
	S N	N S	N S	S N

End of Section A

Please check your answers.

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RED SWASTIKA SCHOOL

2015 SEMESTRAL ASSESSMENT 2
SCIENCE
PRIMARY 5

Name : _____ ( )

Class : Primary 5/ _____

Date : 2 November 2015

BOOKLET B

14 Questions
40 Marks

In this booklet, you should have the following:
a. Page 23 to Page 38
b. Questions 31 to 44

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		60
BOOKLET B		40
TOTAL		100

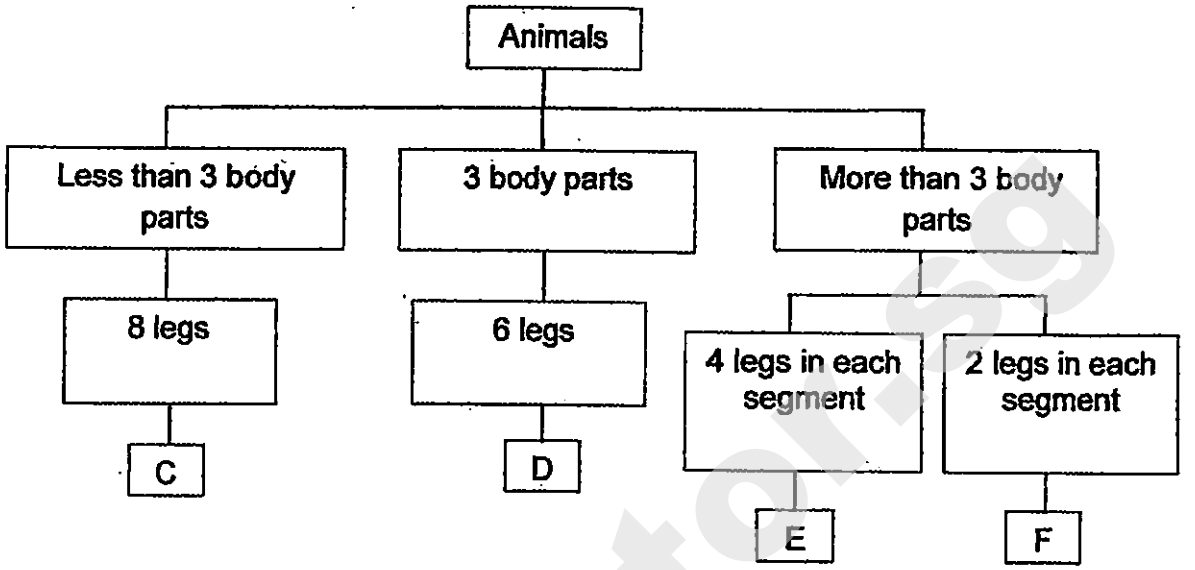
Parent's Signature : _____

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SECTION B
Answer all the questions in the spaces provided.

31. The chart below shows how some animals, C, D, E, and F, can be classified based on their characteristics.

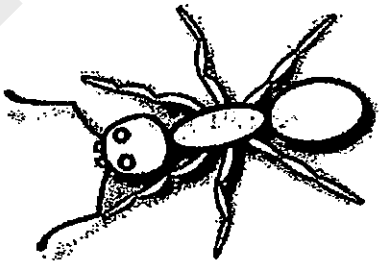


(a) Based on the chart above, list the characteristics of C. (1m)

_____

_____

(b) Based on the classification chart above, where should you classify the animal shown below? (1m)



It should be classified in _____.

2

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Kelvin wanted to investigate the effect of pollutant Y on the survival of water plant W using the materials provided below.

The materials that he used:

- 10 similar plant W
- 2 identical beakers, S and T
- 10 drops of pollutant Y
- 1 container containing 1000ml of water

c) Complete the table to show how Kelvin should carry out his experiment. Write the numbers (2 to 5) in the boxes provided in the table. The first step has been done.(1m)

Step	Procedure
1	Pour 500 ml of water into each beaker, S and T.
	Place both beakers in a sunny field for a week.
	Observe and count the number of plant(s) W that remained alive after one week.
	Put 5 water plant W into each beaker, S and T.
	Add 10 drops of pollutant Y into beaker S.

d) Based on the answer in part (c), Kelvin's teacher told him that one of the beakers is a control set-up. Which beaker, S or T, is a control set-up? (1m)

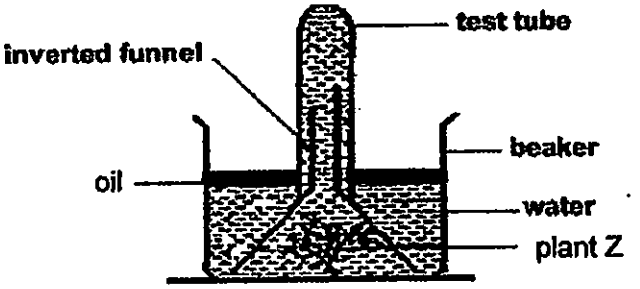
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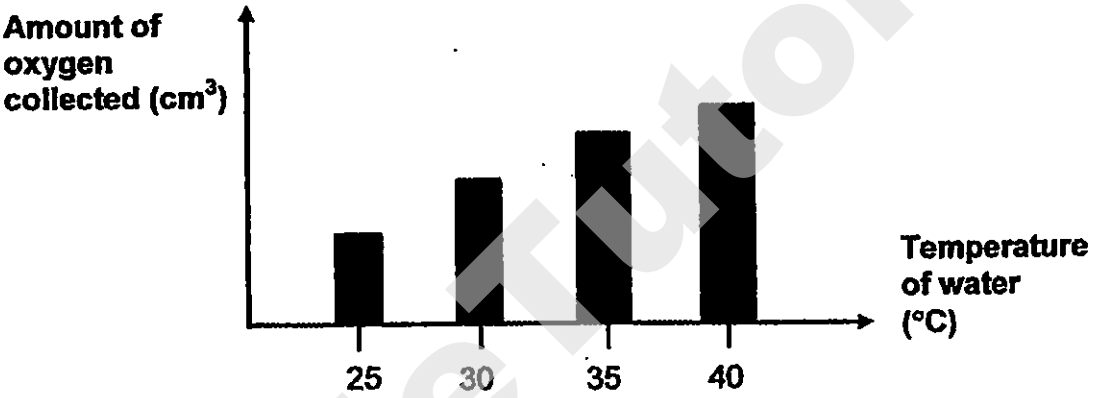
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32. Bryan wanted to investigate how the temperature affected the rate of photosynthesis of plant Z. He used four similar set-ups as shown below. The water in each set-up was maintained at different temperatures throughout the experiment. The set-ups were exposed to similar light sources for two hours.



Bryan measured the amount of oxygen collected in the test tube of each set-up after two hours. Next, he used his data and plotted the following graph.



(a) What is the effect of temperature on the rate of photosynthesis of plant Z? (1m)

_____

_____

(b) Bryan observed that the level of water in the test tube decreased after two hours. Why is this so? (1m)

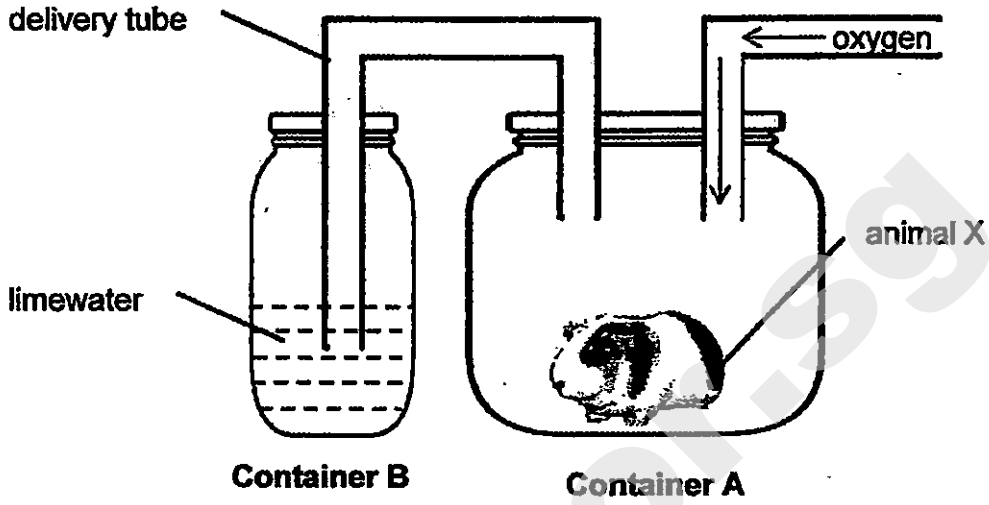
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2

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33. Raja set up an experiment as shown below. He placed animal X inside container A and used a delivery tube to connect it to container B filled with limewater as shown below.



(a) Raja observed that the limewater turned chalky after two hours. Explain why. (1m)

_____

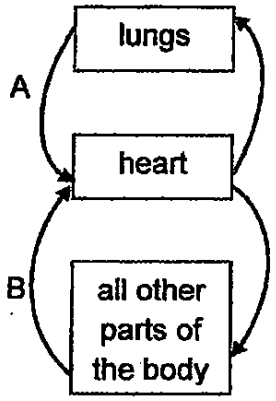
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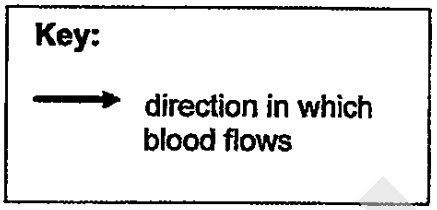
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1

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The diagram below shows the direction of blood flow in some parts of the human body.





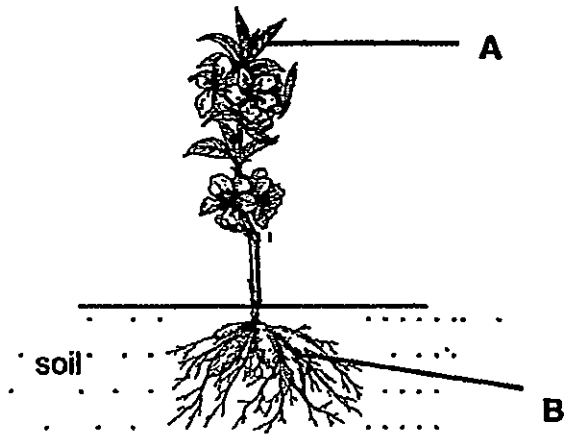
(b) Compare the amount of oxygen in the blood at A and B. Explain your answer. (2m)

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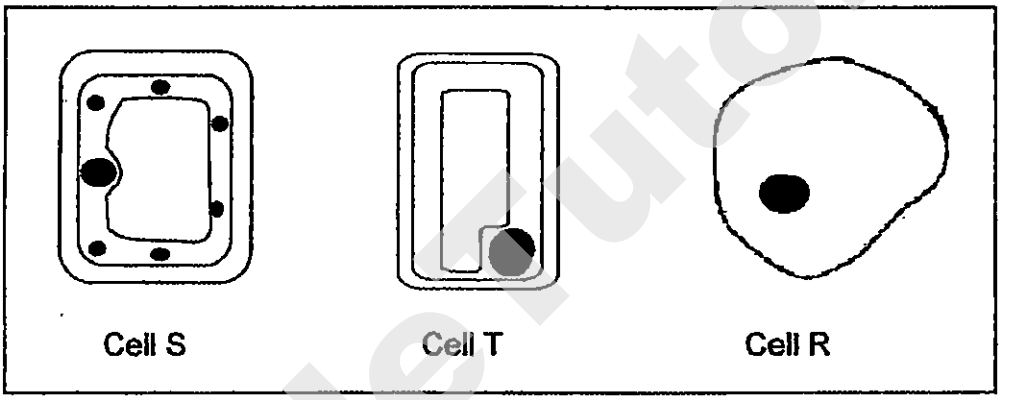
2

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34. The diagram below shows a land plant.



Study the three cells, S, T and R, carefully.



(a) State one similarity in cell parts among the cells, S, T and R. Do not mention size or shape.(1m)

_____

(b) Which cells, S, T or R, can be found in parts A and B of the plant respectively? (1m)

(i) Part A : Cell _____

(ii) Part B : Cell _____

(c) Explain which plant process that cell S can perform but cell T cannot. (1m)

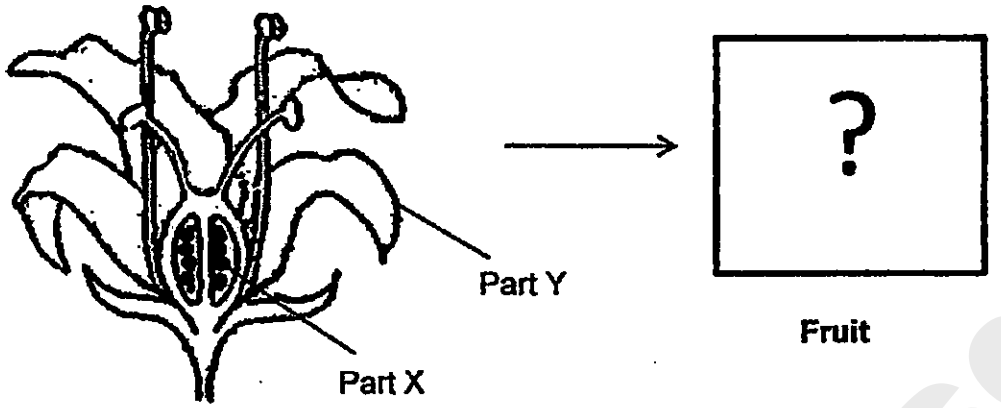
_____

_____

3

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35. Look at the diagram below.

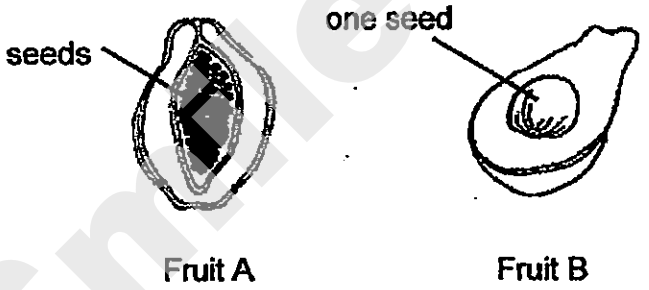


(a) Identify part X and part Y. (1m)

Part X: _____

Part Y: _____

Look at the two fruits, A and B, shown below.



(b) Which fruit is most likely to be the fruit of Flower Z? Explain your answer. (2m)

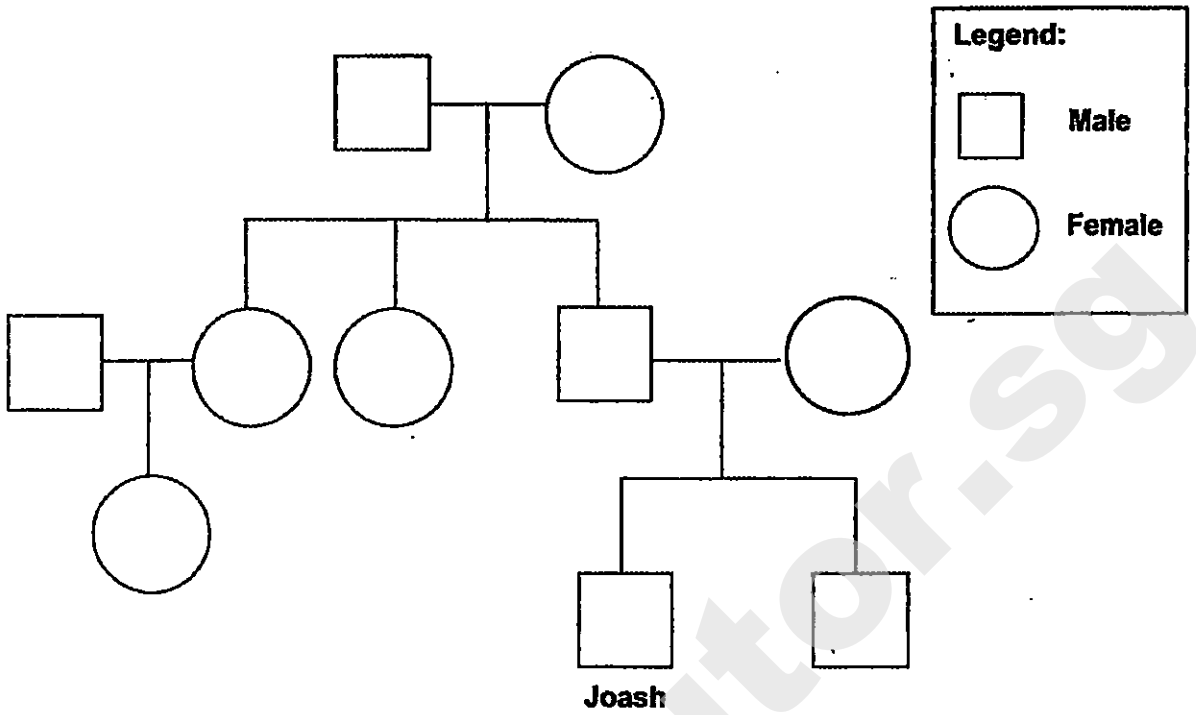
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3

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36. Study the family tree of Joash's family members.



Family member	Natural hair colour
Paternal grandfather	brown
Paternal grandmother	brown
Father	black
Mother	brown
Joash	black
Joash's brother	brown

(a) How many children do Joash's grandparents have? (1m)

_____

(b) From whom did Joash inherit his black hair? Explain your answer. (1m)

_____

_____

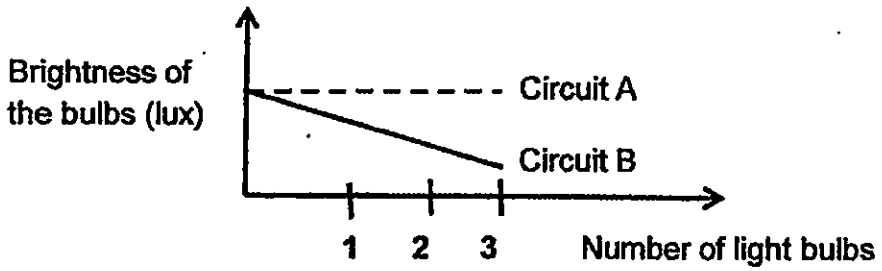
(c) In the family tree above, shade the symbol that represents Joash's mother. (1m)

3

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37. Sally set up two different electrical circuits, A and B, using identical light bulbs and batteries. Each circuit had two batteries. She measured the brightness of the light bulbs as she added more light bulbs to each circuit.

Based on the readings recorded, Sally plotted the graphs as shown below to compare the brightness of the bulbs in the two circuits.



(a) Identify the type of arrangement of bulbs for circuit A and B respectively. (1m)

Circuit A: _____

Circuit B: _____

(b) Name one advantage for the arrangement of bulbs in circuit A. Explain why? (1m)

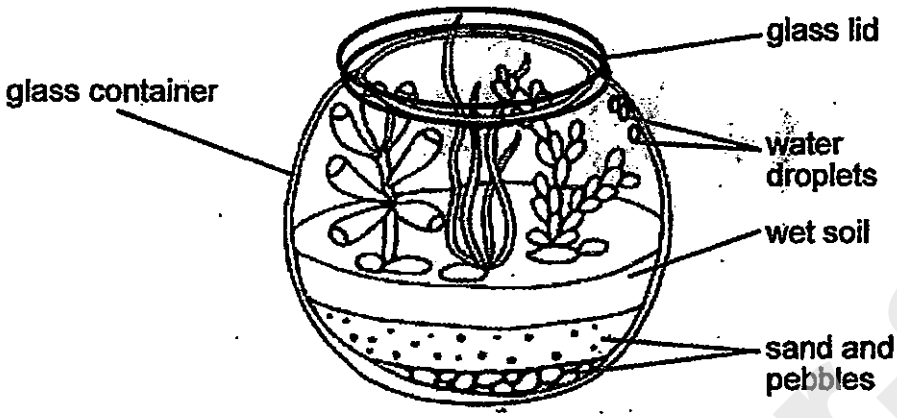
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2

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38. The diagram below shows a typical terrarium where plants are enclosed in a container made of clear glass. It is sealed with a glass lid. The terrarium is placed in the classroom. After sometime, some water droplets were observed in the container as shown.



(a) Explain how the water droplets were formed. (2m)

(b) Between a closed cupboard and the living room balcony, where should one place the terrarium to ensure that the plants in it will grow healthily? Explain your answer. (1m)

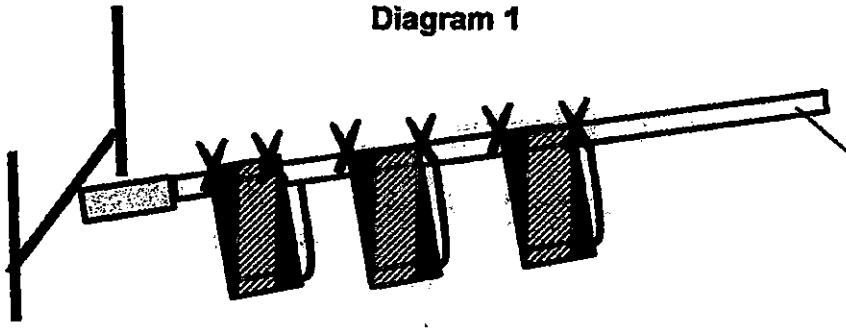
(c) How does the glass lid help to maintain the amount of water in the terrarium? (1m)

4

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39. At 1pm, Ray hung some wet towels on a bamboo pole and put it out to dry as shown in diagram 1 below.

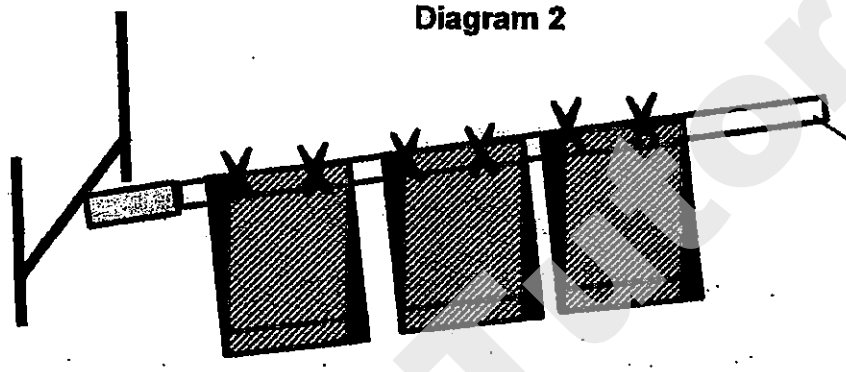
Diagram 1



Weather Conditions:
No rainfall
No wind

Ten minutes later, Ray's grandmother took the bamboo pole in and spread the towels out as shown in diagram 2. Then, she put the bamboo pole out again. She said that this would allow the towels to dry in a shorter time.

Diagram 2



Weather Conditions:
No rainfall
No wind

(a) Explain why the change made by Ray's grandmother helped the towels to dry in a shorter time. (1m)

_____

_____

(b) Given the same weather conditions as stated, hanging the towels out to dry in the day allows them to dry in a shorter time as compared to at night. Why is this so? (1m)

_____

_____

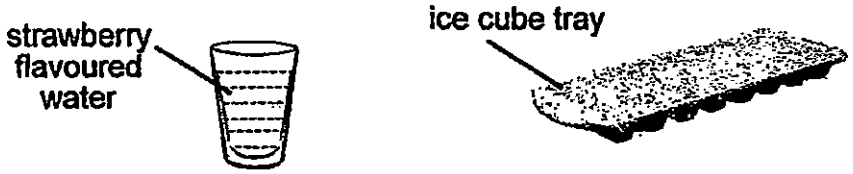
(c) Besides the change made by Ray's grandmother and your answer in part (b), name one other factor which allows the towels to dry in a shorter time. (1m)

_____

3

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40. Look at the following diagrams. Gaelan wanted to make strawberry flavoured ice cubes.



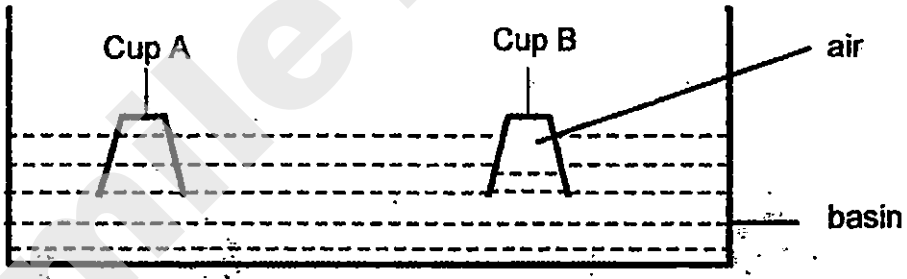
He poured the strawberry flavoured water into the ice cube tray. The tray was left in the freezer for one day.

(a) Identify the state of matter for the following.(1m)

(i) strawberry flavoured water in the glass: _____

(ii) strawberry flavoured water in the ice cube tray after five hours : _____

In another separate experiment, Gaelan inverted 2 similar glass cups, A and B, vertically into a basin of water at the same time as shown. He observed that water filled up cup A totally but not cup B.



(b) Suggest what could be different about Cup A that caused the water level to be different as compared to Cup B. (1m)

_____

(c) Explain why less water entered cup B. (1m)

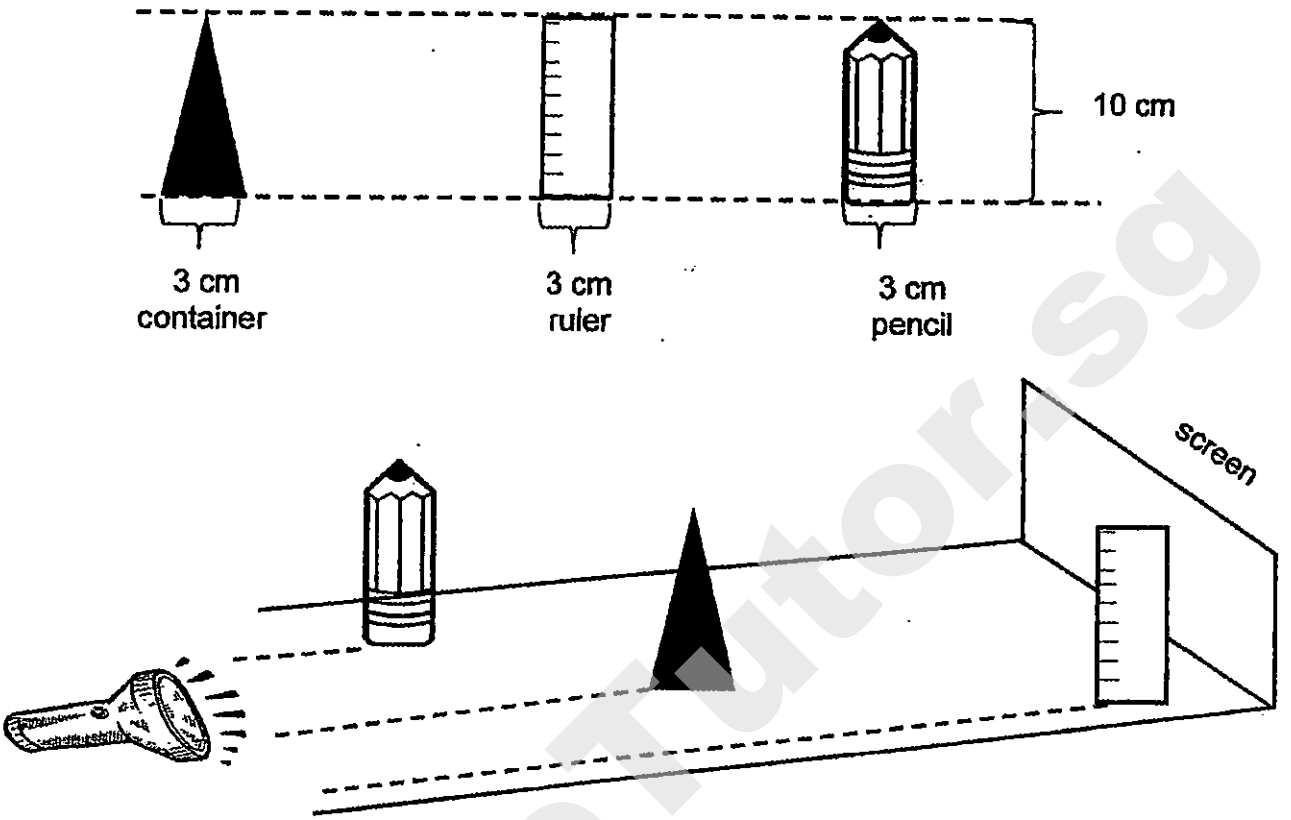
_____

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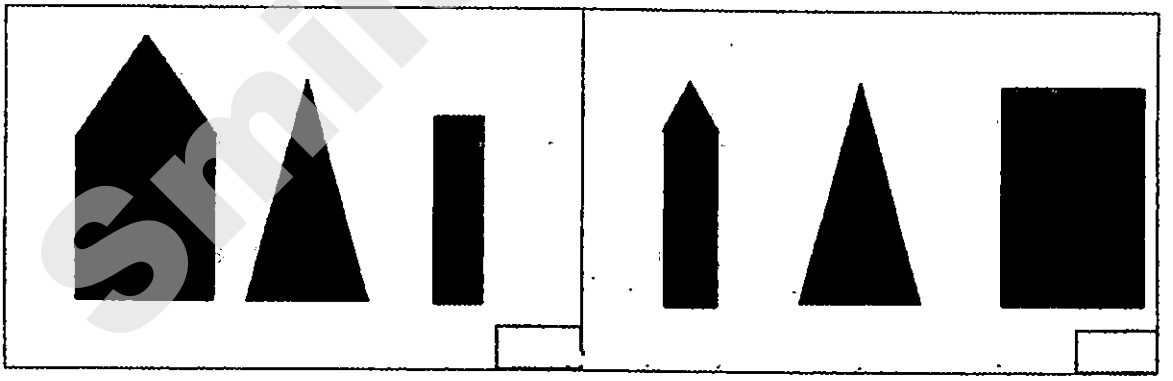
3

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41. The diagrams show 3 objects of the same height of 10 cm and width of 3 cm. They are placed in front of a screen. They are a pencil, a container and a ruler made of wood. A light source was switched on and the shadows of the objects were cast on the screen.



(a) Tick, (√), the correct set of shadows cast on the screen by the three objects. (1m)



(b) How does the distance of an object from the light source affect the length of its shadow? (1m)

_____

2

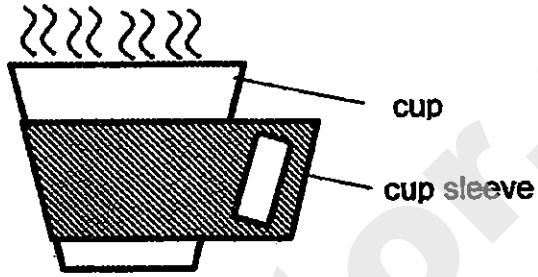
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42. Jerald had three containers made of three different materials, X, Y and Z. He recorded the temperature of the water in the three containers after water at 80°C was poured into them and tabulated the results in the table below.

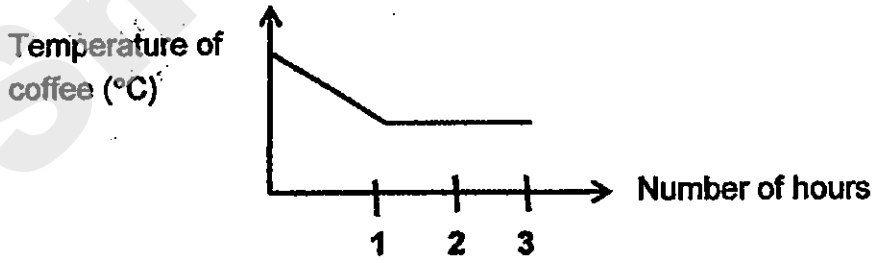
	Material X	Material Y	Material Z
Temperature of water in the cup after 30 minutes (°C)	70	30	40

Next, he designed a cup sleeve as illustrated below for a cup. Jerald was able to hold the cup of hot coffee for a longer time with the cup sleeve.



(a) Among the three materials, X, Y or Z, which is the best choice for making the cup sleeve? Explain your choice. (2m)

(b) Jerald made a cup of hot coffee at 70°C and left it on a table in the living room. Then, he used a thermometer to measure the change in the temperature of the coffee over a period of three hours. He drew a graph as shown below.

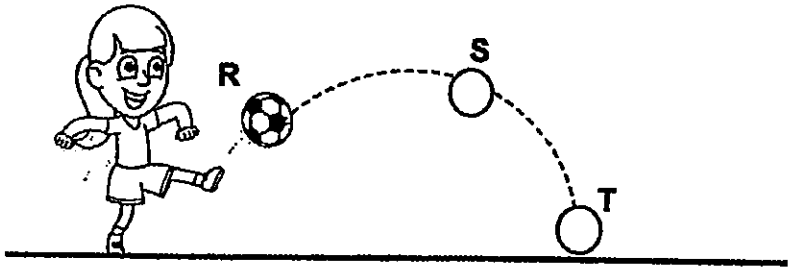


The temperature of the room was 30°C. Jerald found that the temperature of the coffee was also 30°C after three hours. Why was it so? (1m)

3

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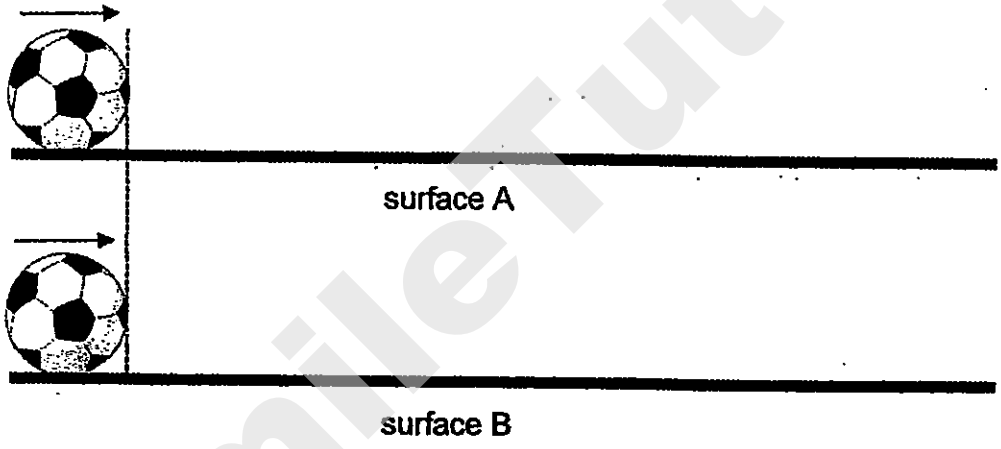
43. Study the diagram carefully. Nadia gave the soccer ball a hard kick at part R as shown. The ball moved towards part S and landed at part T.



(a) Identify one force which acted on the ball at part S. (1m)

_____

Nadia conducted an experiment in the Science room. She pushed two similar soccer balls across a glass surface and a sandpaper surface with the same amount of force. The distance moved by each ball was recorded in the table shown.



	Distance moved by the soccer ball (cm)		
	1st try	2nd try	Average
Surface A	30	32	31
Surface B	15	17	16

(b) Which surface, A or B, was the glass surface? Explain why. (1m)

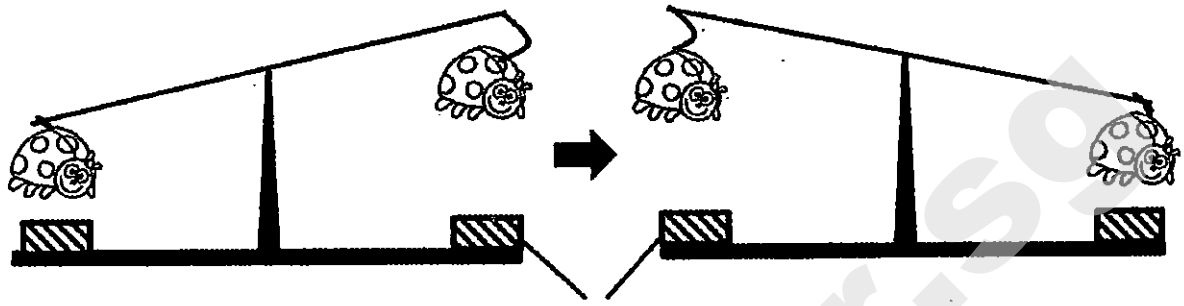
_____

_____

2

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44. Sulin saw a toy at a shop. This toy moved up and down continuously with a push as shown below. It did not require any battery for it to move. The toy beetles and the identical parts labelled A were not in contact at all times.



When she tried to push the toy beetle down towards part A, she could feel a force pushing it upwards. Her mother pointed out that there were two forces acting on the toy to make it move.

(a) Name one force that acted on the toy beetle to allow it to move continuously. (1m)

_____

(b) Explain why, in terms of forces, the toy could move continuously after Sulin gave it a push. (2m)

_____

_____

_____

_____

End of Section B
Please check your answers.

3

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EXAM PAPER 2015
LEVEL : PRIMARY 5
SCHOOL : RED SWASTIKA SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	4	1	3	3	3	2	2	4	3
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	4	4	1	2	3	3	2	1	2
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	1	2	1	1	2	1	1	4	4

Q31a. C has less than 3 body parts and has 8 legs. Q31b. D

Q31c. **SEE PICTURE** Q31d. Beaker T.

Step	Procedure
1	Pour 500 ml of water into each beaker, S and T.
4	Place both beakers in a sunny field for a week.
5	Observe and count the number of plant(s) W that remained alive after one week.
2	Put 5 water plant W into each beaker, S and T.
3	Add 10 drops of pollutant Y into beaker S.

Q32a. The higher the temperature, the higher the rate of photosynthesis of plant 2.

Q32b. The roots of plant Z absorbed the water in the test tube for photosynethesis.

Q33a. Limewater turns chalky when carbon dioxide touches it. Animal X breathed out carbon dioxide and the carbon dioxide went through the delivery tube, thus turning the limewater chalky.

Q33b. A has more oxygen than B. The amount of oxygen in the blood at A has not been used yet but the amount of oxygen at B was less than A as the body has used up most of the oxygen so the amount of oxygen at A is more than B.

Q34a. Each of them has a nucleus.

Q34b.i) Cell S Q34bii) Cell T

Q34c. Cell S can photosynthesize but cell T cannot.

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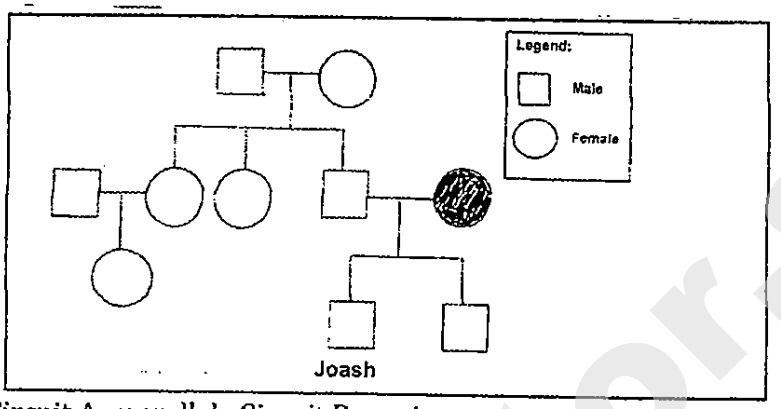
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Q35a. Part X: ovule Q35b. Part Y: Petal

Q35b. Fruit A. There are more than one ovule in flower Z and fruit A has more than one seed.

Q36a. 3 Q36b. Joash's father. His father has black father so Joash inherited his black hair from his father.

Q36c. ***SEE PICTURE***



Q37a. Circuit A : parallel Circuit B : series

Q37b. If one bulb fuses, the other will still light up. There is another closed circuit so electricity can still flow through the circuit.

Q38a. The water in the wet soil gained heat and evaporated into water vapor. The warm water vapor then came into contact with the cooler surface of the glass container and condensed into water droplets.

Q38b. Living room balcony. The plants need light to photosynethesize to make food so if it is in a closed cupboard, the plant will starve.

Q38c. It prevents water vapor from escaping.

Q39a. There was more exposed surface area so the towels would dry in a shorter time.

Q39b. The temperature was higher in the day than at night so the towel will dry quicker in the day.

Q39C. No model answer.

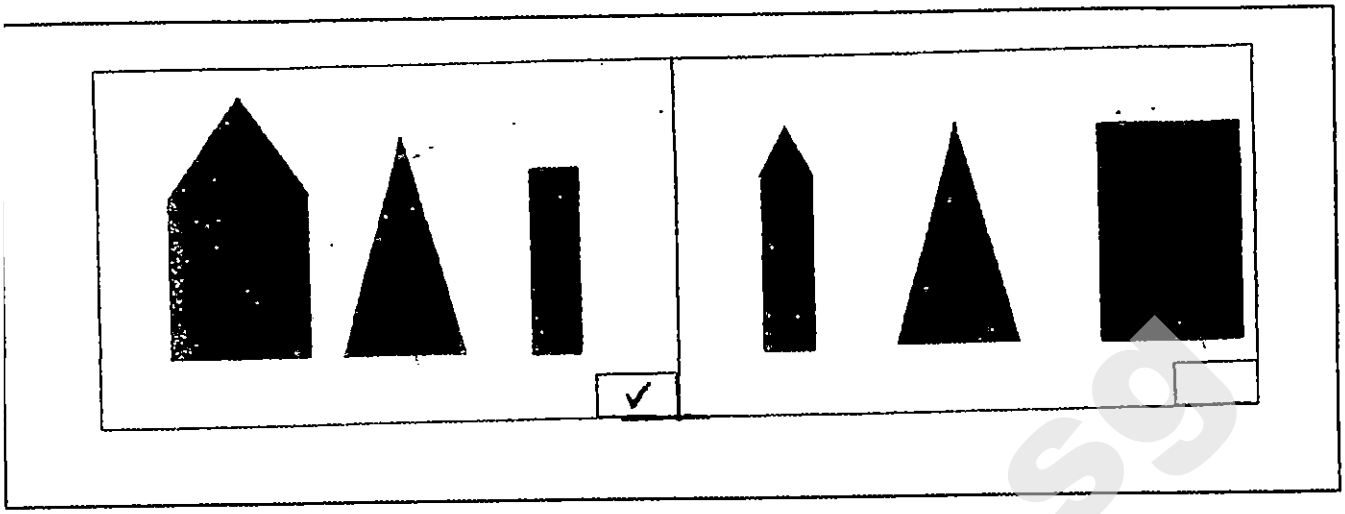
Q40ai) Liquid Q40aii) solid

Q40b. There was a hole in cup A.

Q40c. The air in cup B occupies space so less water can enter cup B.

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Q41a. **SEE PICTURE**



Q41b. The nearer the distance of an object from the light source, the longer the length of the shadow.

Q42a. Material X. Material X is the poorest conductor of heat so it would take the longest time to conduct heat.

Q42b. The coffee lost heat to the surroundings and stopped when it reached room temperature.

Q43a. Gravitational force

Q43b. Surface A. Glass is a smooth surface so there will be less friction bwtween the soccer ball and surface.

Q44a. Magnetic force.

Q44b. There was a magnetic force of repulsion acting on the toy beetle.

THE END

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Rosyth School
Semestral Examination 2 for 2015
STANDARD SCIENCE
Primary 5

Total Marks: ____ / 60

Name: _____

Class: Pr 5 - _____ Register No. _____ Duration: 1 h 45 min

Date: 2 Nov 2015 Parent's Signature: _____

Booklet A

Instructions to Pupils:

1. Do not open the booklets until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, Booklet A and Booklet B.
4. For questions 1 to 30 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 31 to 44, write your answers in the spaces given in Booklet B.

* This booklet consists of 25 pages.

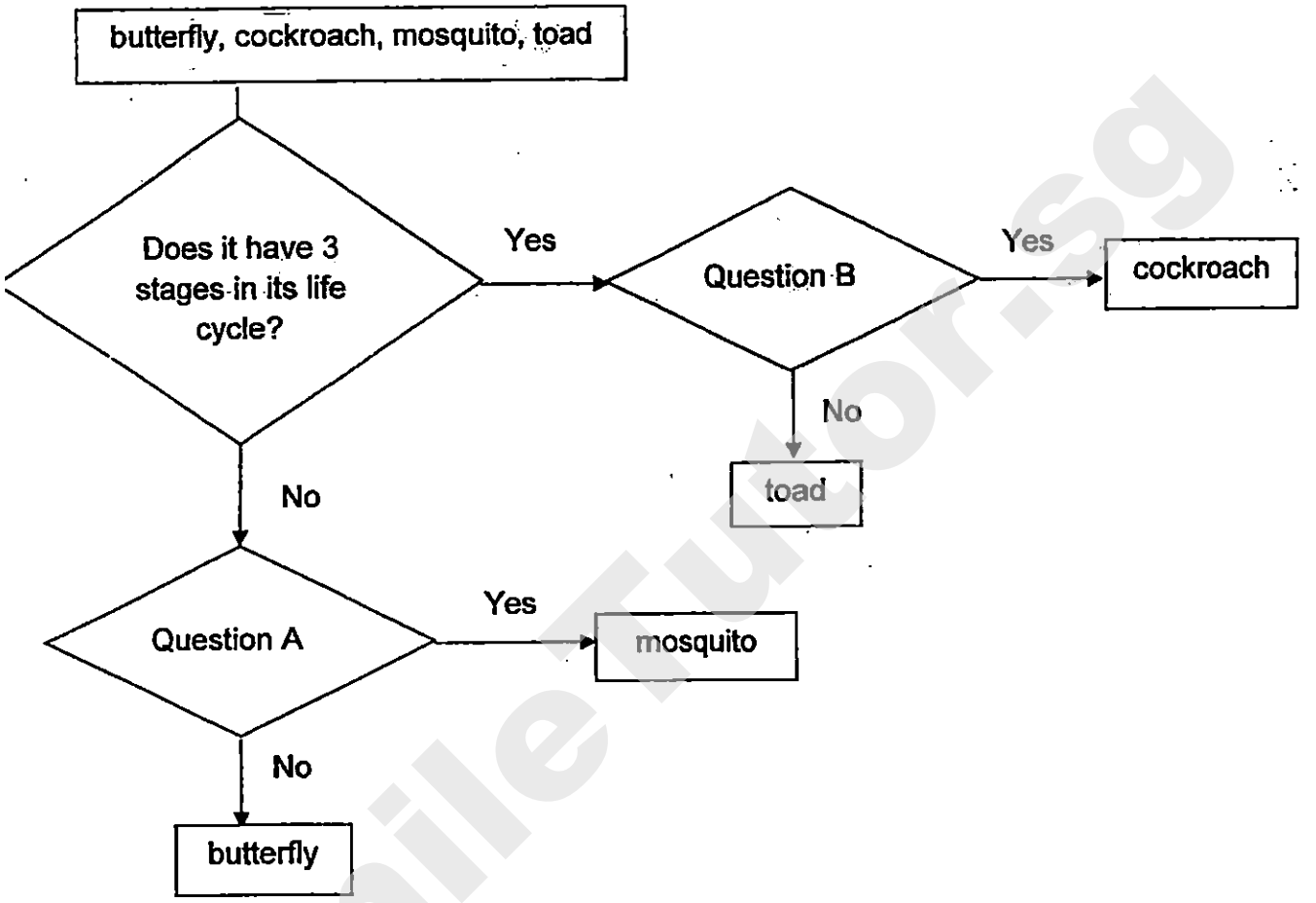
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Booklet A

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.** (60 marks)

1. John classifies some organisms using the chart as shown below.

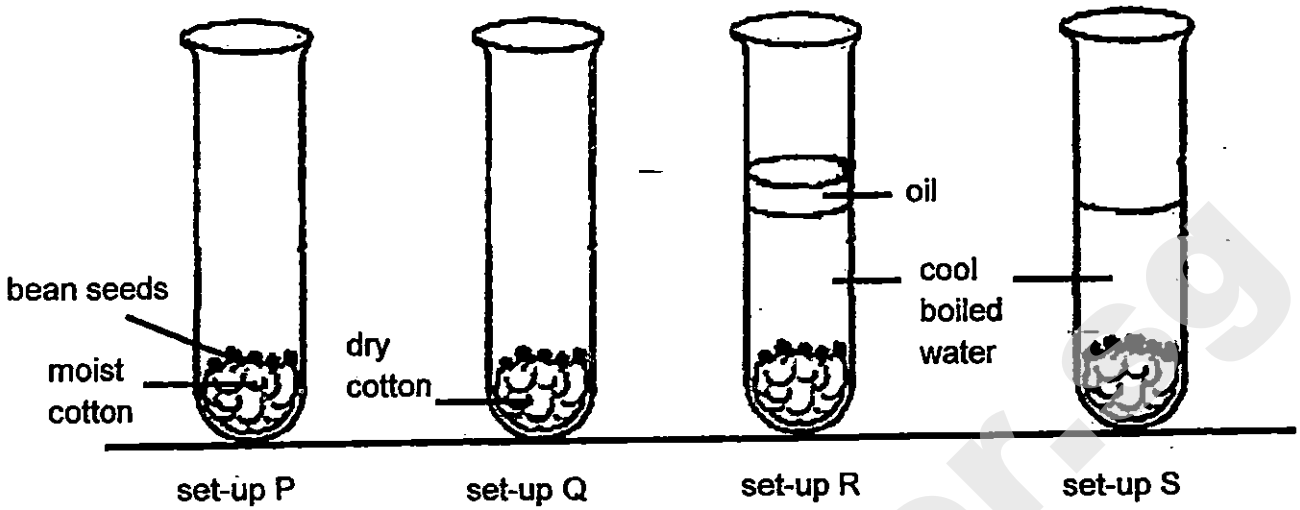


What are the questions for A and B?

	Question A	Question B
(1)	Does the young look like the adult?	Is the life cycle partially in water?
(2)	Does the insect go through internal fertilization?	Is the life cycle partially in water?
(3)	Is the life cycle partially in water?	Does the young look like the adult?
(4)	Is the life cycle partially in water?	Does the insect go through external fertilization?

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2. Jane placed 5 bean seeds into each of the test tubes in the four set-ups P, Q, R and S as shown below. She placed all the set-ups near an open window.



She observed that only the seeds in set-ups P and S germinated after 4 days. Which of the following conditions were investigated using the set-ups above?

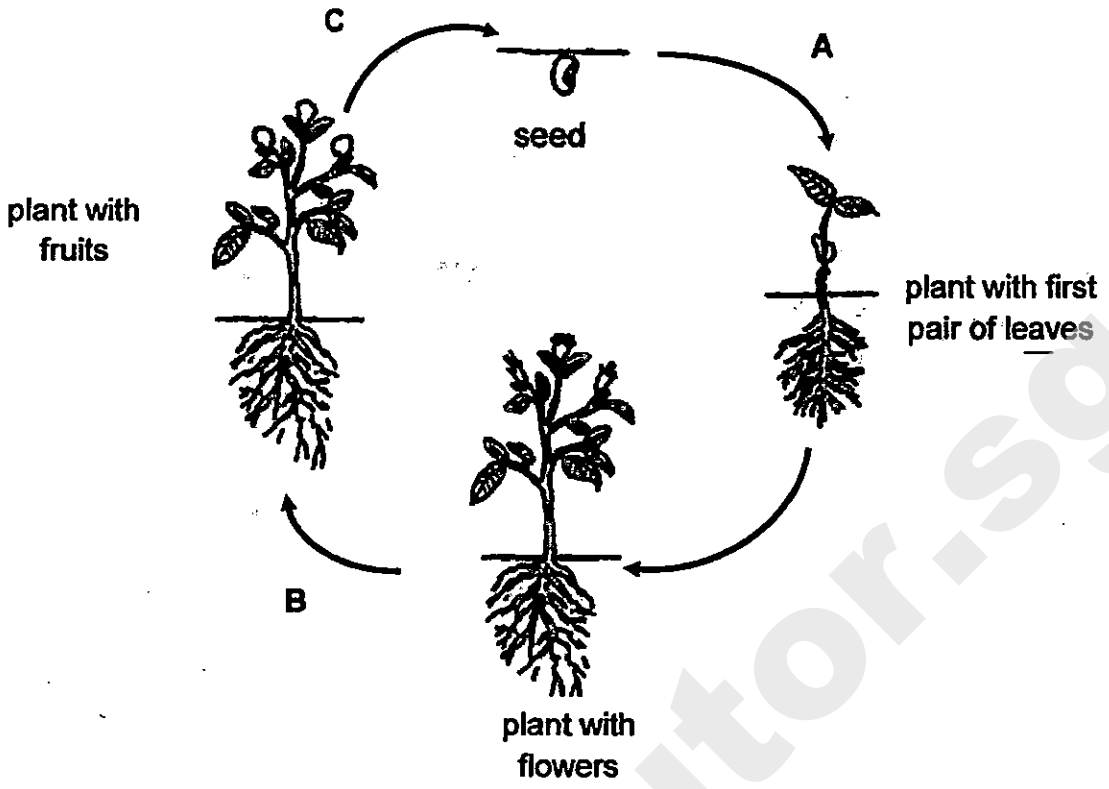
A: presence of air
B: presence of water
C: temperature of the surrounding

(1) A only
(2) A and B only
(3) B and C only
(4) A, B and C

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3. The diagram below shows the stages of growth of a flowering plant.



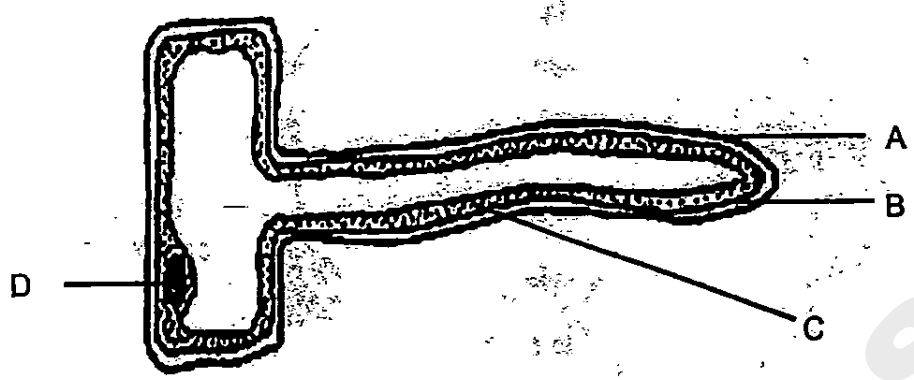
Which one of the following correctly identifies processes A, B and C?

	Seed dispersal	Germination	Pollination and fertilisation
(1)	C	B	A
(2)	A	C	B
(3)	C	A	B
(4)	B	A	C

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4. Study the root cell below.



Which parts of the cell above are also present in most animal cells?

(1) A and C only
(2) B and D only
(3) A, B and D only
(4) B, C and D only

5. Which of the following are functions of the nucleus in a cell?

A: controls cell growth
B: controls the repair of damaged cells
C: controls cell division
D: controls the shape of the cell

(1) A and B only
(2) C and D only
(3) A, B and C only
(4) A, C and D only

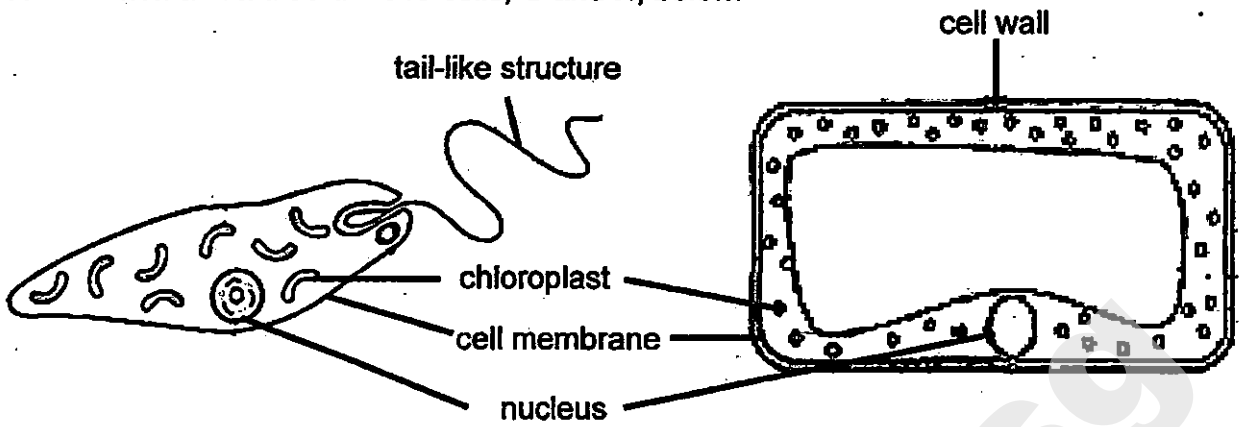
6. What are the common cell parts found in both the leaf and root cells of a carrot plant?

A: nucleus
B: cell wall
C: chloroplast
D: cell membrane

(1) A and D only
(2) B and C only
(3) A, B and D only
(4) A, B, C and D

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7. Thomas studied the two cells, G and H, below.



cell G cell H

Based on his observations of the cells above, which of the following statements are definitely true?

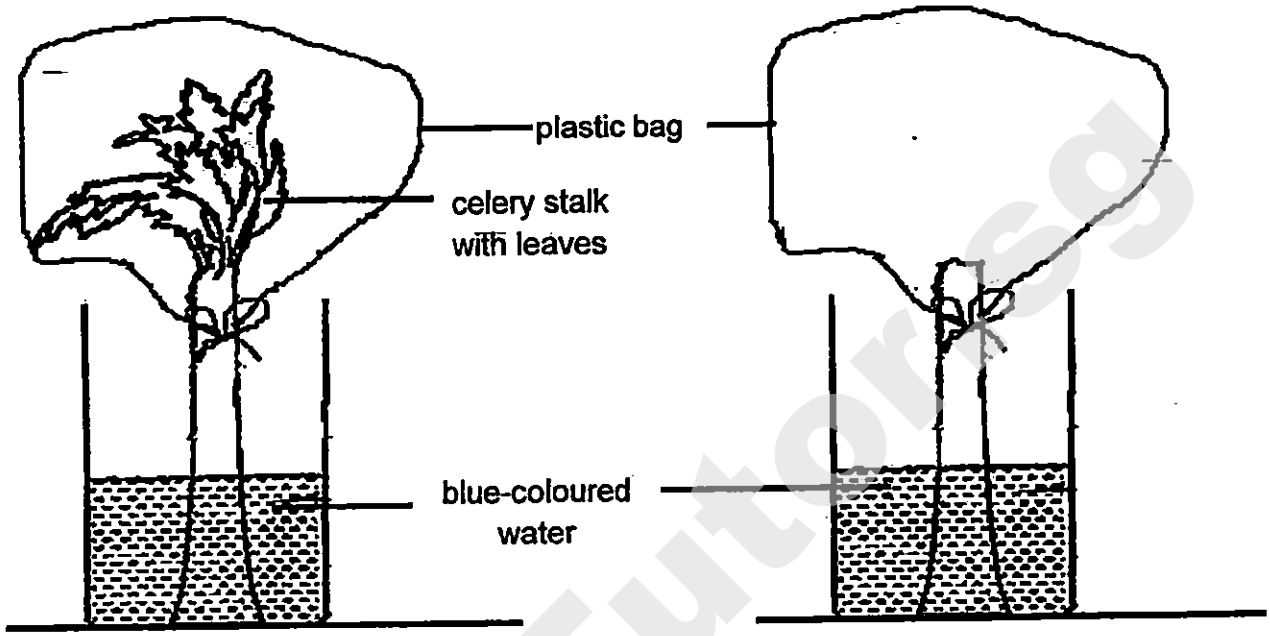
A: Both cells are most likely plant cells.
B: Cell G can move while cell H cannot.
C: Both cells can go through cell division.
D: Cell G can make food while cell H cannot.

(1) A and B only
(2) B and C only
(3) B, C and D only
(4) A, B, C and D

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8. Jane placed a celery stalk with leaves into a measuring cylinder containing blue-coloured water. She covered the leaves with a clear plastic bag as shown in set-up X. She prepared another set-up using a celery stalk without leaves, as shown in set-up Y. Both set-ups were placed near a window.



Which of the following would she observe after 1 day?

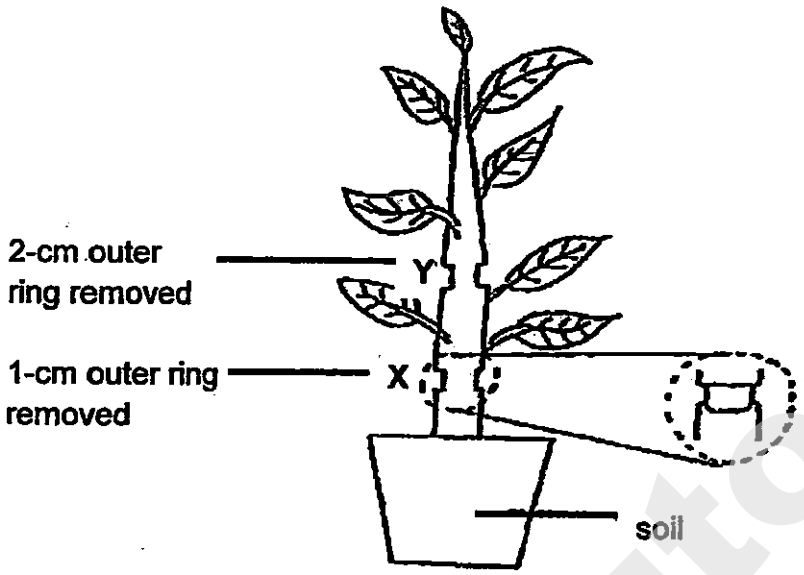
A: The leaves in set-up X would turn blue.
B: There would be more water left in set-up X than Y.
C: The leaves in set-up X would release water droplets.
D: There would be water droplets inside the plastic bag of set-up X but not in set-up Y.

(1) A and B only
(2) B and C only
(3) A and D only
(4) A, B, C and D

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9. Joyce removed a 1-cm thick outer ring at X and a 2-cm thick outer ring at Y from a plant. A few days later, she noticed that the leaves above Y began to turn yellow while the leaves below Y remained green.



Which of the following statements best explains the observation?

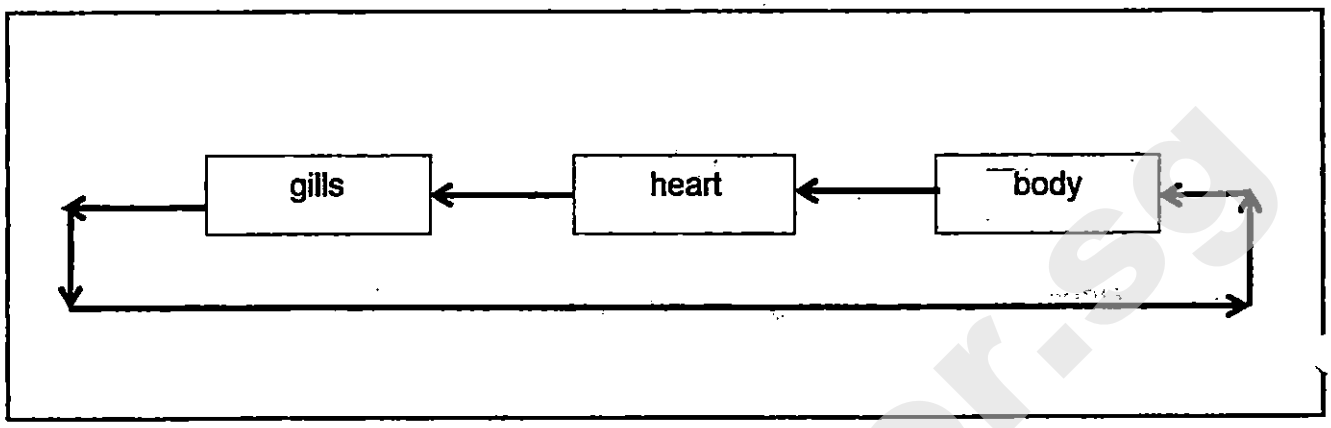
(1) The food-carrying tubes cannot transport food to all the leaves below Y.
(2) The food-carrying tubes cannot transport food to all the leaves above Y.
(3) The water-carrying tubes cannot transport water to all the leaves above Y.
(4) The water-carrying tubes cannot transport water to all the leaves above X.

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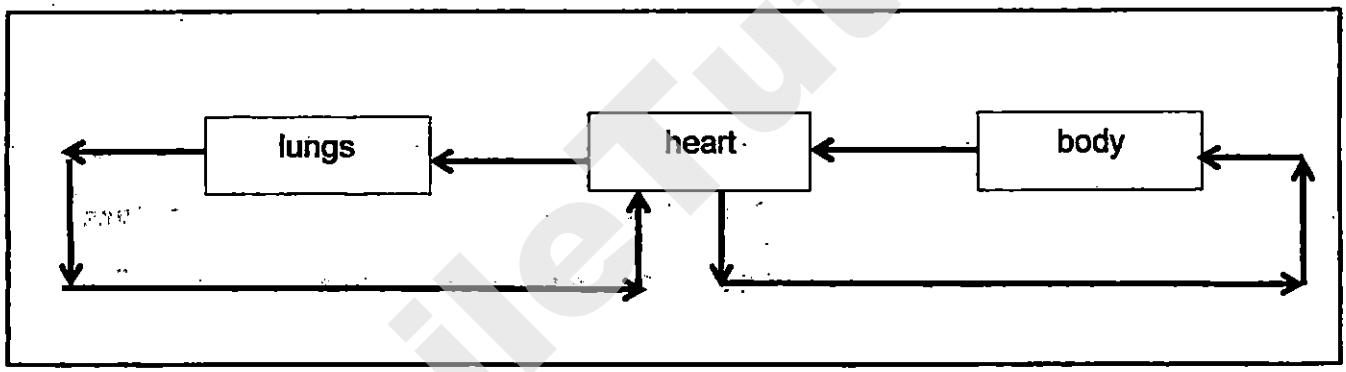
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10. The diagrams below show how gases are transported in the circulatory system of a fish and a man respectively.

Circulatory system of a fish



Circulatory system of a man



Based on the diagrams above, which of the following statement(s) is / are correct?

A A fish has a single circulatory system while man has a double circulatory system.

B Exchange of gases takes place in the gills for the fish while in the lungs for man.

C In fish and man, blood circulates through the heart twice before being pumped to the rest of the body.

(1) C only

(2) A and B only

(3) B and C only

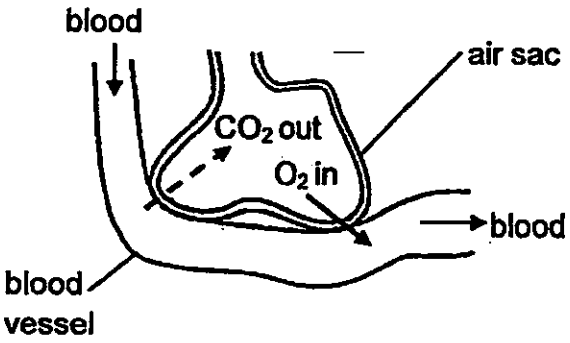
(4) A, B and C

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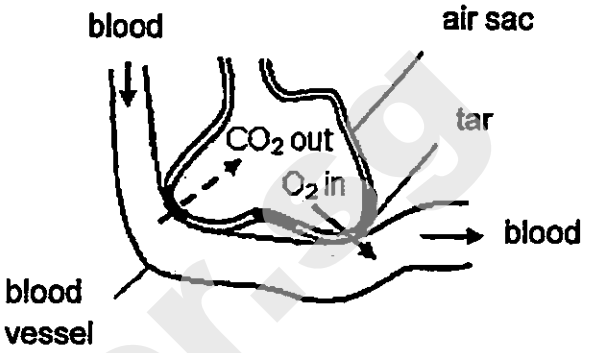
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11. The diagram below shows the air sacs of the lungs of a smoker and a non-smoker. Cigarettes contain a substance known as tar which blocks the walls of the air sacs and prevents substances from passing through it.

CO_2	: carbon dioxide
O_2	: oxygen



Non-smoker



Smoker

Based on the given information, which of the following statements are true?

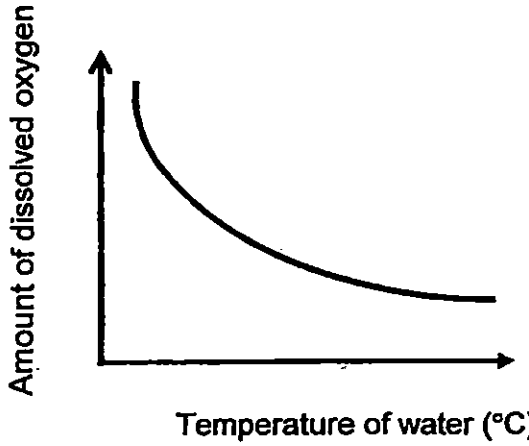
A: The air sacs of smokers will allow less oxygen to enter the bloodstream.
B: The oxygen that enter the bloodstream of smokers will be mixed with tar.
C: The smoker will have to breathe faster in order to get the same amount of oxygen as a non-smoker.
D: Smokers feel tired easily as gaseous exchange cannot take place effectively.

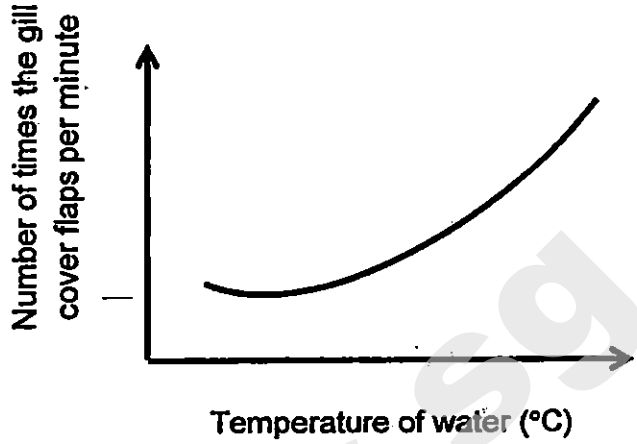
(1) A and D only
(2) B and D only
(3) A, C and D only
(4) A, B, C and D

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12. A fish was placed in water of different temperatures. The amount of dissolved oxygen and the number of times the gill cover flapped per minute were measured at each temperature. The results were recorded in the graphs as shown below.



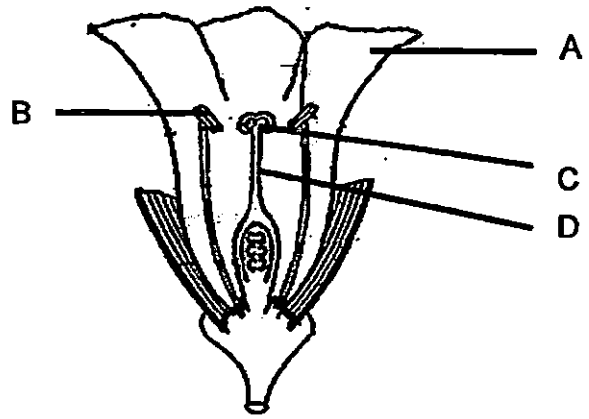


What is the relationship between the amount of dissolved oxygen in the water and the number of times the gill cover flaps per minute?

(1) The greater the number of gill cover flaps per minute, the greater the amount of dissolved oxygen in the water.
(2) The greater the amount of dissolved oxygen in the water, the greater the number of gill cover flaps per minute.
(3) The greater the amount of dissolved oxygen in the water, the fewer the number of gill cover flaps per minute.
(4) The fewer the number of gill cover flaps per minute, the greater the amount of dissolved oxygen in the water.

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13. The following diagram shows the different parts of a flower.



Mary studied four similar flowers W, X, Y and Z from different plants. The flowers share similar parts as shown in the diagram above. Some parts were removed from each of the flowers after they had been pollinated.
Which one of the following flowers is still able to develop into a fruit?

	Flower	Parts removed
(1)	W	A and C
(2)	X	B and C
(3)	Y	A and D
(4)	Z	A and B

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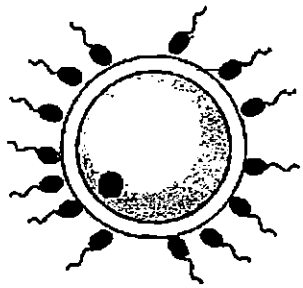
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14. What are the similarities between a spore and a pollen grain?

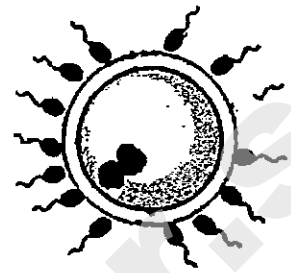
(1) Both are dispersed by wind only.
(2) Both are required for reproduction.
(3) Both are produced by flowering plants.
(4) Both are male reproductive cells of a plant.

15. Which one of the diagrams below illustrates that fertilisation had just taken place in humans?

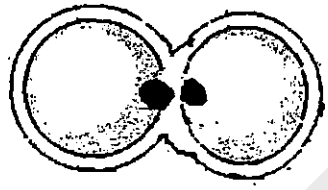
(1)



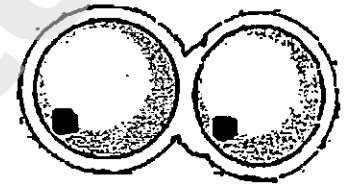
(2)



(3)



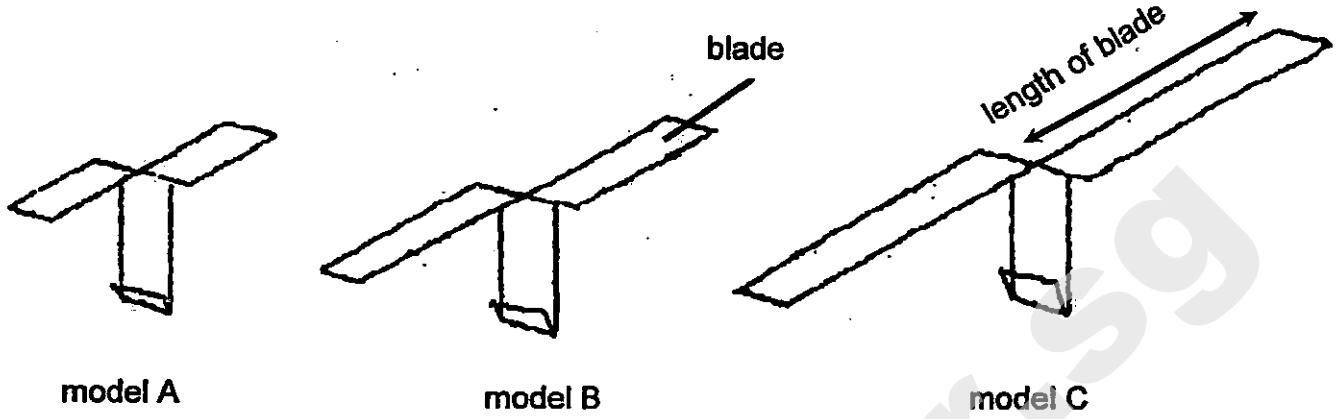
(4)



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16. Joyce made some paper-spinner models to represent fruits with wing-like structures. She wanted to find out if the length of the blades of the paper spinner will affect the time taken for it to reach the ground. She used the same type of paper but varied the length of the blades to make the 3 paper-spinner models, A, B and C, as shown below.



model A model B model C

She threw the paper spinners from a fixed height and recorded the time taken for them to reach the ground. The results are shown in the table below.

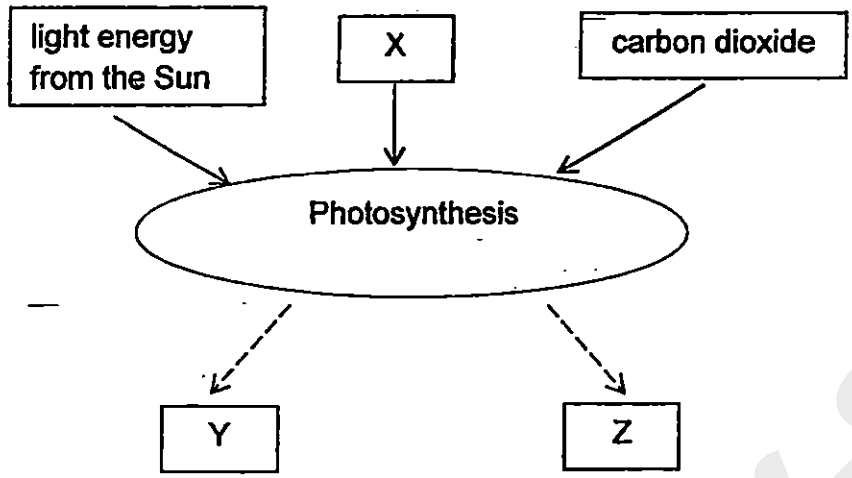
	Time taken for the paper spinner to reach the ground (s)			
	1st reading	2nd reading	3rd reading	Average reading
model A	3.3	3.5	3.3	3.4
model B	4.5	4.7	4.4	4.5
model C	5.9	6.1	6.2	6.1

What is the relationship between the length of blade of each model and the time taken for the model to reach the ground?

(1) The longer the length of the blade, the longer the time taken for the model to reach the ground.
(2) The longer the length of the blade, the shorter the time taken for the model to reach the ground.
(3) The shorter the length of the blade, the longer the time taken for the model to reach the ground.
(4) The shorter the time taken for the model to reach the ground, the longer the length of the blade.

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17. The diagram below shows what plants need and the products formed during photosynthesis.



What are substances X, Y and Z?

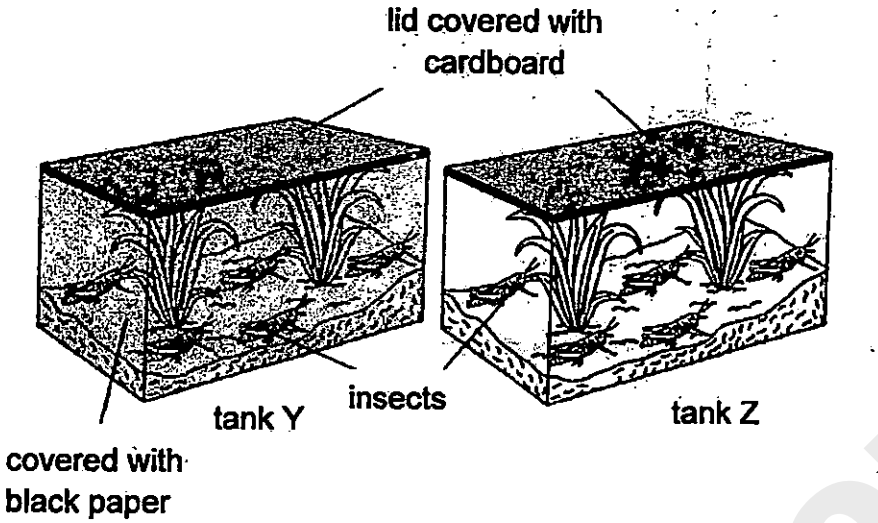
	X	Y	Z
(1)	oxygen	water	carbon dioxide
(2)	oxygen	carbon dioxide	food
(3)	water	carbon dioxide	food
(4)	water	food	oxygen

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18. Ross placed the same number of similar plants and the same number of similar plant-eating insects in 2 glass tanks, Y and Z as shown below.

She covered all four sides of tank Y with black paper. The plants in each tank were watered daily.



Ross observed that the plants and insects in tank Y did not survive as well as those in tank Z. What is/are the most likely reason(s) for her observations?

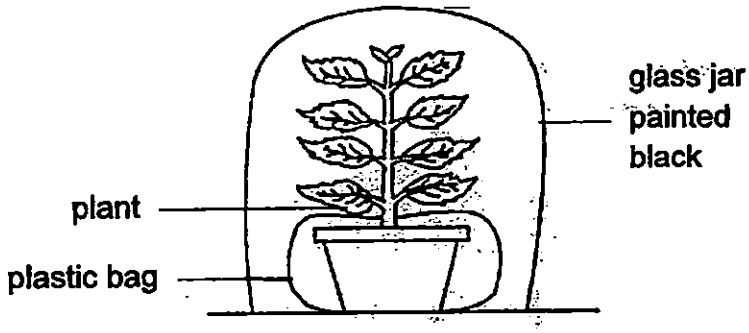
A: The amount of oxygen in tank Y became too low.
B: The plants in tank Y cannot photosynthesize as there is no sunlight.
C: The plants in tank Y cannot photosynthesize as there is no carbon dioxide.

(1) C only
(2) A and B only
(3) A and C only
(4) B and C only

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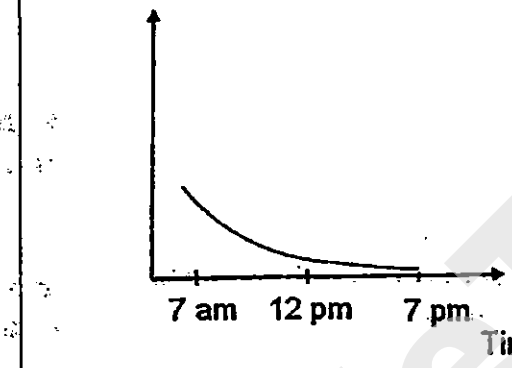
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19. Jocelyn carried out an experiment as shown in the diagram below. She painted the glass jar black and watered the plant before placing the set-up under the Sun. She measured the amount of oxygen in the glass jar from 7 am to 7 pm.

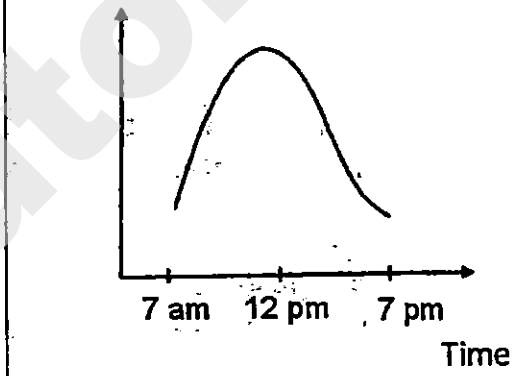


Which one of the following graphs shows how the amount of oxygen in the glass jar changed during the experiment?

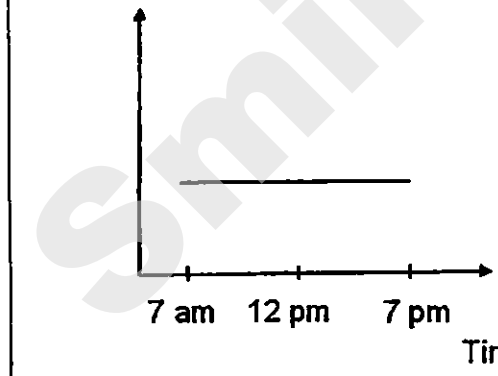
(1)



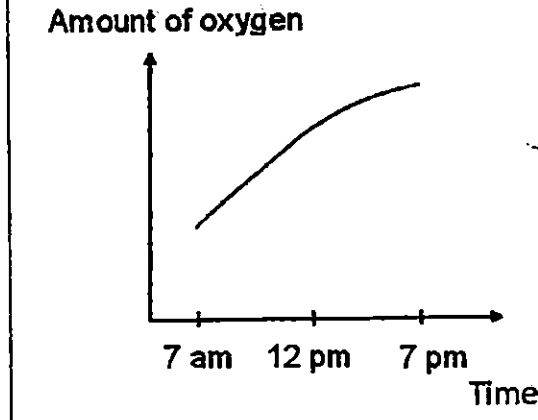
(2)



(3)



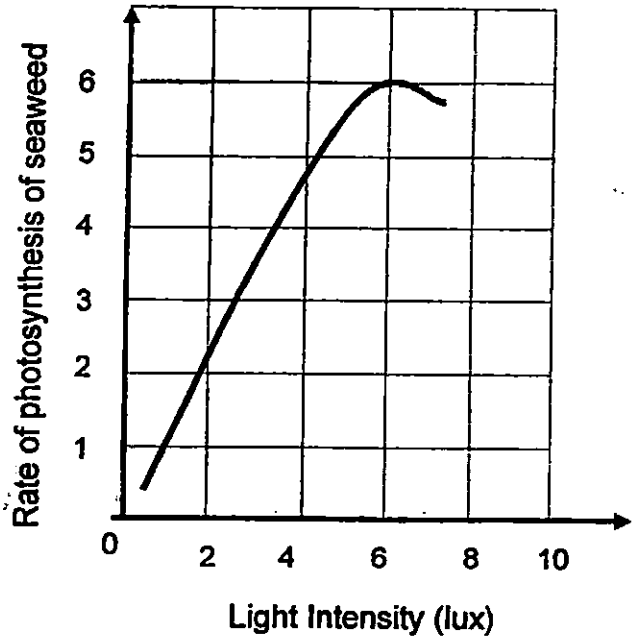
(4)

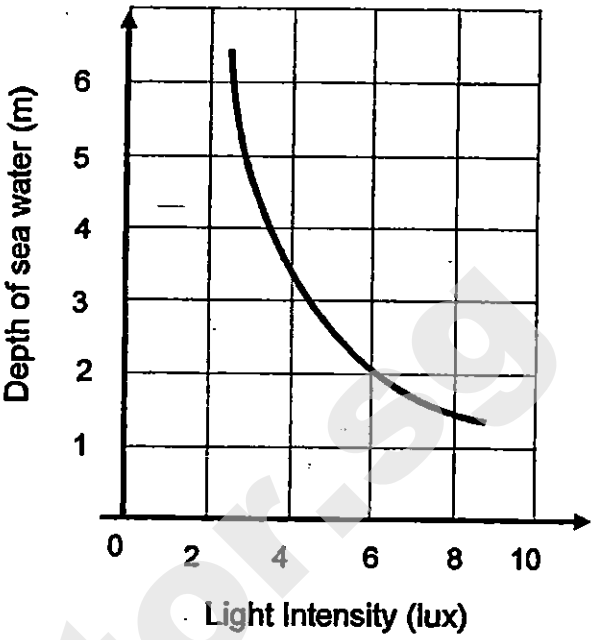


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20. The two graphs below show the relationship between the rate of photosynthesis of seaweed and depth of sea water.





Based on the given graphs, what can be deduced about the seaweeds?

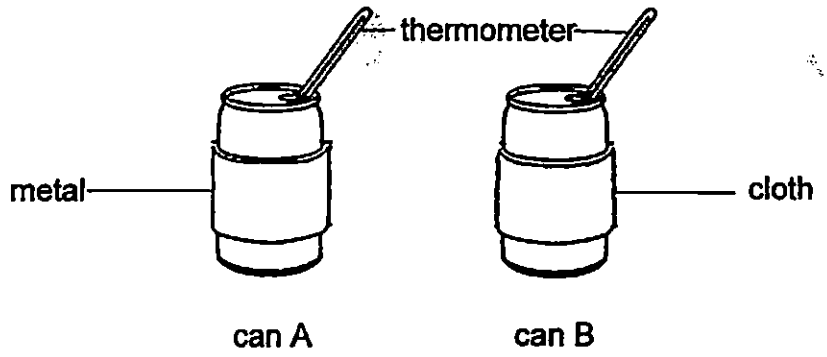
A: The greater the light intensity, the higher the rate of photosynthesis.
B: The rate of photosynthesis does not depend on the depth of sea water.
C: The highest rate of photosynthesis of seaweed occurs at a depth of 2m.
D: The greater the light intensity, the higher the rate of photosynthesis until it reaches a maximum after which it drops.

(1) A only
(2) A and D only
(3) B and C only
(4) C and D only

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21. Benjamin filled two identical cans with an equal amount of water at 60°C. He then wrapped one of the cans with metal and the other with cloth as shown in the diagram below.



He left the cans in a classroom and recorded the temperature of water in each can every 5 minutes. The temperature of water in can A is shown in the table below.

Time (min)	0	5	10
Temperature of water in Can A (°C)	60	54	50

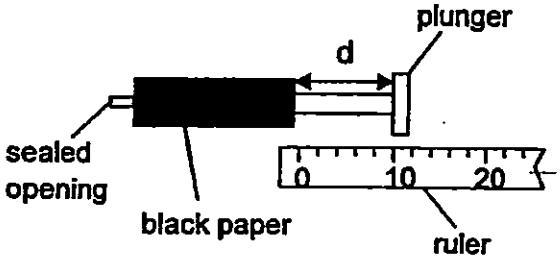
Which of the following sets of temperature readings would most likely be recorded for can B?

	Temperature of water (°C) in Can B at		
	0 min	5 min	10 min
(1)	60	52	48
(2)	60	63	66
(3)	60	57	54
(4)	60	55	48

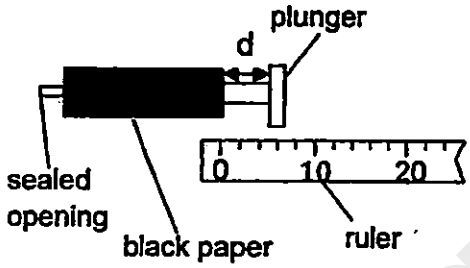
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22. Susan was given 2 syringes covered with black paper. Syringe A contained substance S while syringe B contained substance T. The distance d represents the distance moved by the plunger.



syringe A



syringe B

Susan pushed the plungers and recorded her observations in the table below.

	d (mm)	
	Before Pushing	After Pushing
substance S	10	10
substance T	10	5

Based on the above observations, which one of the following could be substances S and T?

	substance S	substance T
(1)	sand	air
(2)	air	sand
(3)	water	sand
(4)	air	water

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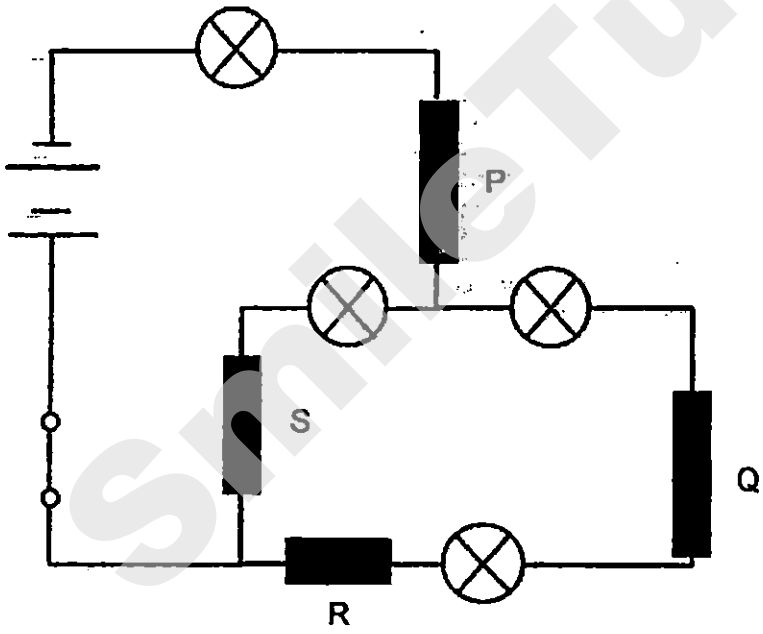
23. Mary tested a simple electrical circuit using materials W, X, Y and Z. She recorded the results as shown below.

Materials	Does the bulb light up?
X and Y	No
W and X	Yes
Y and Z	No
W and Z	Yes

Which of the following material(s) is/are conductor(s) of electricity?

(1) W only
(2) W and Y only
(3) W, X and Z only
(4) X, Y and Z only

24. Four rods, P, Q, R and S, were connected in the electrical circuit as shown below. One of the rods is an insulator of electricity.



When the switch was closed, only 3 bulbs lit up.

Which one of the rods is an insulator of electricity?

(1) P
(2) Q
(3) R
(4) S

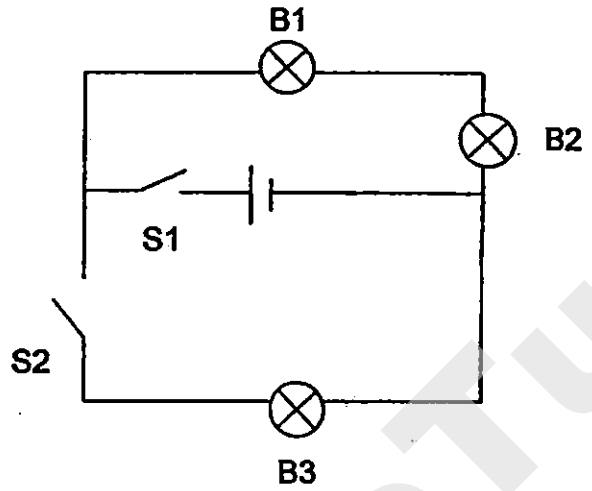
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25. Jack wanted to carry out an experiment to find out if the arrangement of bulbs will affect the brightness of the bulbs in the circuit. Which one of the following variable(s) must he keep the same to ensure that the experiment is a fair one?

A: The number of batteries.
B: The voltage of the batteries.
C: The arrangement of the bulbs.

(1) A only
(2) A and B only
(3) B and C only
(4) A, B and C

26. Andy designed an electrical circuit with bulbs B1, B2 and B3 and switches S1 and S2 connected as shown below.

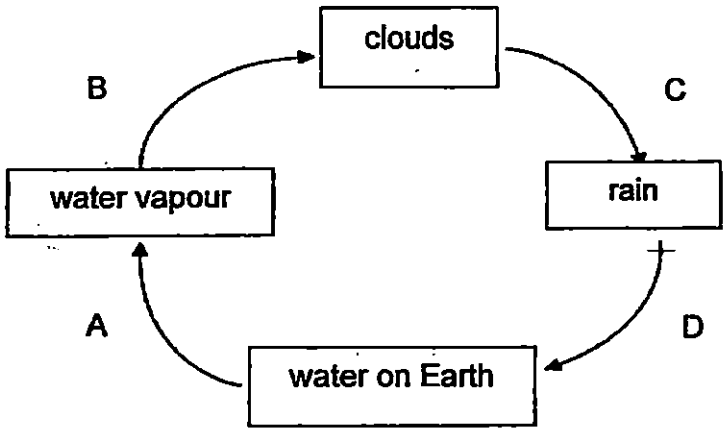


Which one of the following options is correct?

	Switches		Do the bulbs light up?		
	S1	S2	B1	B2	B3
(1)	Closed	Open	Yes	No	Yes
(2)	Closed	Closed	Yes	No	Yes
(3)	Open	Closed	No	No	Yes
(4)	Closed	Open	Yes	Yes	No

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27. The diagram below shows the water cycle.



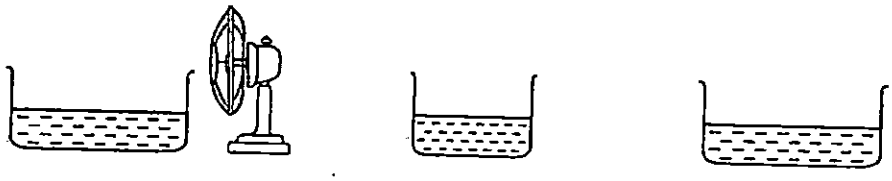
The letters A, B, C and D represent the processes that take place in the water cycle. Which letter represents the process of evaporation?

(1) A
(2) C
(3) B
(4) D

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28. The diagram below shows three containers A, B and C with the same amount of water at the start of the experiment. The containers were left in the same room for the same amount of time.



Container A
200 ml of

Container B
200 ml of

Container C
200 ml of

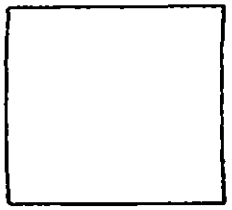
After a certain time, the amount of water left in each beaker was measured. Which one of the following shows the correct order of the containers based on the amount of water left?

	Most amount of water left → Least amount of water left		
(1)	A	B	C
(2)	B	C	A
(3)	C	B	A
(4)	B	A	C

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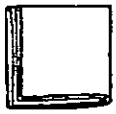
29. Valerie conducted an experiment using three identical handkerchiefs A, B and C. She poured the same amount of water on each of them. She then made different number of folds and recorded the time taken for each handkerchief to dry completely.



A (not folded)



B (folded once)



C (folded twice)

Her results are shown below.

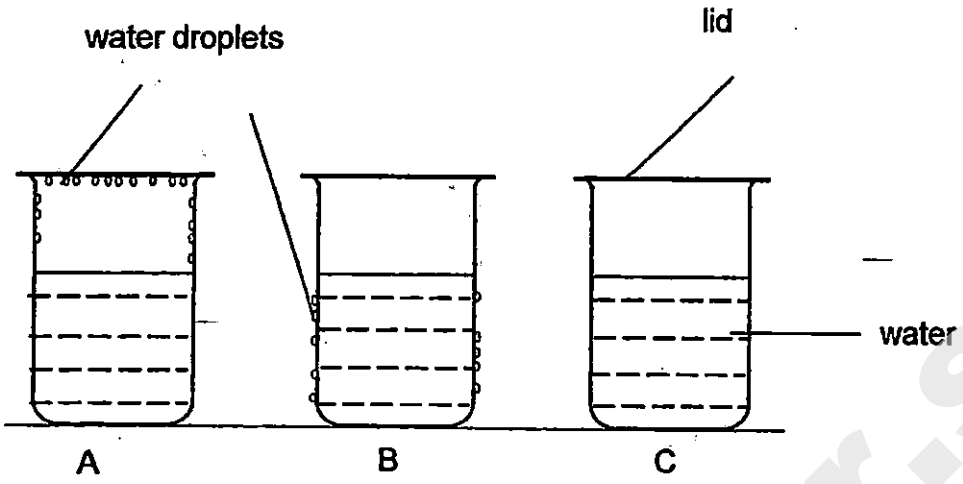
Handkerchief	Time taken to dry completely (min)
A	20
B	40
C	60

What conclusion can she make based on her results?

(1) The more the number of folds, the higher the rate of evaporation.
(2) The fewer the number of folds, the higher the rate of evaporation.
(3) The smaller the exposed surface area of the handkerchief, the higher the rate of evaporation.
(4) The larger the exposed surface area of the handkerchief, the lower the rate of evaporation.

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30. Three beakers of water at different temperatures were placed in a room at 30°C. The diagram below shows what he observed after 10 minutes.



Which one of the following options most likely represents the temperature of the water in each beaker?

	A	B	C
(1)	90°C	5°C	30°C
(2)	90°C	30°C	5°C
(3)	5°C	90°C	30°C
(4)	30°C	5°C	90°C

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Rosyth School
Semestral Examination 2 for 2015
STANDARD SCIENCE
Primary 5

Total Marks: ____ / 100

Name: _____

Class: Pr 5- _____ Register No. ____ Duration: 1 h 45 min

Date: 2 Nov 2015 Parent's Signature: _____

Booklet B

Instructions to Pupils:

1. For questions 31 to 44, write your answers in the spaces given in this booklet.

	Maximum	Marks Obtained
Booklet A	60 marks	
Booklet B	40 marks	
Total	100 marks	

* This booklet consists of 15 pages.

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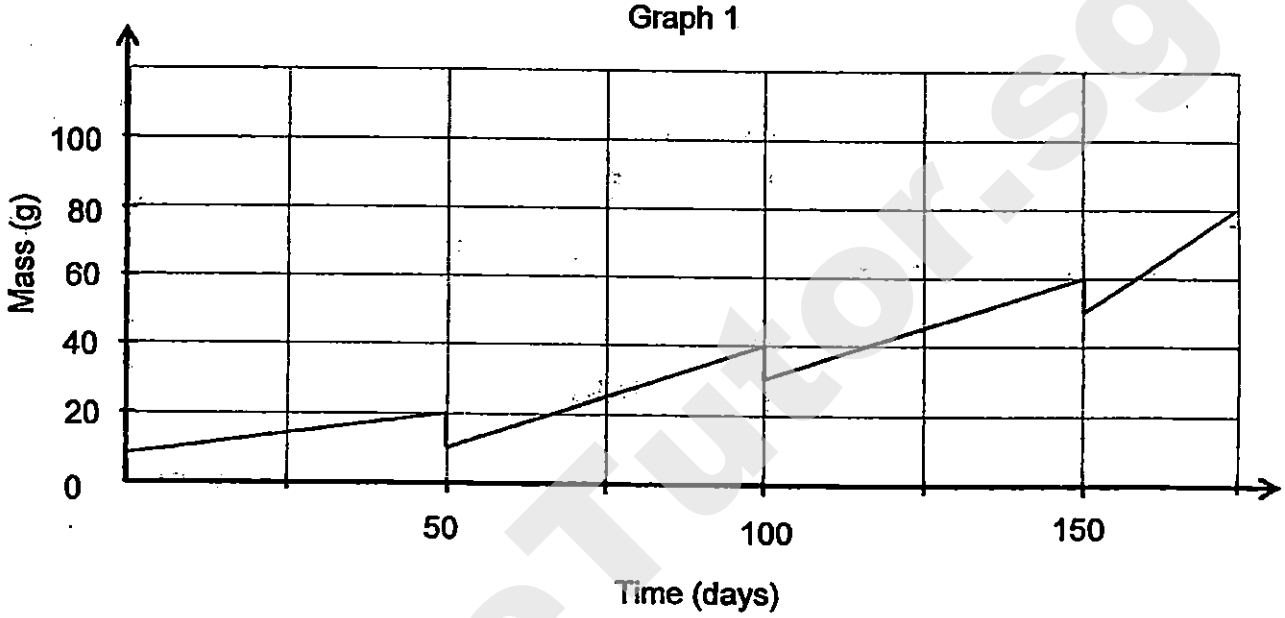
Booklet B (40 marks)

For questions 31 to 44, write your answers in this booklet.

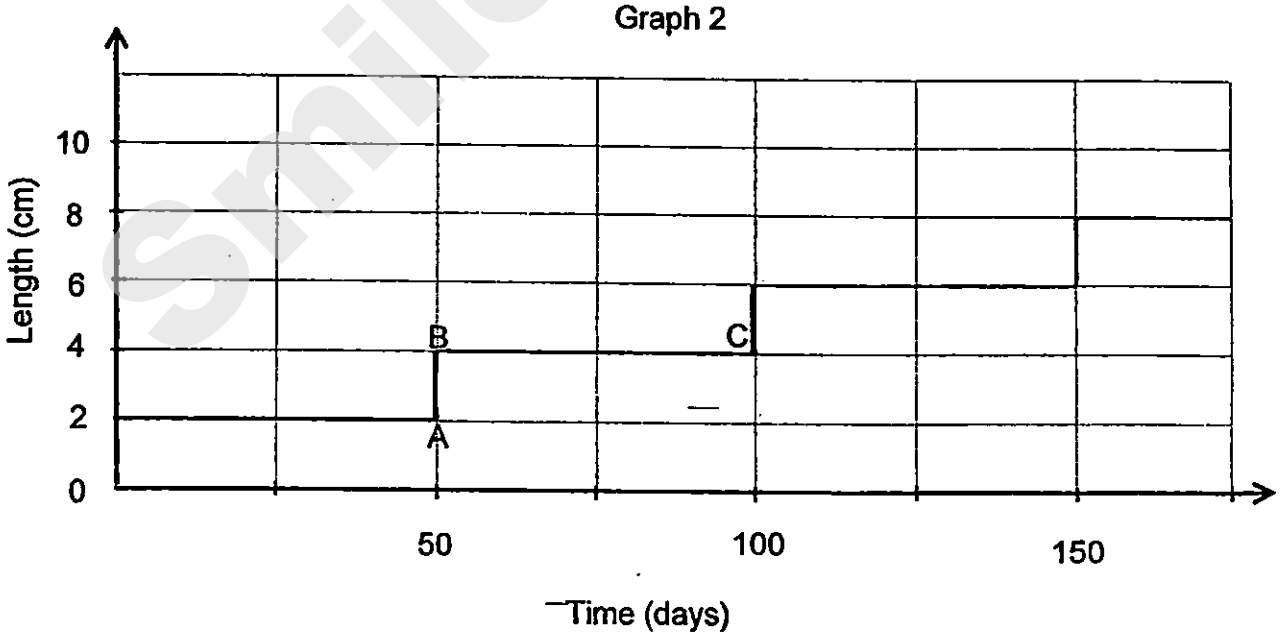
31. Insects need to moult during their growth as they have a hard exoskeleton. Ismail monitored and recorded the growth of a particular insect during the nymph stage. He observed that the insect did not feed when it was moulting.

The two graphs below show the changes in mass and length of the insect as it grows.

Graph 1



Graph 2



Question 31 continues on page 2

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(a) Match the following letters correctly to the relevant processes in Graph 2.

(1m)

A •	• new skin hardens
B •	• non-stop feeding
AB •	• loss of old skin
BC •	• rapid increase in length

(b) How does the mass of the insect change as the insect increases in length?

(1m)

_____

_____

(c)

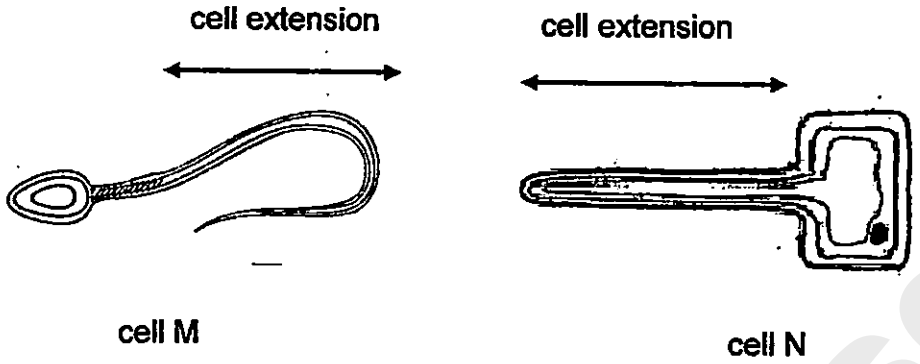
_____

_____

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32. Study the cells M and N below.



(a) State two similarities between the above cells. (1m)

Similarity 1: _____

Similarity 2: _____

(b) In what way do the cell extensions differ in function? (1m)

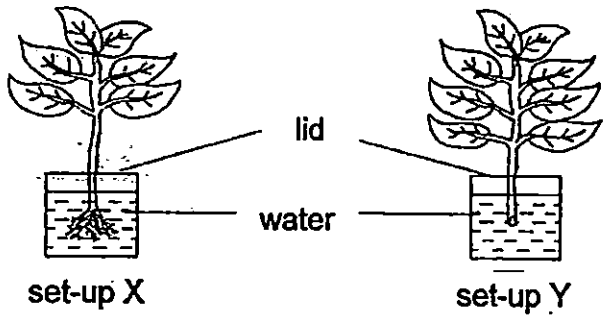
_____

_____

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33. Jessica set up an experiment as shown below to find out how the number of leaves affects the amount of water taken in by the plants.



(a) Is this a fair experiment? Explain why. (1m)

_____

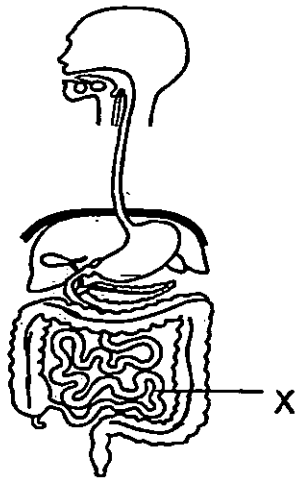
(b) Based on the above experiment, what would Jessica observe to conclude that water has been taken in by the plant? (1m)

_____

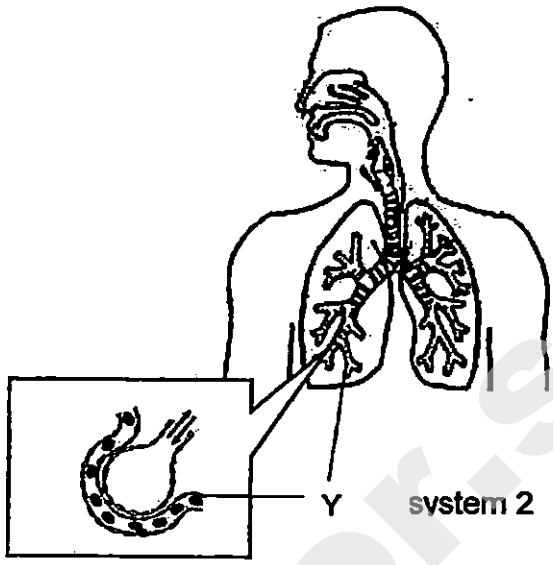
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34. The diagrams below show the parts of 2 systems in the human body.



system 1



system 2

Identify the systems. (1m)

(a) system 1 : _____

system 2 : _____

(b) Due to the processes occurring in X and Y, how does the blood differ in X and Y? (1m)

(i) Blood leaving X carries more _____ than the blood entering it.

(ii) Blood leaving Y carries more _____ than the blood entering it.

(c) Describe how the useful substances from the above two systems get transported around the human body? (2m)

system 1: _____

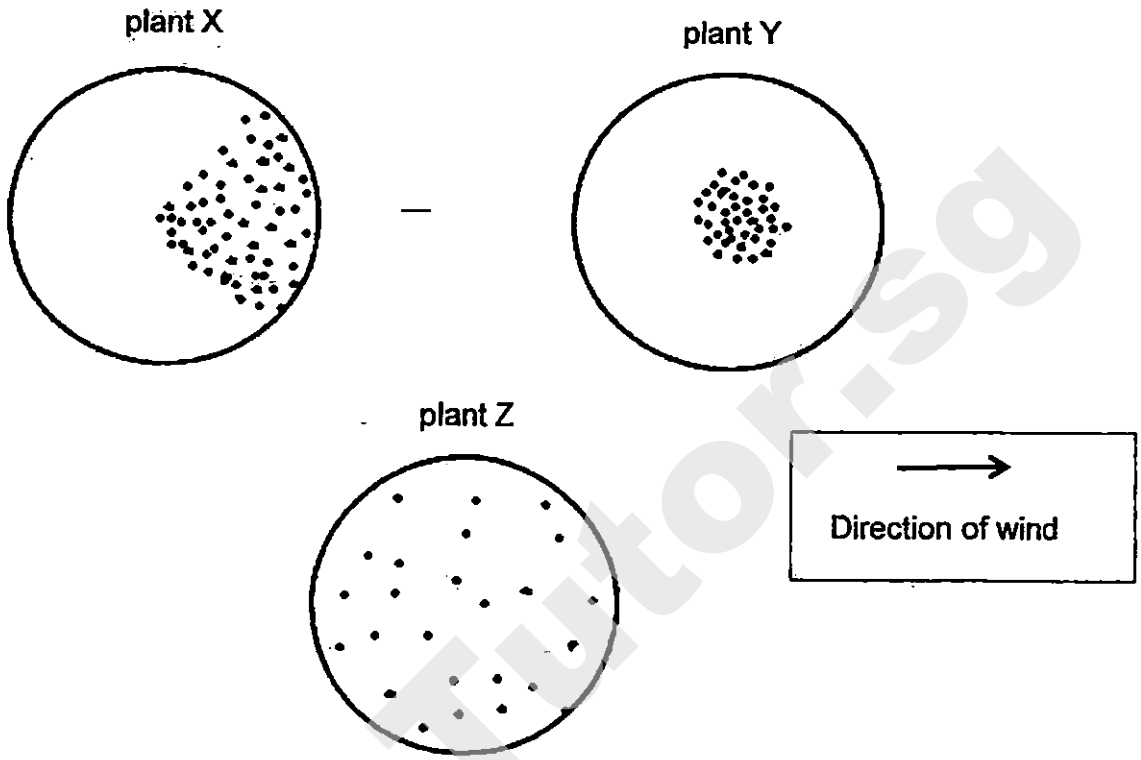
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35. The figure shows the pattern of fruit dispersal around three plants, X, Y and Z, each within a circular area. Each dot represents one fruit. The fruits of each plant are dispersed differently.



(a) Based on the patterns shown, deduce the method of dispersal for the fruits of the plants X, Y and Z. (1m)

	Fruit of plant	Method of dispersal
(i)	X	
(ii)	Y	
(iii)	Z	

(b) Explain how you deduce the method of dispersal in plant X. (1m)

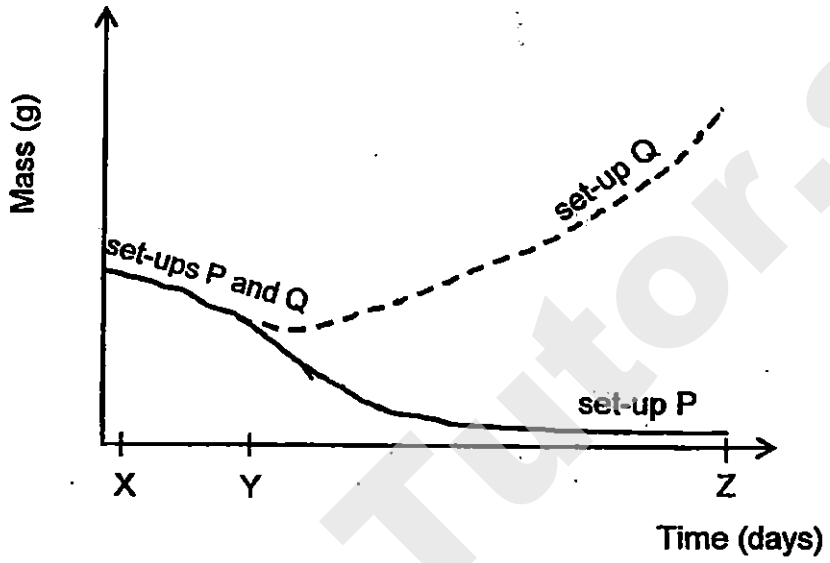
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36. Kumar placed an equal number of pea seeds of the same type in two identical beakers. He allowed the pea seeds in the two set-ups P and Q to germinate in suitable conditions.

After germination, set-up P was placed in the dark and set-up Q in the light.

The graph below shows the change in mass of seedling for both set-ups P and set Q as they germinated and grew into young plants.



(a) What is the change in the mass of the seedlings in both set-ups P and Q from X to Y. Explain why. (1m)

_____

_____

(b) Explain why there is a difference in the mass of seedlings between set-ups P and Q from Y to Z. (2m)

(i) Set-up P _____

_____

(ii) Set-up Q : _____

_____

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37. The diagram below shows a bottle garden which is kept in a brightly-lit room. The mosses and ferns in the tightly-closed bottle grew and reproduced well.



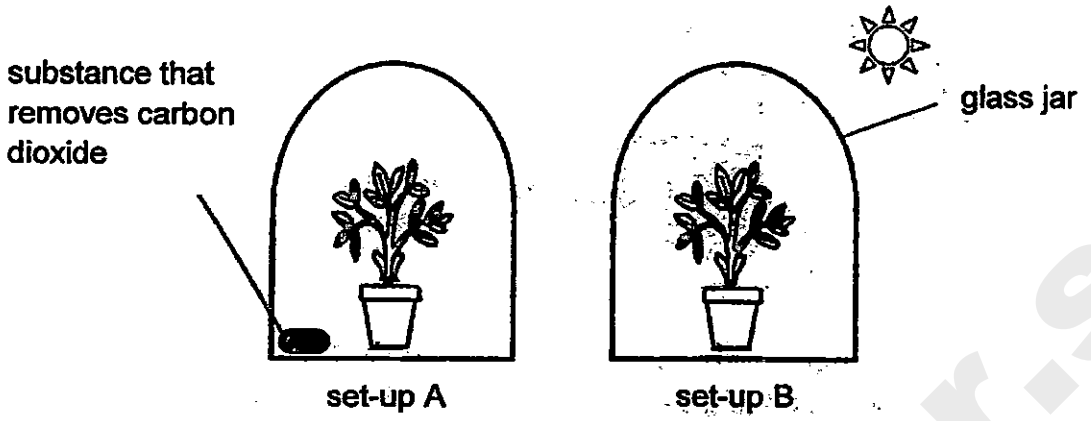
(a) Explain how the green plants can survive in the bottle for a long period of time without any water being added. (2m)

(b) How do the ferns and mosses reproduce in the bottle garden? (1m)

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38. Dan placed two pots of similar plants in two similar glass jars under the Sun. Set-up A had a substance that could remove carbon dioxide. Both plants were watered regularly.



After 2 days, he removed a leaf from each of the two set-ups A and B to test if photosynthesis had taken place.

(a) In which set-up would the leaves not be able to make food? Give a reason for your answer. (2m)

_____

_____

(b) Before the experiment, Dan kept the plants in the dark for two days. What was the purpose of keeping both plants in the dark? (1m)

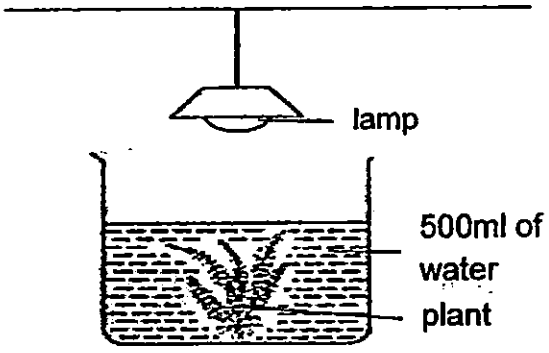
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39. Susan conducted an experiment by placing a plant in a transparent jar as shown in the diagram below.



She placed a similar plant into each of the 3 transparent jars, P, Q, and R, and filled them with 500 ml of water. Each jar had a different amount of light shone on it. She counted the number of oxygen bubbles that were given out by the plants over 20 minutes and recorded it in the table below.

Jar	Amount of light (units)	Number of oxygen bubbles produced over 20 minutes
P	40	10
Q	80	27
R	120	44

(a) What is the aim of Susan's experiment? (1m)

_____

_____

(b) What is the relationship between the amount of light received by the plant and the number of oxygen bubbles released? (1m)

_____

_____

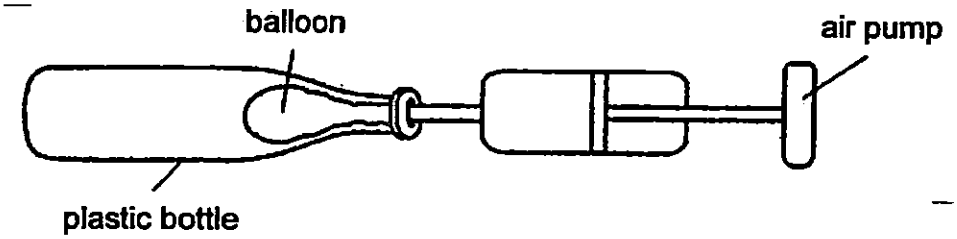
(c) Which jar has the highest rate of photosynthesis? Explain your choice. (2m)

_____

_____

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40. Alex placed a balloon into a plastic bottle as shown below.



(a) Alex tried inflating the balloon using the air pump but found it difficult to do so. Why is this so? (1m)

_____

_____

(b) What can Alex do to make it easier for him to inflate the balloon within the plastic bottle? (1m)

_____

_____

(c) Explain your answer in (b).

_____

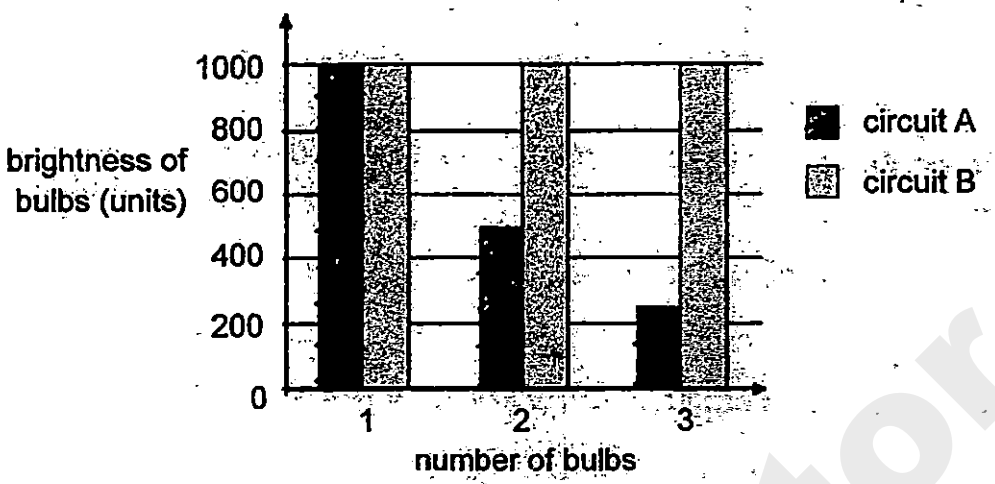
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41. Jason set up two different circuits, A and B, using two batteries and a bulb in each circuit. As he added more bulbs to each of the circuits, he observed the brightness of the bulbs. The graph below shows the brightness of the bulbs in the two circuits.



(a) How were the bulbs in circuit A arranged? Explain why. (1m)

_____

_____

(b) Based on the graph above, what is an advantage of arranging the bulbs as in circuit B? (1m)

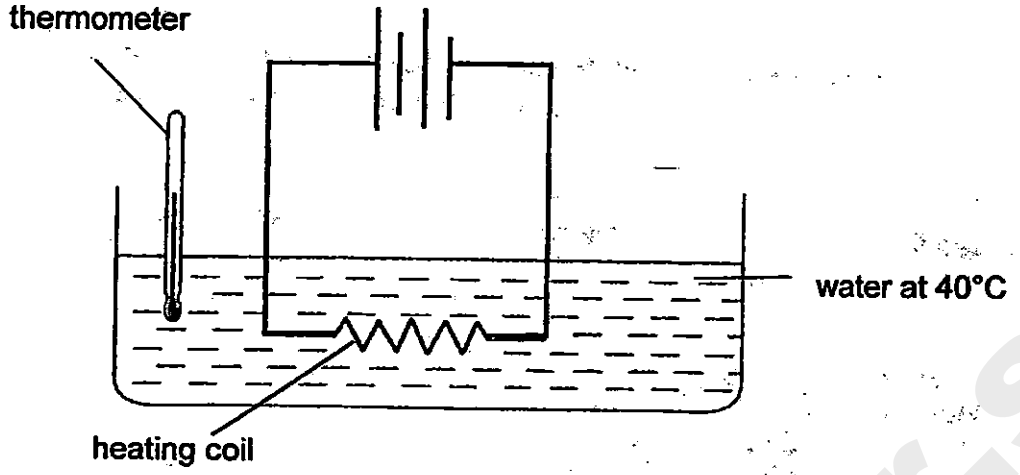
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42. Sue conducted an experiment using the set-up as shown below.



She recorded the results of her experiment in the table below.

Number of batteries	Temperature of water after 10 mins (°C)
2	47
3	56
4	68

(a) What are the changed and measured variables in the experiment above? (1m)

Changed variable: _____

Measured variable: _____

(b) What is the aim of the experiment above? (1m)

_____

_____

(c) What can Sue conclude from her experiment? (1m)

_____

_____

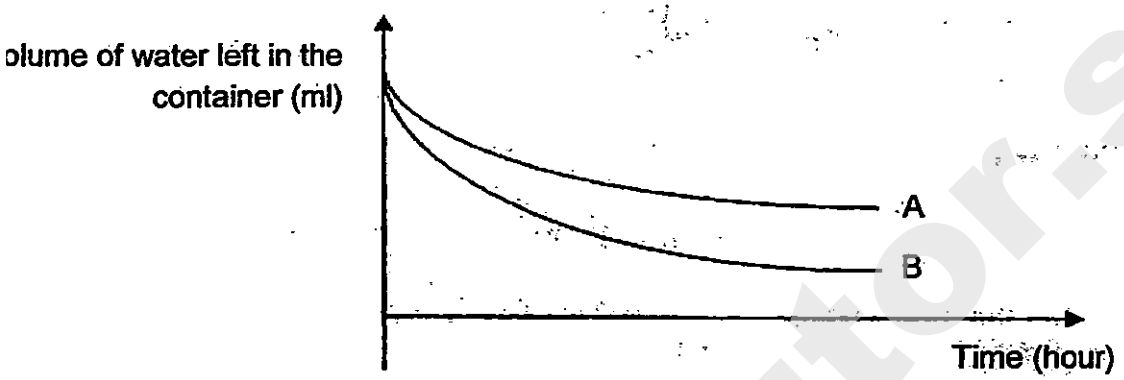
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43. Jake wanted to find out if the temperature of the surroundings will affect the rate of evaporation of water.

He filled two identical containers with the same amount of water. He placed one in his garden directly under the Sun. The other container was placed in his bedroom.

He recorded the change in the volume of water in each container over time.



(a) Which graph (A or B) would represent the amount of water left in the container that was placed directly under the Sun? Explain your choice. (1m)

_____

_____

(b) Without changing the container, name one way that Jake can speed up the rate of evaporation of the water in the container that was placed in his bedroom. (1m)

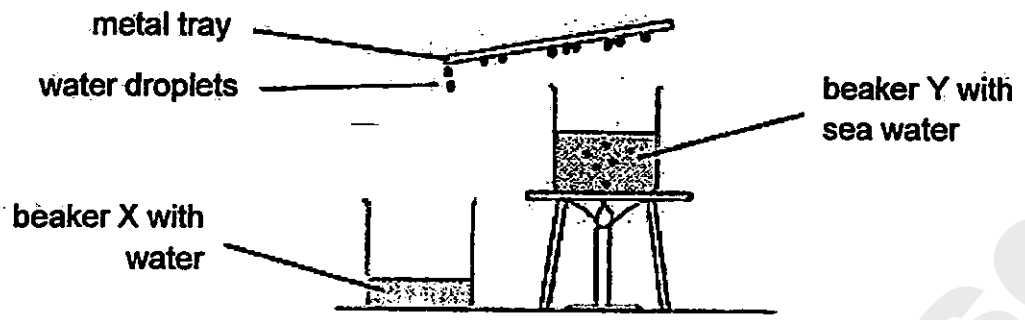
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44. Jacob set up an experiment to boil some sea water.



A metal tray was placed over beaker Y as the sea water was heated.

(a) Name the processes that have taken place that caused the water droplets to be formed on the metal tray. (1m)

_____

_____

(b) Explain how the water in beaker X was obtained? (2m)

_____

_____

_____

(c) After 20 minutes, Jacob realised that less water droplets were formed on the metal tray. Explain why. (1m)

_____

_____

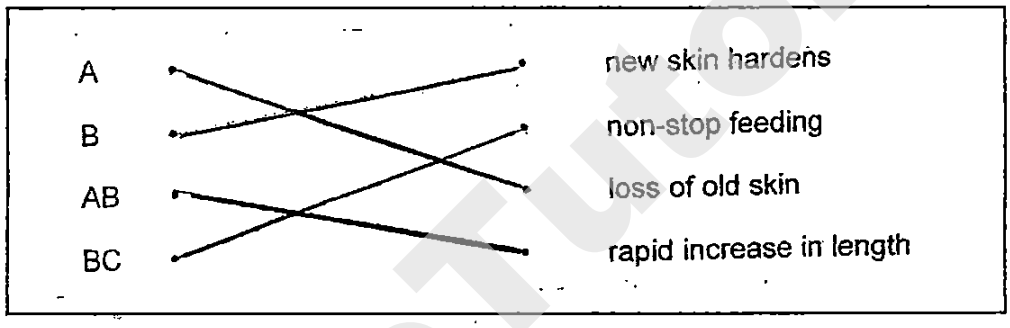
End of Booklet B

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LEVEL : PRIMARY 5
SCHOOL : ROSYTH SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	**2**	**3**	**4**	**3**	**3**	**2**	**3**	**3**	**2**
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	**3**	**4**	**2**	**2**	**1**	**4**	**2**	**1**	**4**
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	**1**	**3**	**4**	**2**	**4**	**1**	**2**	**2**	**1**

Q31a. **SEE PICTURE**



Q31b. The mass of the insect increases as the insect increases in length.
Q31c. As the insect will eat non – stop.

Q32a. Both cells have a cell extension.
Q32a. Both cells have a cell membrane.

Q32b. The cell extension in Cell N helps it to absorb more water while the cell extension in Cell M helps it to move.

Q33a. No. The number of leaves is the only variable that must be changed.

Q33b. The water level will drop.

Q34a. System 1 – Digestive system System 2 : Respiratory system

Q34bi) digested food Q34bii) oxygen

Q34c. The oxygen get absorbs into the bloodstream is transported to the heart which is then pumped to all parts of the body.

Q35a. i) Wind Q35aii) splitting Q35aiii) Animal

Q35b. The seeds of plant X only follow the direction of wind and no other direction.

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leaves is being used up.

Q36bi) The seedling is not able to make food and will even food and will eventually decreases in mass.

Q36bii) The seedling makes food (in the light) and increases in mass.

Q37a. Water from the moist soil evaporate to water vapour, the water vapor condenses to water droplets which falls back to the soil for the plants to absorb.

Q37b. They drop their spores on the moist and fertile soil and it will germinate into a young fern or moss.

Q38a. Set up A. As there is no carbon dioxide in set – up A as the substance removes carbon dioxide and carbon dioxide is needed for photosynthesis.

Q38b. To use up oil the starch in the plant so that the results will be reliable.

Q39a. To find out how the amount of light will affect the number of oxygen bubbles produced over 20 minutes.

Q39b. As the amount of light received by the plant increases, the number of oxygen bubbles released also increases.

Q39c. Jar R. As it produced the most amount of oxygen bubbles over 20 minutes and has most amount of light compared to Jar P and Q.

Q40a. As there is air occupying the space in the plastic bottle and as air takes up space , it is hard for the air to escape thus it is difficult to inflate the balloon in the plastic bottle.

Q40b. He should poke some hole in the plastic bottle to make it easier for him to inflate the balloon.

Q40c. As the air occupying the space in the plastic bottle will be able to escape and thus the balloon can use up the space originally occupied by the air.

Q41a. The bulbs in circuit A are arrange in series. As the number of bulbs increases ,the brightness of the bulbs decreases as the power of the batteries are shared by the bulbs.

Q41b. The bulbs will have the same amount of brightness and will be brighter compared to the bulbs in circuit A.

Q42a. Changed variable : Number of batteries.
Q42a. Measured variable : Temperature of water after 10 minutes.

Q42b. To find out how the number of batteries affect the temperature of water after 10 minutes.

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Q42c. As the number of batteries increases, the temperature of water increases.

Q43a. Graph B. The volume of water left in the container is lower as it has the highest rate of evaporation.

Q43b. He could put the container under a lamp which is turned on.

Q44a. Condensation and Evaporation

Q44b. The salt water gains heat and evaporates to form water vapour. The water vapour then loses heat when it comes in contact with the metal tray and condenses to form water droplets.
Q44c. This is because the metal tray has become warmer causing the rate of condensation to decrease.

THE END

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SINGAPORE CHINESE GIRLS' SCHOOL

SECOND SEMESTRAL ASSESSMENT 2015

SCIENCE

PRIMARY FIVE

NAME: _____ ( ) DATE: _____

CLASS: PRIMARY 5 SY

BOOKLET A

30 questions

60 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

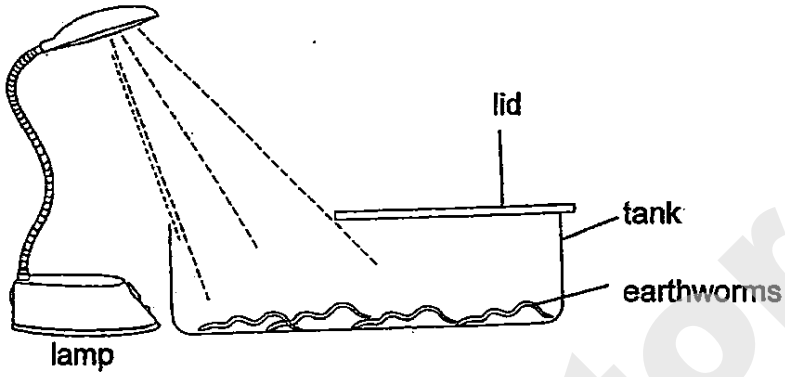
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Part I (60 marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

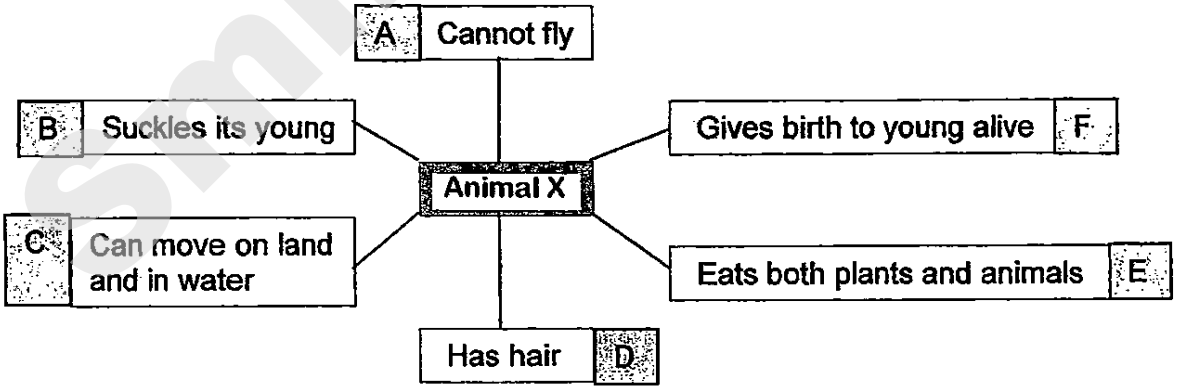
1. Joseph placed a table lamp next to a tank of earthworms and turned the lamp on. After 30 minutes, he observed that most of the earthworms had moved to the area under the lid.



What does this experiment show?

1) Animals can reproduce.
2) Animals respond to changes.
3) Animals need light to survive.
4) Animals need warmth to survive.

2. Study the concept map below.

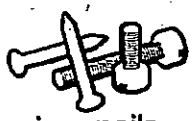
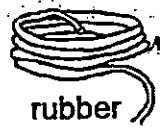
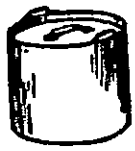


Which of the following are characteristics of mammals?

1) A, C, E only
2) C, E, F only
3) B, D and F only
4) B, C, D and E only

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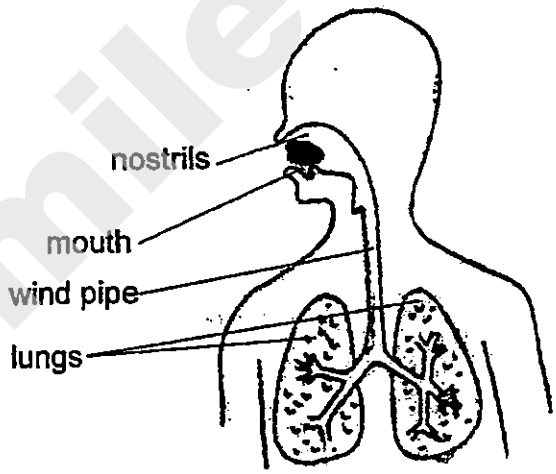
3.

Group A	Group B
 iron nails	 Wooden mallet
 cotton socks	 rubber hose
 ceramic cup	 steel pot
 rubber slippers	 plastic mat

How are the items above grouped?

	Group A	Group B
1)	Waterproof	Non-water proof
2)	Non-flexible	Flexible
3)	Magnetic	Non-magnetic
4)	Made of man-made materials	Made of materials that were once alive

4.

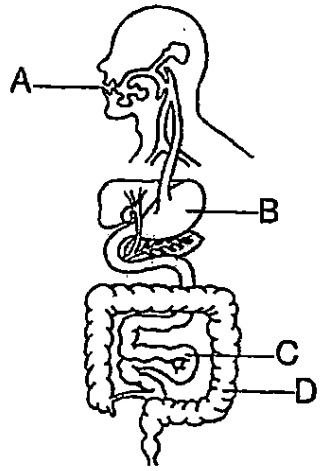


Choking happens when the path of air is blocked. At which point does choking occur in our respiratory system?

1) nostrils
2) mouth
3) windpipe
4) lungs

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5. The diagram below shows the human digestive system.



Sally and Alice both made a record of the amount of undigested food before it leaves each part of the digestive system in a table as shown below.

	Sally	**Alice**
	Amount of undigested food (g)	Amount of undigested food (g)
Start Of experiment	35	35
Part A	30	35
Part B	18	16
Part C	8	16
Part D	8	10

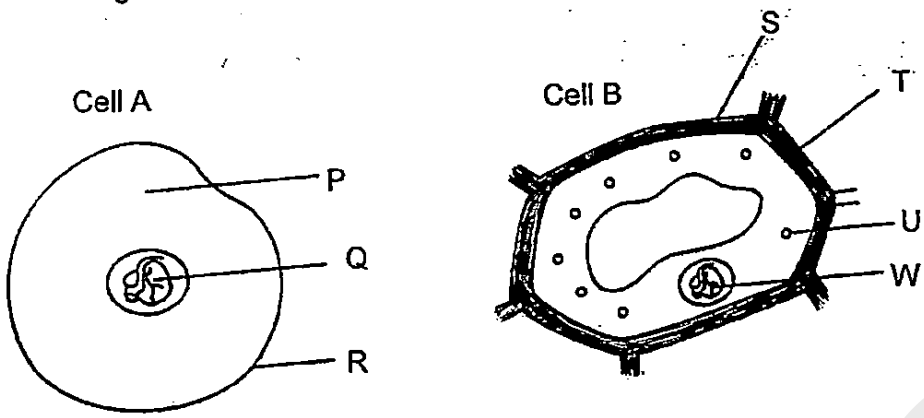
Which of the following statements is true about the recording?

1) Sally made an accurate recording.
2) Alice made an accurate recording.
3) Alice made 1 error in her recording.
4) Sally made 2 errors in her recording.

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6. The diagrams below show 2 different cells.



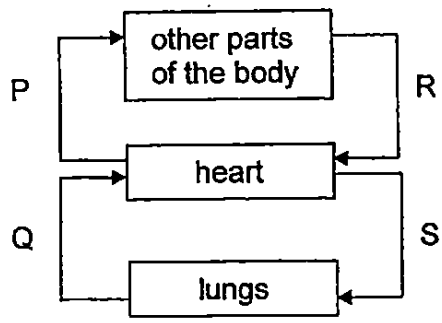
Which parts in both cells, A and B, are responsible for controlling the movement of substances in and out of cells?

1) P and U
2) Q and W
3) R and S
4) R and T

7. Mdm Tan sealed the room by closing all the windows and the door of the room. She did not turn on the fan and air-conditioner. After 15 minutes, what would happen to the amount of oxygen, carbon dioxide and water vapour in the air if she remained inside?

	Oxygen	Carbon Dioxide	Water Vapour
1)	Increase	Decrease	Remain the same
2)	Decrease	Increase	Decrease
3)	Remain the same	Decrease	Increase
4)	Decrease	Increase	Increase

8. The picture below is a diagram of the human circulatory system. The arrows P, Q, R and S represent the direction of blood flow in the blood vessels.



Which blood vessels carry blood rich in carbon dioxide?

1) P and Q only
2) P and S only
3) Q and R only
4) R and S only

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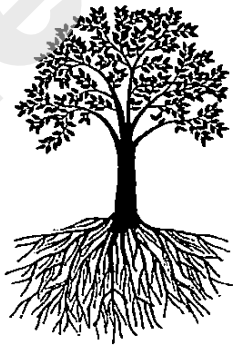
9. The following table shows the comparison between a plant transport system and a human circulatory system.

Which of these comparison statement/s is/are correct?

	Plant transport system	Human circulatory system
A:	There is no pump in the plant transport system.	The heart serves as a pump in the human transport system.
B:	It transports many substances.	It transports only one substance.
C:	There are food and water carrying tubes to transport the various substances to the other parts of the plant.	There are blood vessels to transport various substances to the other parts of the body.

1) A only
2) B only
3) A and C only
4) B and C only

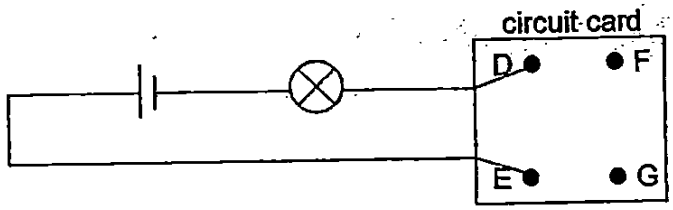
10. The diagram below shows a tree. Which of the following statements about the parts of the tree is correct?



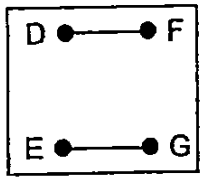
1) The roots help the tree to remain upright.
2) The leaves take in sunlight through their stomata.
3) The roots spread out to hold the tree firmly to the ground.
4) The branches spread out to ensure more water is taken in.

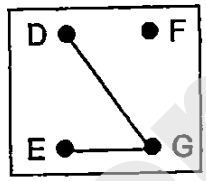
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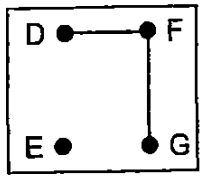
11. May Lin set up a circuit as shown below.

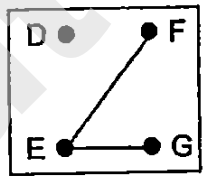


How should the wires be connected inside the circuit card to light up the bulb?

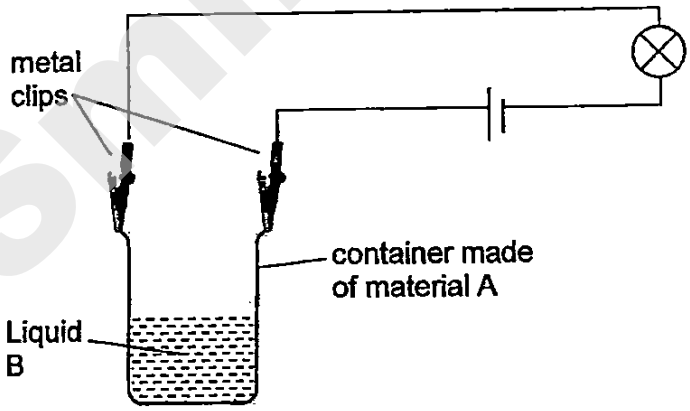
1)


3)


2)


4)


12. Louie set up an experiment as shown in the diagram below. The bulb lit up when he connected the 2 metal clips to a container made of Material A.

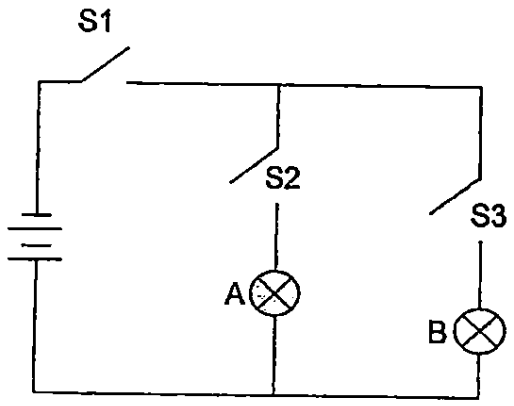


Based on the experiment above, which one of the statements is definitely true?

1) Liquid B is a conductor of electricity.
2) Material A is a conductor of electricity.
3) Material A and Liquid B are both conductors of electricity.
4) Material A will conduct electricity only when Liquid B is inside the container.

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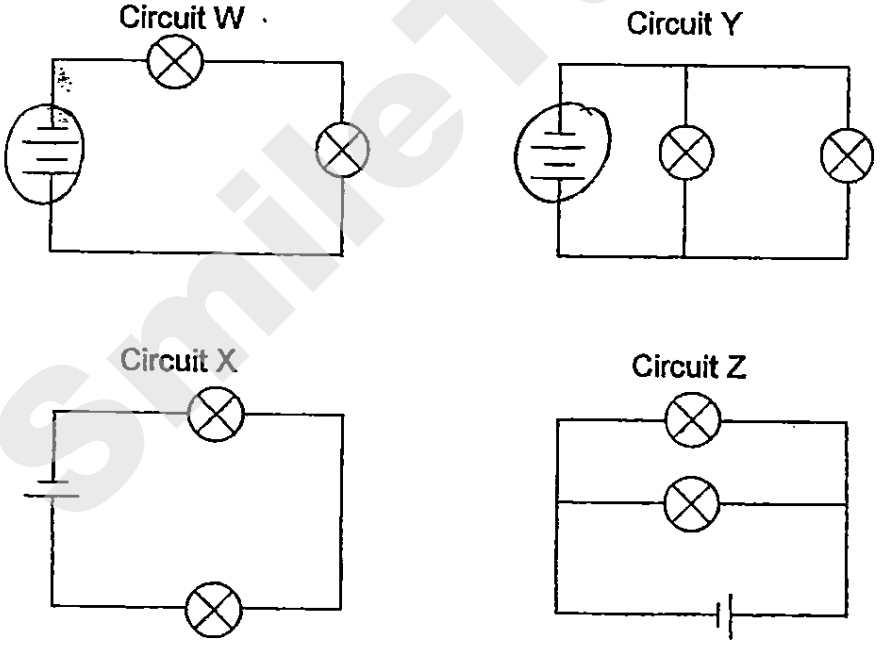
13. The diagram below shows 2 bulbs connected in a circuit and 3 switches controlling the flow of electricity within the circuit.



In order for only Bulb A to light up, which switches should be closed?

1) S1 and S2 only
2) S2 and S3 only
3) S1 and S3 only
4) S1, S2 and S3

14. Study the 4 circuit diagrams as shown below.

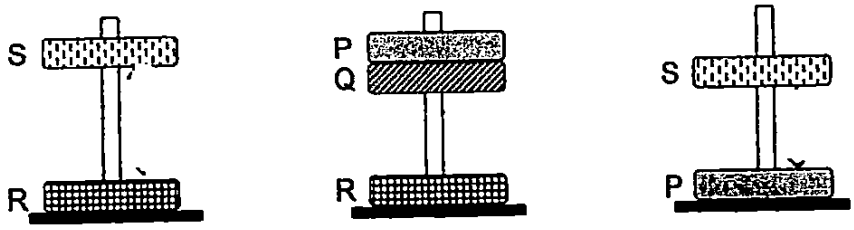


Which circuit has the brightest bulbs?

1) W
2) X
3) Y
4) Z

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15. Lisa used 4 similar ring magnets P, Q, R and S and made 3 setups as shown in the diagram below.

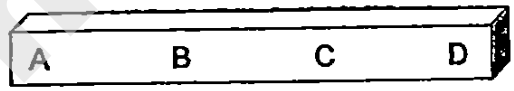


Based on her observations, what conclusions can she make?

A: All the like poles of the magnets are facing each other.
B: Magnet P has a stronger magnetic force than Magnet Q.
C: Magnet R has a stronger magnetic force than Magnet P.
D: The magnets 'floating' above each other are caused by repulsion of the magnets.

(1) A and C only
(2) C and D only
(3) A, C and D only
(4) B, C and D only

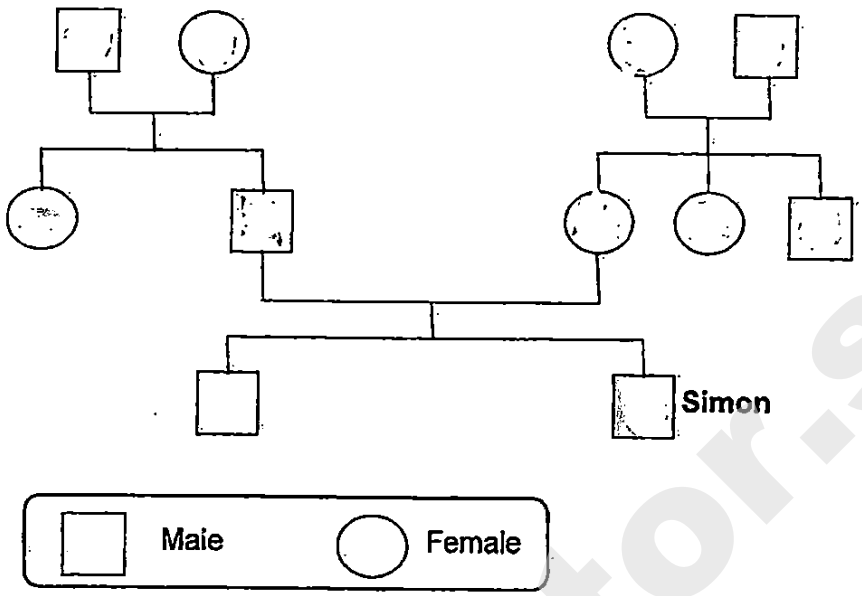
16. Leo dropped a bar magnet into a box of paper clips accidentally. When he picked it up, at which point/s would he find the most number of paperclips attached to the bar magnet?



1) A only
2) A and B only
3) C and D only
4) A and D only

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17. Study Simon's family tree below.



How many uncles and aunts does Simon have?

1) 1 aunt, 2 uncles
2) 2 aunts, 1 uncle
3) 2 aunts, 2 uncles
4) 3 aunts, 2 uncles

18. Ken made some observations of 3 animals, A, B and C. He drew up a table of his observations as follows:

Observation	Animal A	Animal B	Animal C
Young moults	✓		✓
Young resembles the adult	✓		
Three-stage life cycle	✓	✓	
Eggs are laid in water		✓	✓

Which of the following correctly represents Animals A, B and C?

	Animal A	Animal B	Animal C
1)	Cockroach	Frog	Mosquito
2)	Mosquito	Frog	Grasshopper
3)	Grasshopper	Cockroach	Frog
4)	Frog	Cockroach	Mosquito

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19. Wei En wanted to find out if Seed X or Seed Y germinates faster under the same conditions.

She listed some variables for the experiment as follows:

A: Type of seeds
B: Number of seeds
C: Amount of water
D: Temperature of surrounding

Which of the variables must be kept constant for the experiment?

1) A and B only
2) B and C only
3) A, C and D only
4) B, C and D only

20. Jo conducted an experiment on 4 flowers from a plant in her garden. The flowers have both male and female parts in the same flower.

The table below shows which part Jo removed from each flower.

Parts removed	Flower D	Flower E	Flower F	Flower G
Ovary		✓		
Anthers	✓		✓	
Petals	✓			✓

From the information provided in the table, which of the flowers would still be able to produce fruits?

1) E only
2) D and F only
3) E and G only
4) D, F and G only

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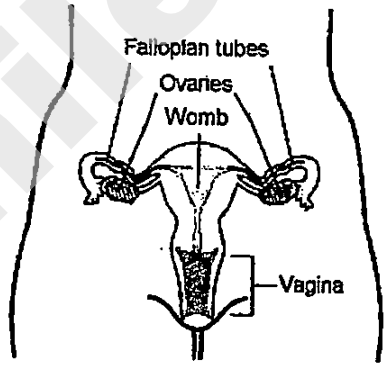
21. Lauren found 4 different types of fruits in her garden.

			
Fruit A	Fruit B	Fruit C	Fruit D
Inedible, has wing-like structure	Edible, fleshy with a big hard seed that cannot be swallowed	Edible, fleshy with small hard seeds	Inedible, has hooks and spikes

Which of the fruit/s above is/are dispersed by animals?

1) A only
2) A and D only
3) B and C only
4) B, C and D only

22. The diagram below shows the female reproductive system.



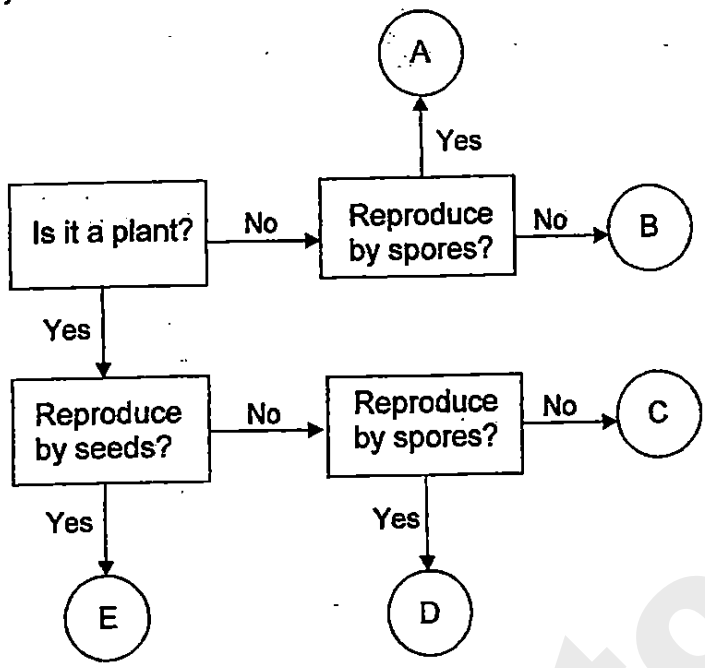
Which part of the reproductive system are egg cells stored?

1) womb
2) vagina
3) ovaries
4) fallopian tubes

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23. Study the flow chart below.



Which letters represent the fern and sunflower respectively?

	Fern	Sunflower
1)	E	A
2)	D	E
3)	B	C
4)	C	D

24. Melanie conducted an experiment on 3 substances X, Y and Z and recorded her observations as follow:

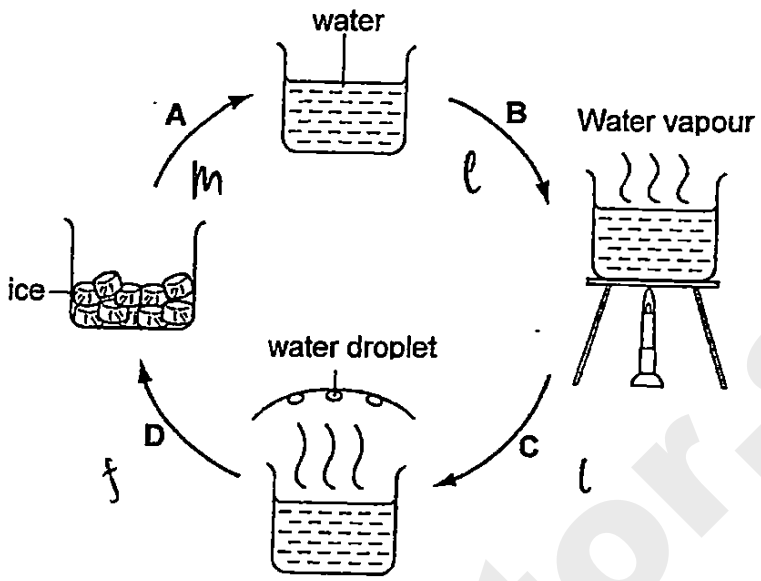
- X, Y and Z take up space.
- X has a definite volume.
- Y can be compressed.
- Z does not have a definite shape.

Which of these are possible conclusions from her experiment?

	Solid	Liquid	Gas
1)	X, Z	X	Y
2)	X	Z	X, Y
3)	X	X, Z	Y
4)	Y	Y, Z	X

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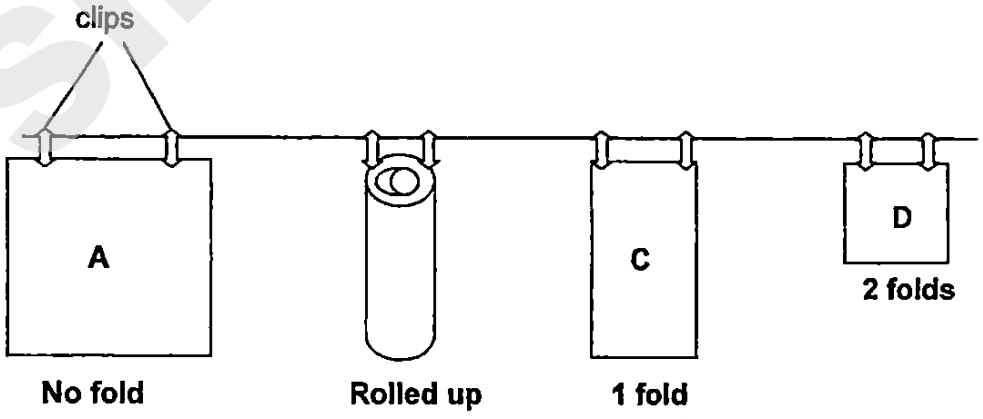
25. The diagram below shows the changes in state of water.



What do processes A, B, C and D represent in the above diagram?

	A	B	C	D
1)	melting	evaporation	condensation	freezing
2)	freezing	condensation	melting	evaporation
3)	condensation	melting	freezing	evaporation
4)	evaporation	freezing	melting	condensation

26. Joseph soaked 4 similar towels, A, B, C and D, in water and weighed them to ensure they absorbed equal amounts of water. He then hung all 4 towels to dry under bright sunlight.

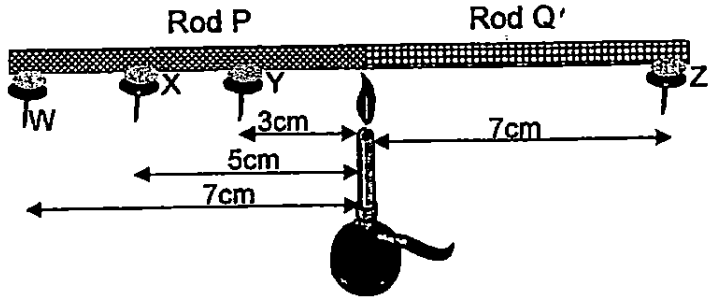


Which towel will be driest after 5 hours?

1) A
2) B
3) C
4) D

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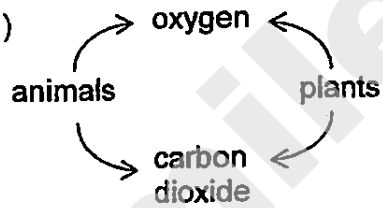
27. Raymond used some wax to attach 4 similar metal pins to 2 metal rods of the same length. Both rods are made of different metals and Rod P is a better conductor of heat than Rod Q.

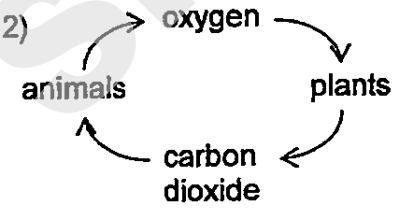


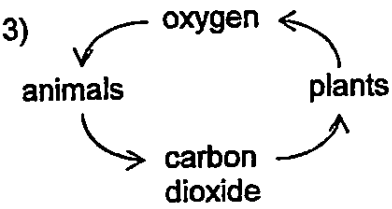
Arrange in sequence, the order in which the metal pins drop off from the rods, starting from the pin that drops off first.

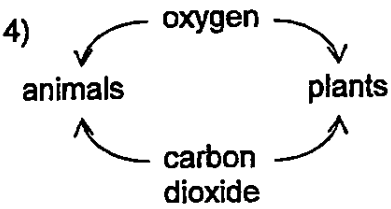
1) W, X, Y, Z
2) X, Y, Z, W
3) Y, X, W, Z
4) Z, W, X, Y

28. Which of the following correctly shows the exchange of gases between living things and the environment when there is light?

1)


2)


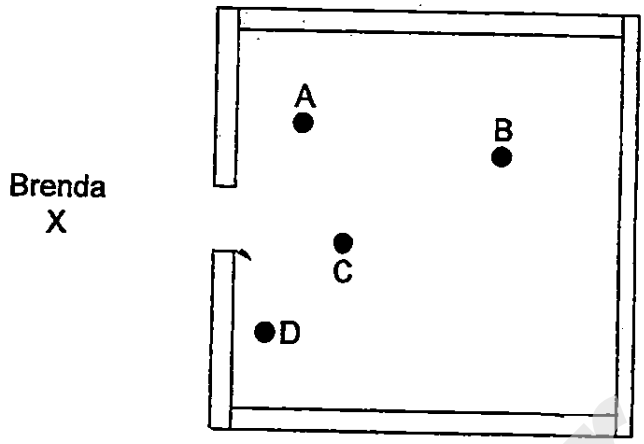
3)


4)


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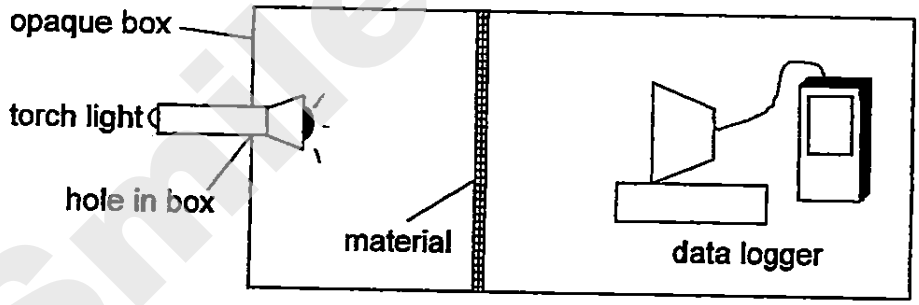
29. Brenda wanted to conduct an experiment to find out if light travels in straight lines. She placed 4 items inside a brightly lit room and she stood outside the room.



Which object/s could Brenda see?

1) C only
2) A and C only
3) B and C only
4) B, C and D only

30. Kong Wah wanted to make a screen to project a movie. He took 4 materials and to test if they were suitable. He used a data-logger to help him detect the amount of light. The setup for the experiment was as follows:



The following table shows his results.

Material	Amount of light detected (lux)
P	410
Q	330
R	180
S	0

Based on Kong Wah's results, which one of the materials will be most suitable to be made into a screen to project a movie?

1) P
2) Q
3) R
4) S

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SINGAPORE CHINESE GIRLS' SCHOOL

SECOND SEMESTRAL ASSESSMENT 2015

SCIENCE

PRIMARY FIVE

NAME: _____( ) DATE: _____

CLASS: PRIMARY 5

Booklet A		60
Booklet B		40
Total		100

Parent's Signature

_____

BOOKLET B

14 questions

40 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

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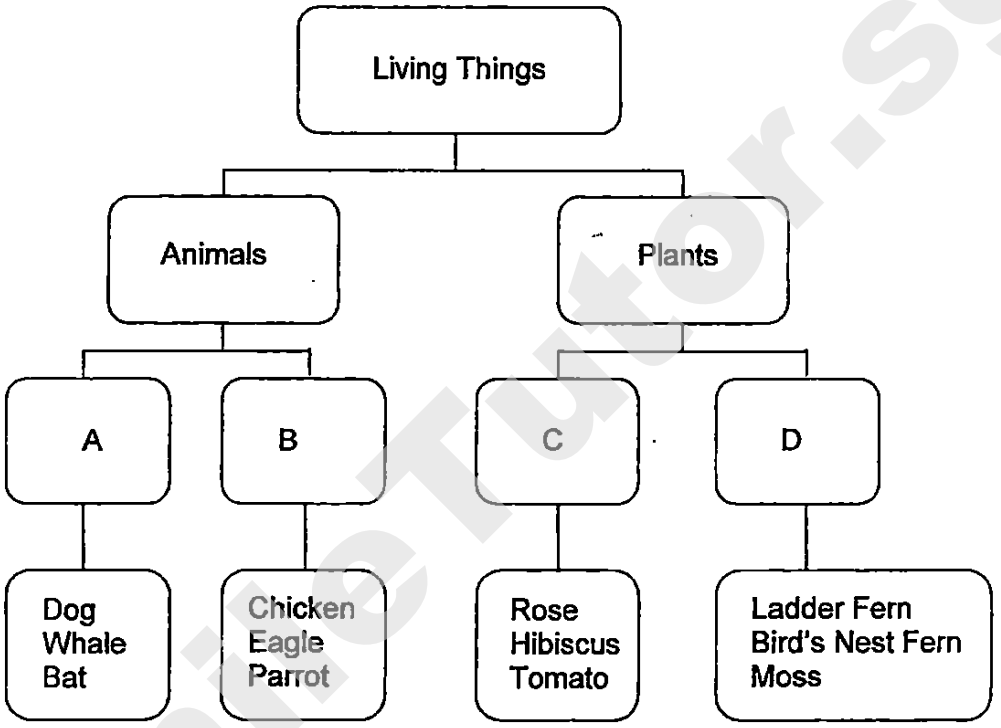
Name: _____ Date: _____

Class: Primary 5 SY /

Part II (40 marks)

Answer all the following questions.

31. Study the classification table below.



a) What are the suitable headings for A, B, C and D respectively? (2m)

A: _____ C: _____

B: _____ D: _____

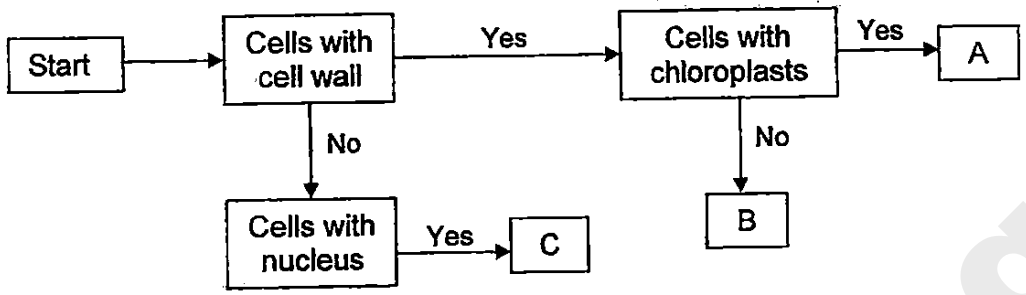
b) Under which heading should these living things be classified? Write the letters A, B, C or D in the boxes provided. (1m)

Penguin ☐ Mango ☐

3

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32. Study the flow chart below. It shows the characteristics of some cells, A, B and C.



Match the following cells to A, B and C. (3m)

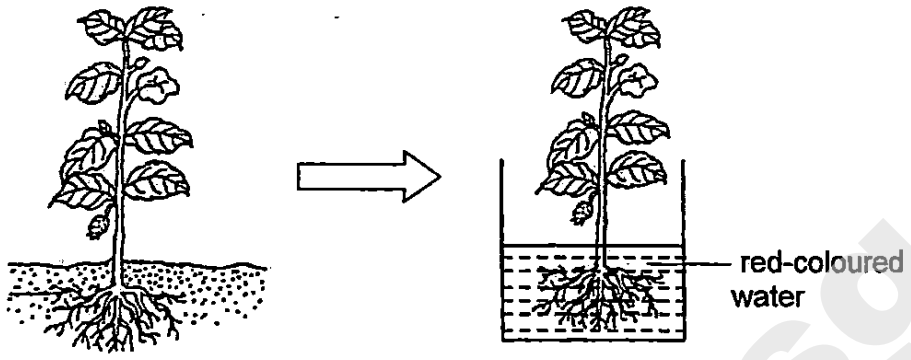
		Cell
a)	Onion cell	
b)	Human cheek cell	
c)	Green leaf cell	

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33. Ahmad took a plant from the soil and placed it in a beaker of red-coloured water.

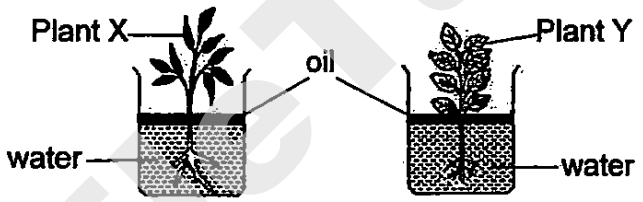


a) Explain why the leaves and flowers turned red after 1 day. (1m)

_____

_____

b) Ahmad conducted another experiment as shown below.



i) What is the aim of his experiment? (1m)

_____

_____

ii) State the purpose of the layer of oil in the beakers. (1m)

_____

_____

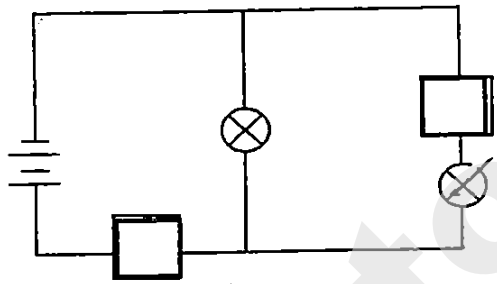
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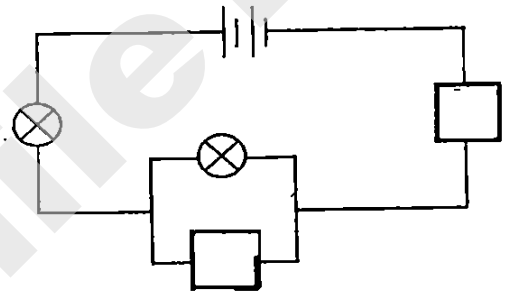
34. Three different circuits are set up, each with 2 switches, 2 identical bulbs and 2 identical batteries.

For each setup, write "S1" for Switch 1 and "S2" for Switch 2 in the boxes provided on the circuit to show where the switches should be placed based on the results. (3m)

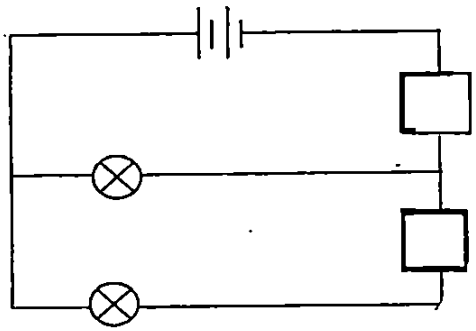
Setup 1	S1	S2	No. of bulbs lit up
Result	Open	Closed	1



Setup 2	S1	S2	No. of bulbs lit up
Result	Closed	Open	2



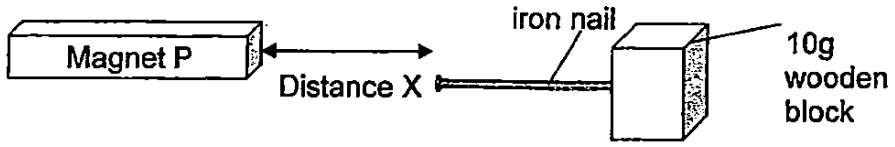
Setup 3	S1	S2	No. of bulbs lit up
Result	Open	Closed	0



3

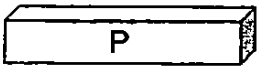
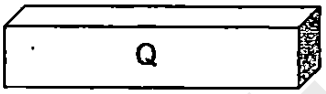
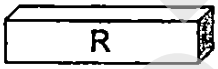
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35. Albert conducted an experiment. He placed a magnet, P, near an iron nail that is attached to a 10g wooden block.



He measured Distance X which is the greatest distance between the magnet and the iron nail for attraction to take place. The results are shown in the table below.

Harry then repeated the experiment with Magnets Q and R.

Magnet	Distance X (cm)
	4
	2
	3

a) What does the above experiment show about the strength of a magnet and its size? (1m)

_____

_____

b) Albert then repeated the experiment using an iron nail on a 20g wooden block and Magnet P. What will happen to Distance X? (1m)

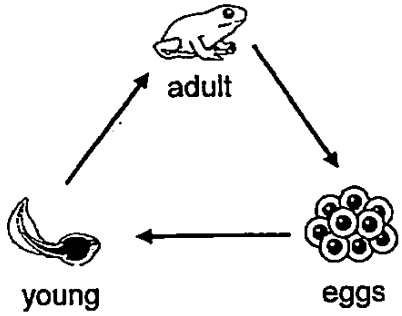
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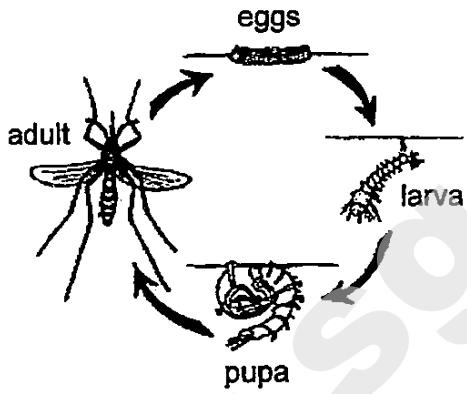
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36. The diagrams below show the life cycles of 2 animals.



Frog



Mosquito

a) State 2 differences between the **life cycles** of the 2 animals above. (2m)

(1) _____

_____

(2) _____

_____

b) The frog and mosquito both lay eggs in water. State another similarity between the life cycles of the 2 animals. (1m)

_____

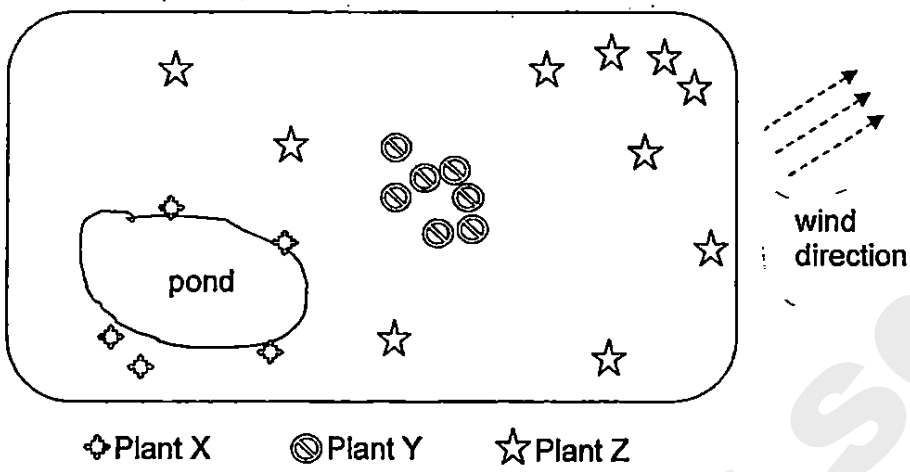
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37. The following diagram shows how seeds of plants X, Y and Z are dispersed.



a) Based on the above diagram, what is the most likely dispersal method for Plant X? (1m)

_____

b) Name 1 characteristic of the fruit / seed dispersed by the method as mentioned in Part (a). (1m)

_____

c) What could be the most likely dispersal method for Plant Z? (1m)

_____

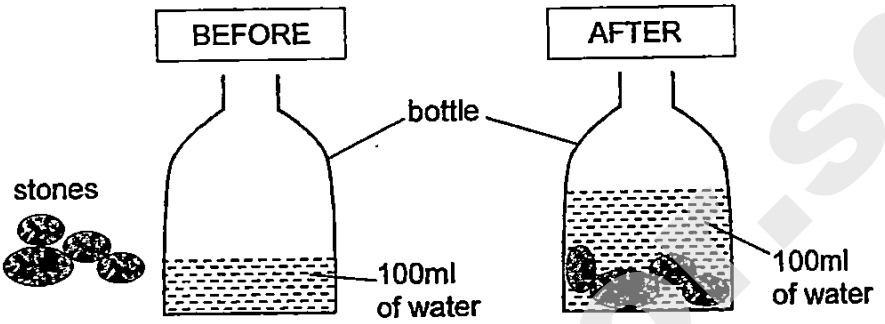
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38. Jason heard a fable about a crow that wanted to drink from a bottle of water but was not able to do so because the neck of the bottle was too small for its beak. The crow dropped stones into the bottle and the water rose so it was able to drink the water.

Jason wanted to conduct an experiment to find out if what the crow did really worked. He set up the experiment as shown below. The diagrams showed what the water level was before and after the stones were dropped into the bottle.

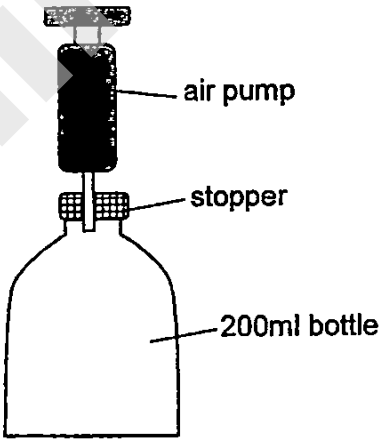


a) Why did the water level rise when the amount of water did not change? (1m)

_____

_____

b) Jason conducted another experiment as shown below.



Jason was able to pump 250ml of air into the bottle even when the capacity of the bottle is 200ml, explain why he was able to do that. (1m)

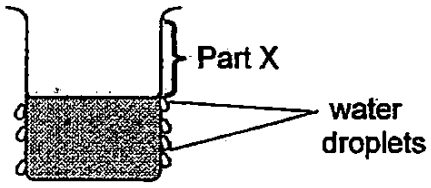
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_____

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39. Rosie poured some ice water into a beaker as shown in the diagram below. The room temperature at that time was 32°C.

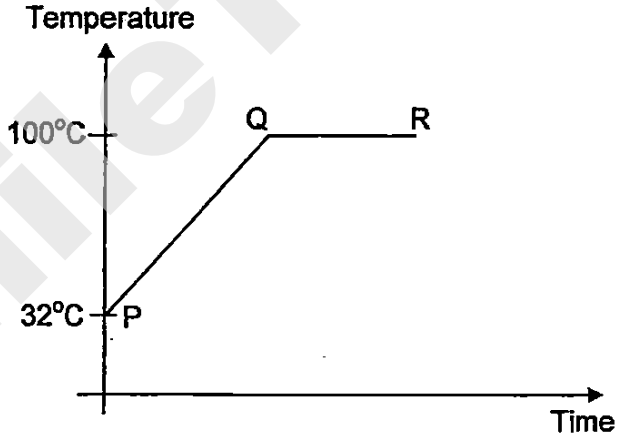


a) Why are there no water droplets formed on Part X of the beaker as shown in the above diagram? (2m)

_____

_____

b) When the water in the beaker reached room temperature, Rosie decided to heat it. She plotted a graph as shown below.



Explain why the temperature of the water did not change between Q and R. (1m)

_____

3

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40. Josh conducted an experiment. He poured equal amounts of 2 different liquids, A and B, into Beaker A and B respectively. Both beakers were left on a table beside an open window for 2 days.

2 days later, Josh observed that there were changes in the amount of liquid in the beakers. He recorded the changes in a table below.

Liquid	Amount of liquid (Start of the experiment)	Amount of liquid (after 2 days)
A	150 ml	126 ml
B	150 ml	109 ml

a) **Put a tick (✓)** in the correct boxes to indicate whether the statements are True, False or Not Possible to Tell. (2m)

Statements	True	False	Not Possible to Tell
Liquid B evaporated faster than Liquid A.			
Liquid A has a higher boiling point than Liquid B.			
There was less liquid in Beaker A than in Beaker B at the start of the experiment.			
Beaker B will be empty before Beaker A.			

b) Josh conducted another experiment with 3 trays of different sizes containing the same amount of water at 30°C.



P Q R

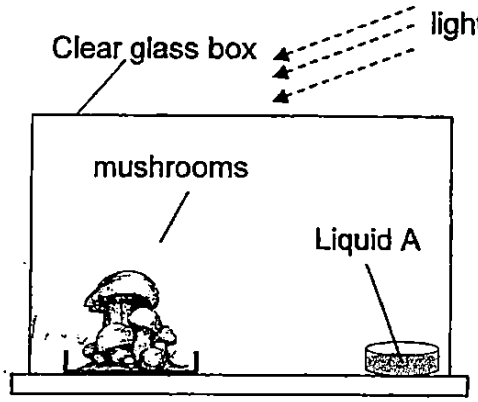
From which tray will the water evaporate at the fastest rate? Explain your answer. (1m)

_____

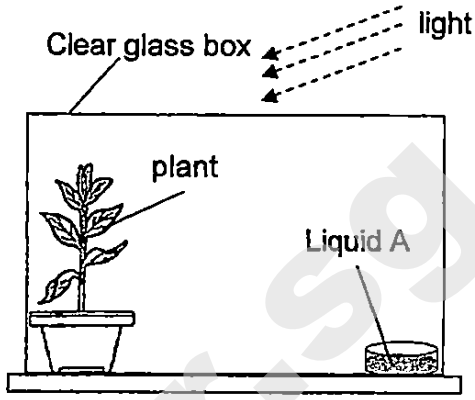
3

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41. Minnie prepared 2 setups, Q and R. She placed a pot of mushrooms and a pot of plant in 2 sealed clear glass boxes as shown below. A dish filled with Liquid A was placed in the box beside the mushrooms and plant.



Set-up Q



Set-up R

Liquid A is blue and it will change its colour according to the different amounts of oxygen that is present.

Starting colour of Liquid A	
Low Oxygen Level →	**High Oxygen Level**
Clear	Pink

After 3 hours in a brightly-lit place, what will happen to the colour of Liquid A?

a) i) Colour of Liquid A in Set-up Q : _____ (½ m)

ii) Explain your answer in a(i). (1m)

_____

_____

b) i) Colour of Liquid A in Set-up R : _____ (½ m)

ii) Explain your answer in b(i). (1m)

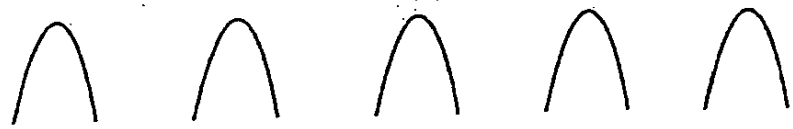
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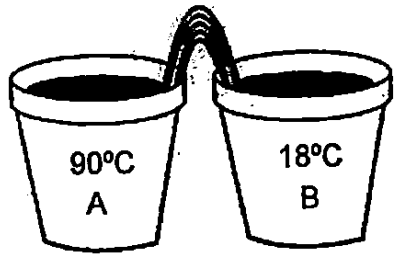
3

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42. Cathy carried out an experiment at room temperature 32°C. She bent 5 thin metal rods as shown in the diagram below.



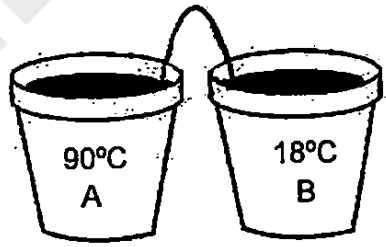
Cathy then placed the rods into 2 cups, Cup A was filled with hot water and Cup B was filled with cold water as shown below.



a) What would happen to the temperature of the water in Cup A and Cup B after 2 minutes? Write 'Increase' or 'Decrease' in the table below. (1m)

Water in	Will the temperature increase or decrease?
Cup A	
Cup B	

Cathy then repeated the experiment but she removed 4 rods and left only 1 rod in the cups as shown below.



b) In what way would the time taken for the water to change its temperature be affected by the reduction of rods? (1m)

_____

_____

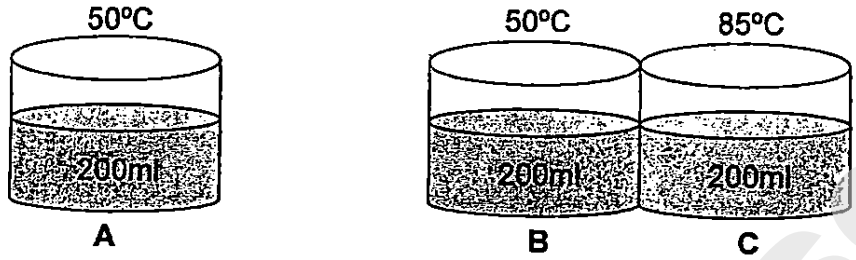
c) What would be the temperature of the water in the cups after 3 hours? (1m)

Cup A ☐ Cup B ☐

3

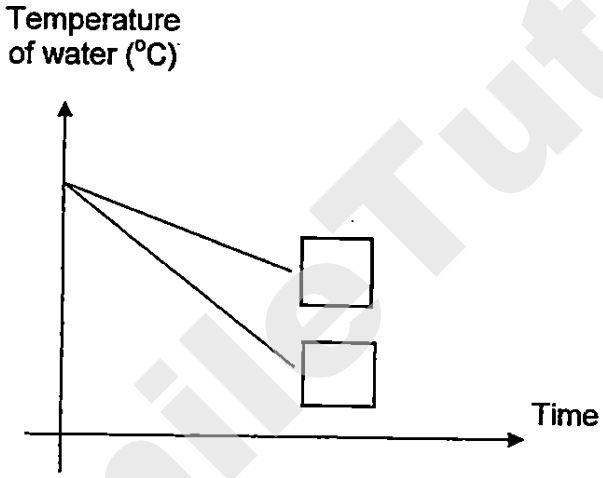
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43. The diagram below shows 3 similar containers, A, B and C, each containing 200ml of water. Container A was placed on its own and Containers B and C are placed side by side touching each other. The temperature of water is 50°C in Container A, 50°C in Container B and 85°C in Container C. They were placed in a room of 25°C.

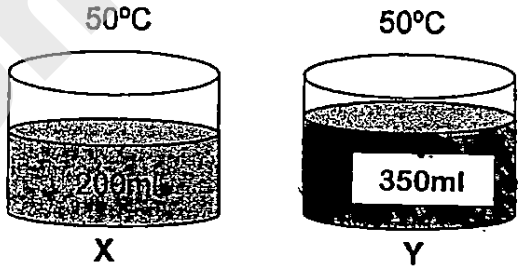


The containers of water were left to cool for 60 minutes.

a) Based on the above information, **write A or B** in the boxes provided on the graph below to indicate the line that represents the respective containers of water. (1m)



)

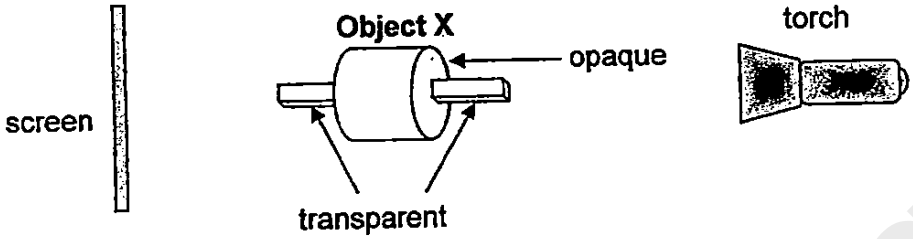


Does the water in Y have a smaller, same amount or greater amount of heat than X? Explain your answer. (2m)

3

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44. Object X is made up of an opaque cylinder and 2 transparent extension rods, one on each side. A torch is shone on it to form a shadow on the screen.



a) In order to form a bigger shadow, how should Object X be moved? (1m)

_____

_____

b) Object X is placed at 2 positions, A and B, to form different shadows.

Position A >



Position B >



Draw the possible shadows that will be formed on the screen in the given boxes provided.

Please **SHADE Completely** for the shadows. (2m)

Shadow formed with **Position A**

Shadow formed with **Position B**

END.

3

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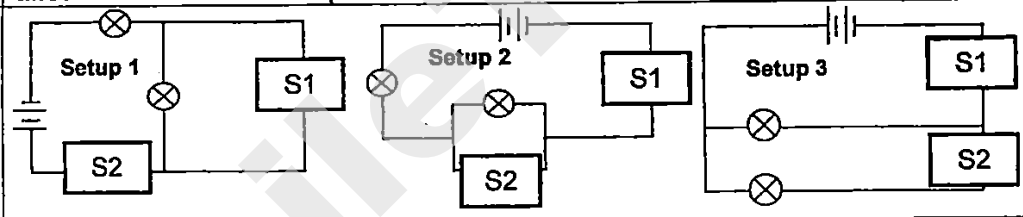
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SINGAPORE CHINESE GIRLS' SCHOOL
PRIMARY 5 SCIENCE SA2 2015 Model Answers

Booklet A

1) 2	6) 4	11) 3	16) 4	21) 4	26) 1
2) 3	7) 4	12) 2	17) 2	22) 3	27) 3
3) 2	8) 4	13) 1	18) 1	23) 2	28) 3
4) 3	9) 3	14) 3	19) 4	24) 3	29) 3
5) 1	10) 3	15) 2	20) 4	25) 1	30) 4

Booklet B

Qn	Suggested Answer
31a	A: **Mammals** / B: **Birds** / C: **Flowering plants** / D: **Non-flowering plants**
31b	Peguin – B, Mango – C
32	a) B b) C c) A
33a	The water carrying tubes have transported the red-coloured water to the other parts of the plants and stained them red.
33bi	To find out if different types of plants take in different amounts of water
33bii	The purpose of the layer of oil in the beakers is to prevent the water from evaporating which will affect the results of the experiment.
34	
35a	The strength of a magnet does not depend on its size.
35b	Distance X will become shorter.
36a	1) The frog has a 3-stage life cycle while the mosquito has a 4-stage life cycle. 2) The young of the frog does not moult while the young of the mosquito moults.
36b	Their young do not look like their adult. / They spent part of their life cycles in water and part of their life cycle on land.
37a	They are dispersed by water.
37b	Has fibrous husk to allow it to float on water
37c	Dispersed by wind / dispersed by animals
38a	The stones are solid and they have a definite volume.
38b	Air can be compressed. / Air does not have a definite volume.
39a	The surface of Part X is not cool enough for the warmer water vapour in the surrounding to condense into water droplets.
39b	The water has reached its boiling point.

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40a

Statements	True	False	Not Possible to Tell
Liquid B evaporated faster than Liquid A.	✓		
Liquid A has a higher boiling point than Liquid B.			✓
Liquid A has less water at the start of the experiment.		✓	
Beaker B will be empty before Beaker A.	✓		

40b Tray R. The exposed surface area of the water is the largest.

41a
(i) clear
(ii) Mushrooms are not plants so they do not photosynthesise and do not give out oxygen.

41b
(i) pink
(ii) The plant will carry out photosynthesis in the presence of light and give out oxygen.

42a
Cup A – decrease
Cup B – increase

42b The time taken will be longer.

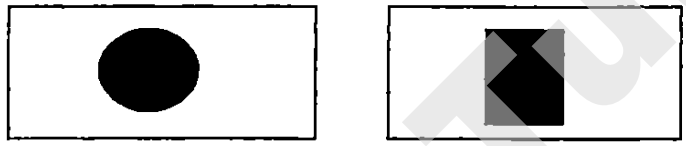
42c
Cup A – 32°C
Cup B – 32°C

43a
B
A

43b Water in Y has a greater amount of heat because it has a greater volume.

44a
Object X must be moved nearer to the torch. /
Object X must be moved further from the screen.

44b



Position A

Position B

END.

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PRIMARY 5 END-OF-YEAR EXAMINATION 2015

Name: _____ ( ) Date: ~~29~~ 30 October 2015

Class: Primary 5 ( ) Time: 8.00 a.m. to 9.25 a.m.

Duration: 1h 25min

Booklet A marks: ____ / 50

Parent's Signature: _____ Total marks: ____ / 80

SCIENCE

BOOKLET A

INSTRUCTIONS TO CANDIDATES

Write your name, register number and class.

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

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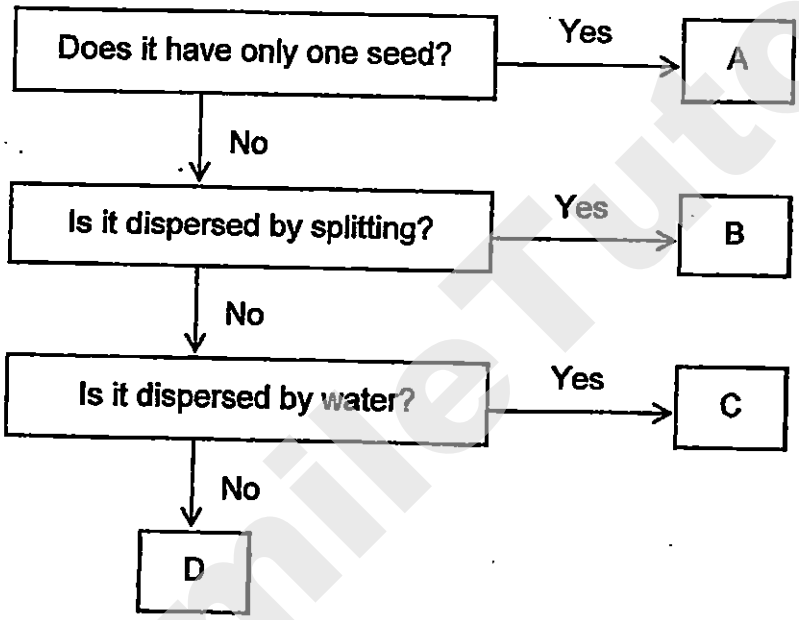
Section A (25 × 2 marks = 50 marks)

For each question from 1 to 25, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Which of the following is true about reproduction in plants?

(1) The ovary produces the male reproductive cell. . .
(2) The anther of a flower receives the pollen grains.
(3) The stigma and the filament are the female parts of a flower.
(4) The ovule develops into a seed after fertilisation has taken place.

2. Study the flow chart below. A, B, C and D represent four different fruits.

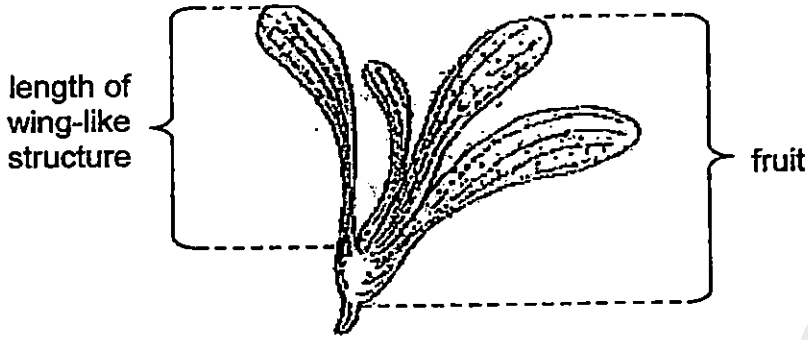


Which of the following is represented by A, B, C and D?

	A	B	C	D
(1)	Kiwi	Watermelon	Lotus	Papaya
(2)	Orange	Saga	Watermelon	Papaya
(3)	Mango	Saga	Lotus	Watermelon
(4)	Rambutan	Papaya	Coconut	Mango

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3. Mary wanted to find out how the length of the wing-like structure of the fruit below affects the distance travelled by the fruit when dropped.

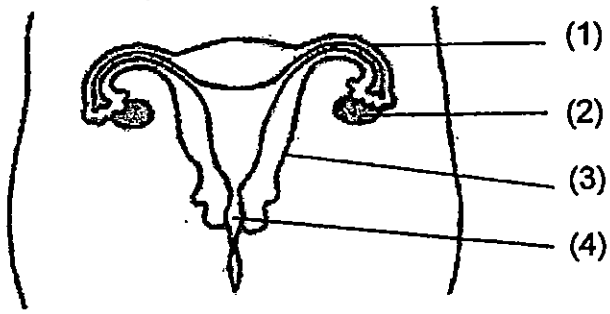


Which of the following variable(s) should Mary keep constant to ensure a fair test?

A Mass of fruits
B Length of the wing-like structure
C Height from which the fruits were dropped
D Location where the experiment was carried out

(1) B only
(2) A and B only
(3) C and D only
(4) A, C and D only

4. The diagram below shows the female human reproductive system. At which part of the system does fertilisation take place?



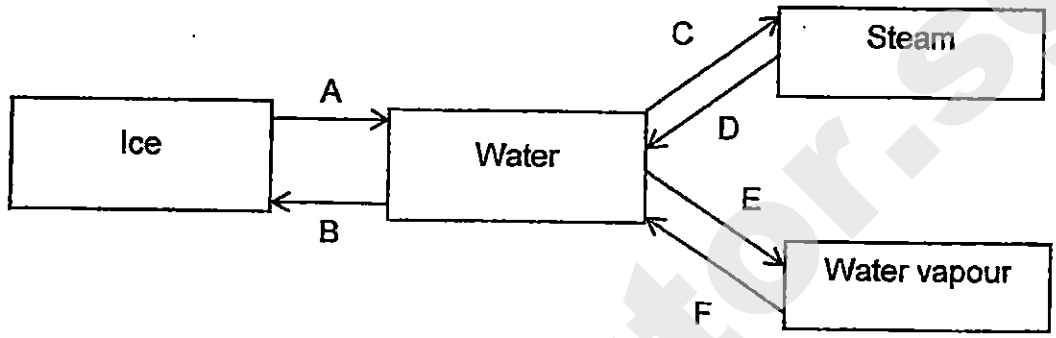
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5. Which of the following traits can be passed on from parents to their young?

(1) Blood type
(2) Muscle size
(3) Fingerprints
(4) Length of nails

6. A, B, C, D, E and F represent processes that lead to the changes in state of water.



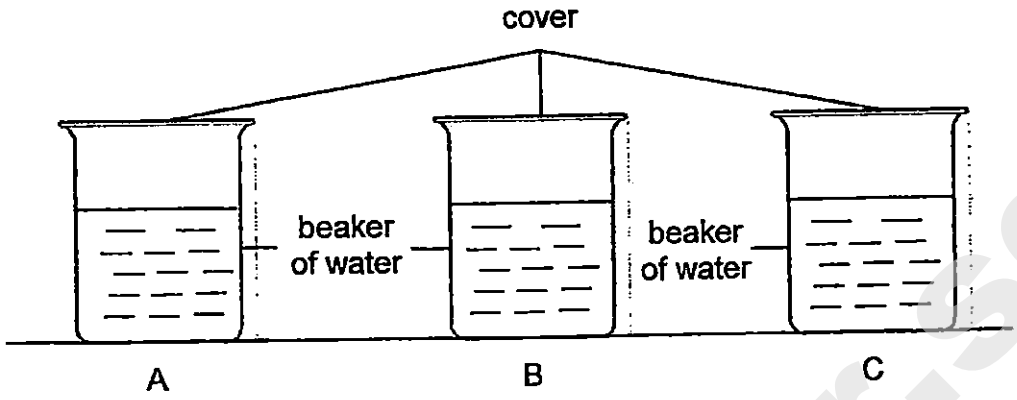
Which of the following processes, A, B, C, D, E and F, involve heat loss?

(1) A, C and E
(2) B, D and F
(3) A, D and E
(4) B, C and F

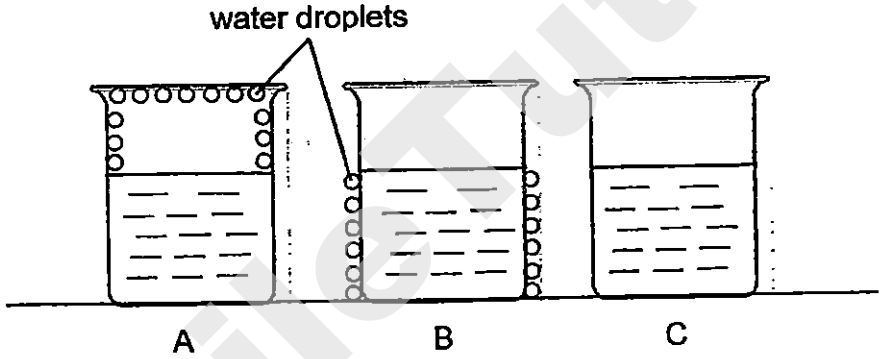
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7. In an experiment, 3 identical beakers with identical covers were placed in a room at 30°C. Each beaker, A, B and C, contained water at different temperatures.



The diagram below shows what happened after some time.



Which of the following shows the temperature of the water in each beaker at the start of the experiment?

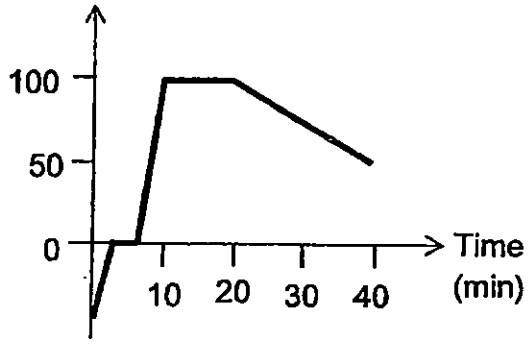
	A	B	C
(1)	80°C	10°C	30°C
(2)	80°C	30°C	10°C
(3)	10°C	80°C	30°C
(4)	30°C	10°C	80°C

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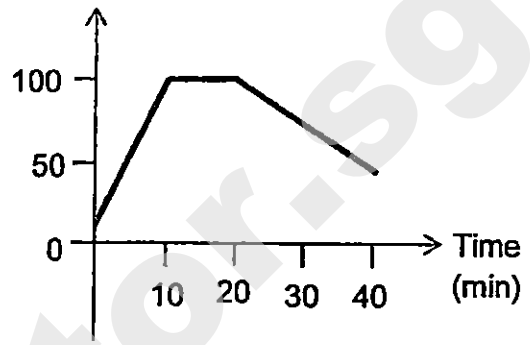
8. In an experiment, Ryan heated some cold water in a beaker using a gas burner. After 10 minutes, the water started to boil. He continued heating the water for another 10 minutes before turning off the gas burner.

Which of the following graphs shows the temperature change of the water in Ryan's experiment?

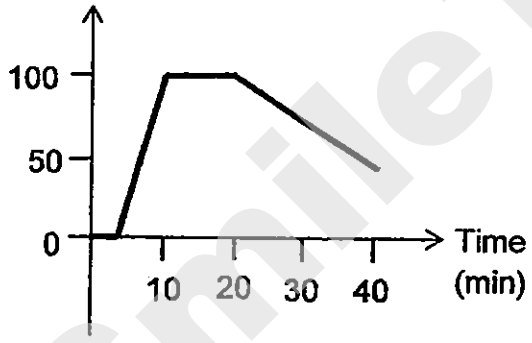
(1)



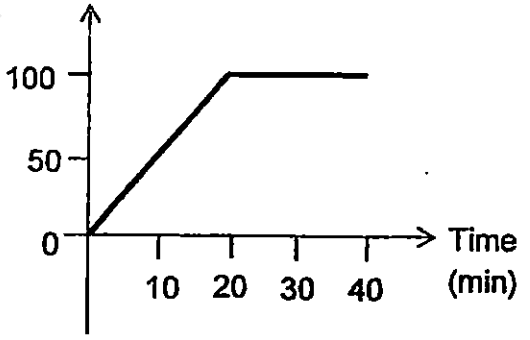
(2)



(3)



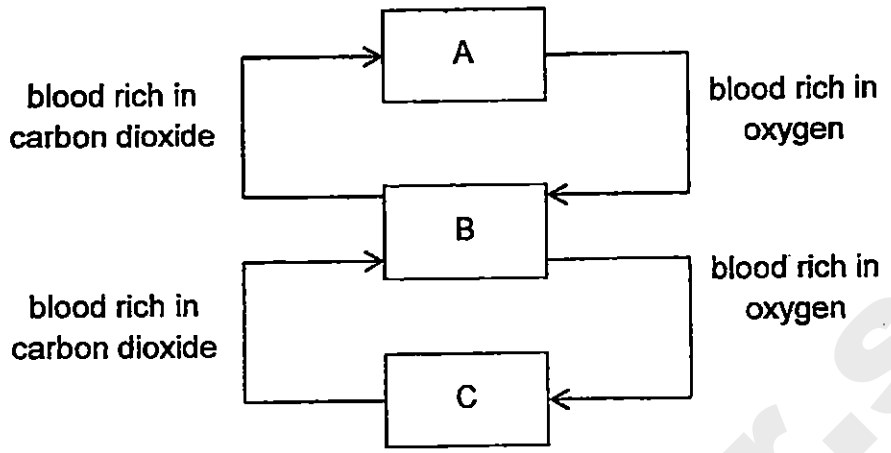
(4)



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9. In the diagram below, A, B and C represent 3 different parts of the human body. The arrows show the flow of blood in the human body.



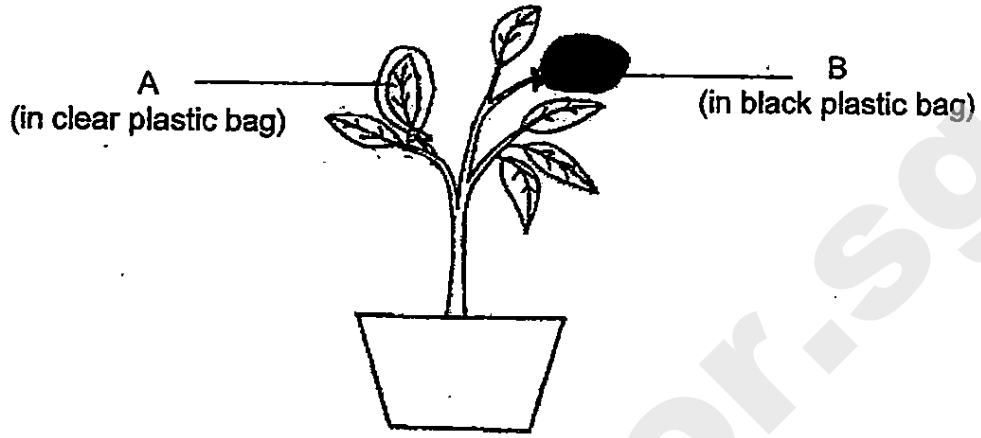
Which of the following are the body parts represented by A, B and C?

	A	B	C
(1)	Lungs	Heart	Head
(2)	Head	Heart	Lungs
(3)	Heart	Lungs	Head
(4)	Lungs	Head	Heart

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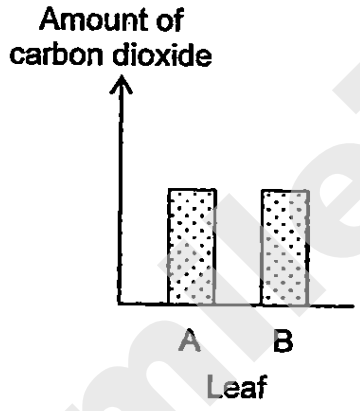
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10. Sam set up an experiment as shown below. He wrapped two similar leaves, A and B, of a plant with two different plastic bags. He wrapped A in a clear plastic bag and B in a black plastic bag. The plastic bags were of the same size and thickness. He left the plant under bright light for 5 hours.

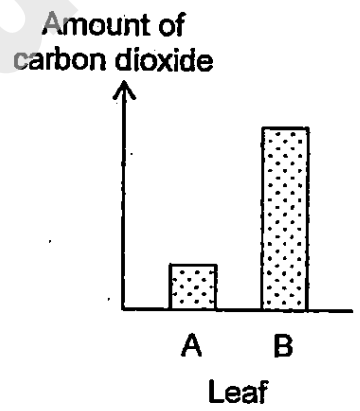


Which of the following graph represents the amount of carbon dioxide in the plastic bags after 5 hours?

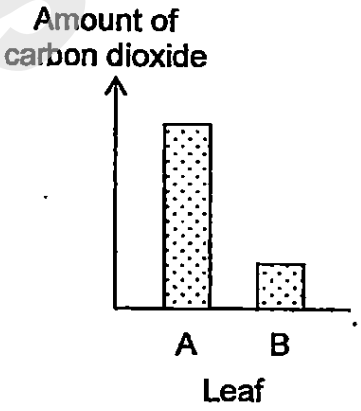
(1)



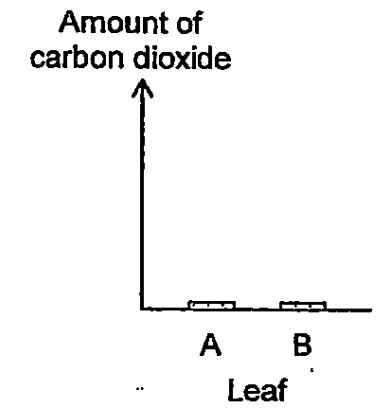
(2)



(3)

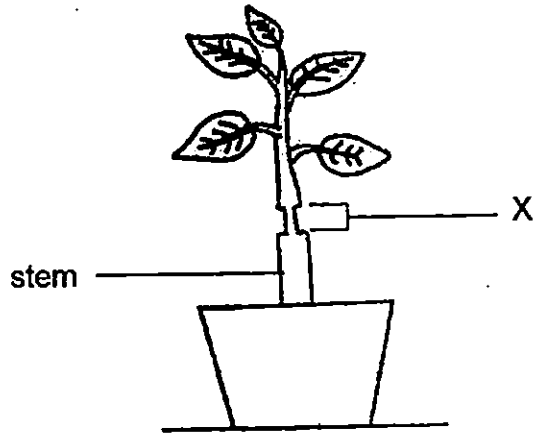


(4)

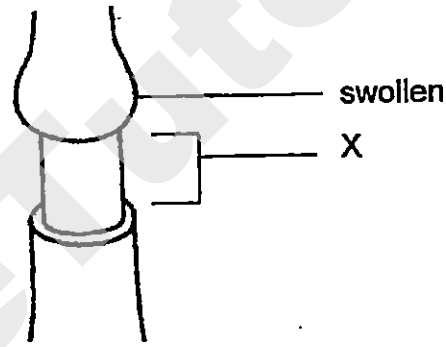


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11. Lily removed the outer ring of a plant's stem at X as shown below.



Lily left the plant under the Sun and watered it every day. After a few days, she observed that the plant was still alive and part of the stem above X was swollen as shown below.



Which of the following explains why part of the stem above X was swollen?

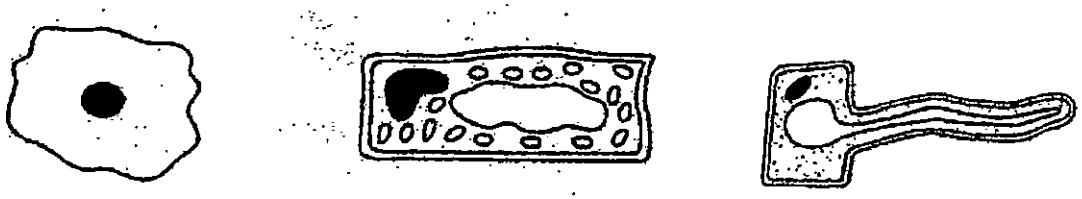
(1) Food cannot be transported to the part below X.
(2) Water cannot be transported to the part below X.
(3) Food cannot be transported to the part above X.
(4) Water cannot be transported to the part above X.

12. The nucleus of a plant cell requires Substance X. Which of the following shows the path of Substance X from the outside of the cell to the nucleus?

(1) Cytoplasm → Cell membrane → Cell wall
(2) Cell membrane → Cell wall → Cytoplasm
(3) Cell wall → Cell membrane → Cytoplasm
(4) Cell wall → Cytoplasm → Cell membrane

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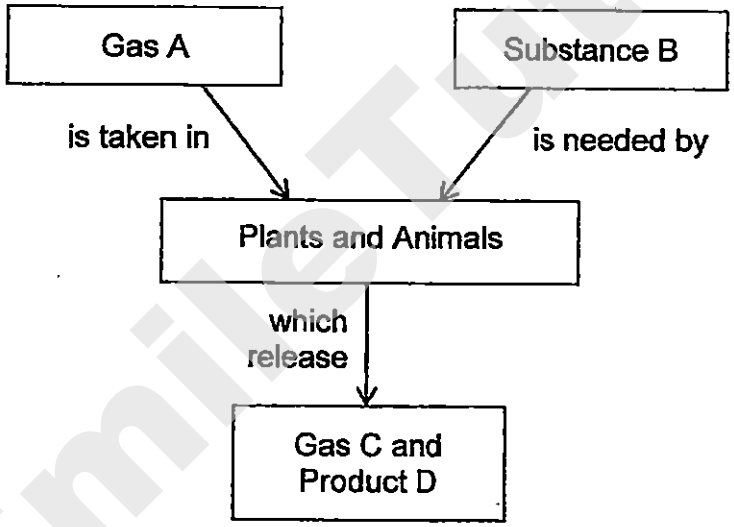
13. Study the three different cells below.



Which of the following statements is true of all the three cells?

(1) They can make food.
(2) They are animal cells.
(3) They contain cytoplasm and cell wall.
(4) They have nucleus and cell membrane.

14. The diagram below shows a life process that occurs in both plants and animals.

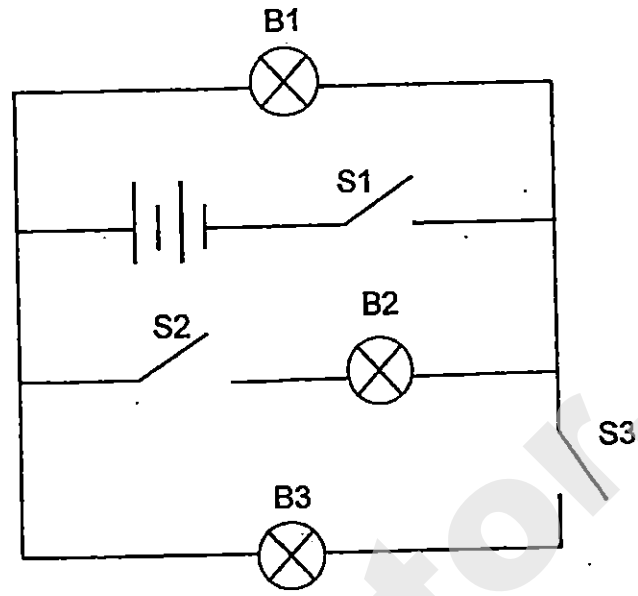


Which of the following are represented by Gas A, Substance B, Gas C, and Product D?

	Gas A	Substance B	Gas C	Product D
(1)	Carbon dioxide	Water	Oxygen	Starch
(2)	Oxygen	Food	Carbon dioxide	Energy
(3)	Carbon dioxide	Food	Oxygen	Energy
(4)	Oxygen	Water	Carbon dioxide	Starch

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15. Bulbs B1, B2 and B3 and switches S1, S2 and S3 are connected in an electric circuit as shown below. All the parts of the circuit are in good working condition.



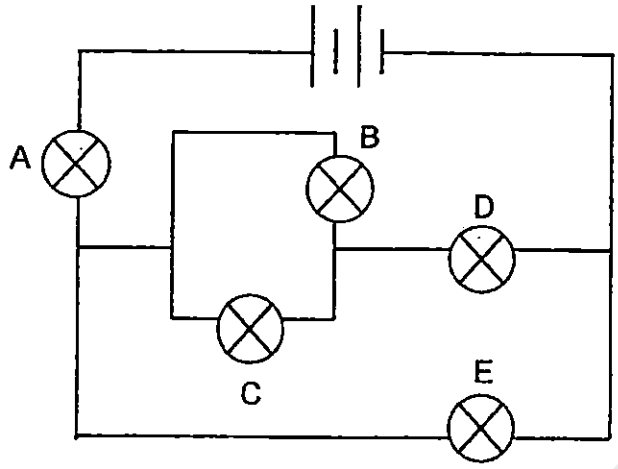
Which of the following is correct?

	Are the switches closed or open?			Do the bulbs light up?		
	S1	S2	S3	B1	B2	B3
(1)	closed	open	closed	yes	no	yes
(2)	open	open	closed	no	no	yes
(3)	open	closed	open	yes	yes	no
(4)	closed	closed	open	no	yes	no

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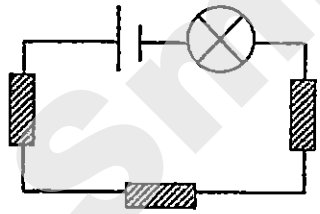
16. Study the circuit diagram below. All the bulbs are lit and all the components in the circuit are working.



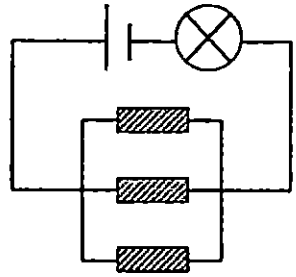
Which of the following correctly states the number of bulb(s) that would still be lit when one bulb is blown?

	Bulb that is blown	Number of bulb(s) still lit
(1)	A	1
(2)	C	4
(3)	D	3
(4)	E	2

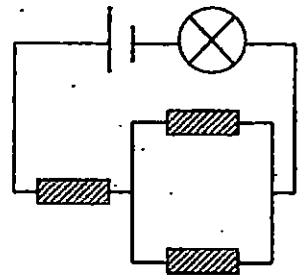
17. Each of the electric circuits below has a steel rod, a wooden rod and a plastic rod.



Circuit A



Circuit B



Circuit C

In which of the circuit(s) above would the bulb light up?

(1) B only
(2) A and C only
(3) B and C only
(4) A, B and C

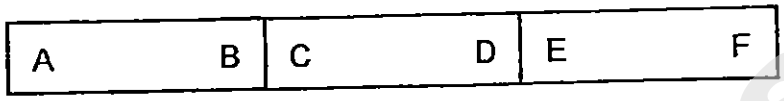
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18. Which of the following wastes electricity?

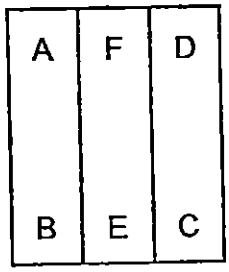
(1) Turn on a fan instead of an air-conditioner.
(2) Open the refrigerator door when necessary.
(3) Use energy saving bulbs instead of filament bulbs.
(4) Turn on the main power switch when appliances are not in use.

19. Three bar magnets, AB, CD and EF, can be arranged as shown below.

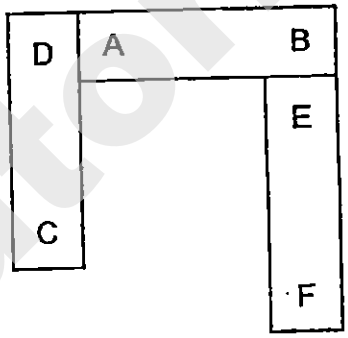


Which of the following can be another arrangement of the bar magnets?

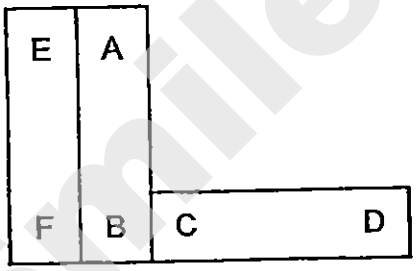
(1)



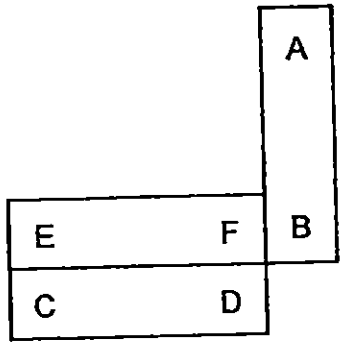
(2)



(3)



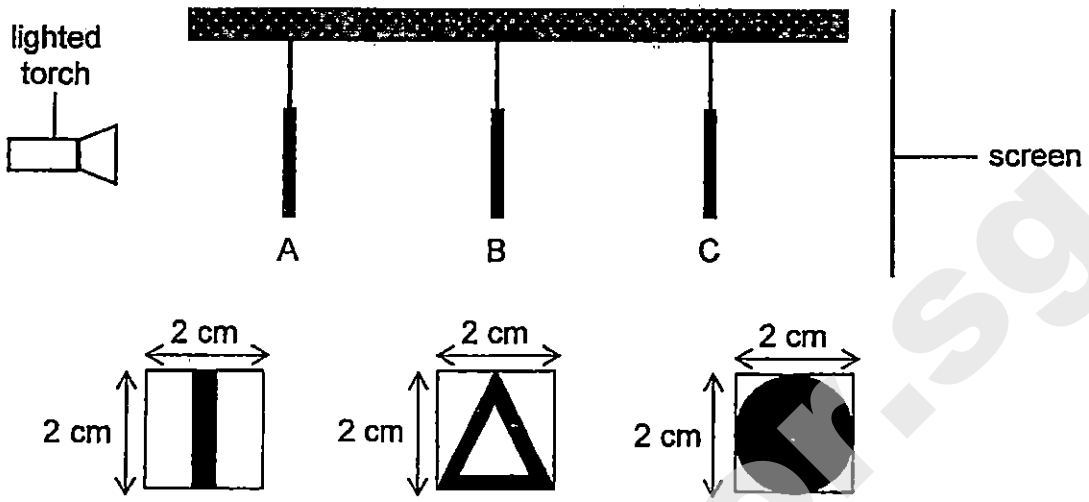
(4)



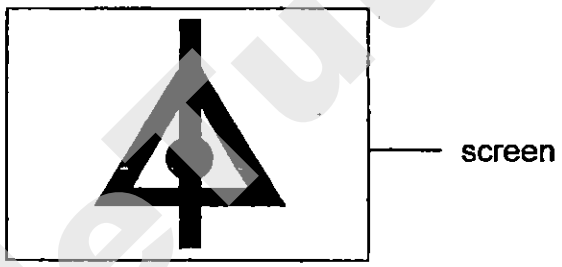
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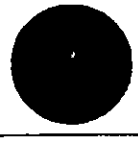
20. The set-up below shows a lighted torch shining at three wooden objects. They are placed at different positions, A, B and C, from the torch. The size of the objects is the same.



The diagram below shows the shadow of the objects on the screen.

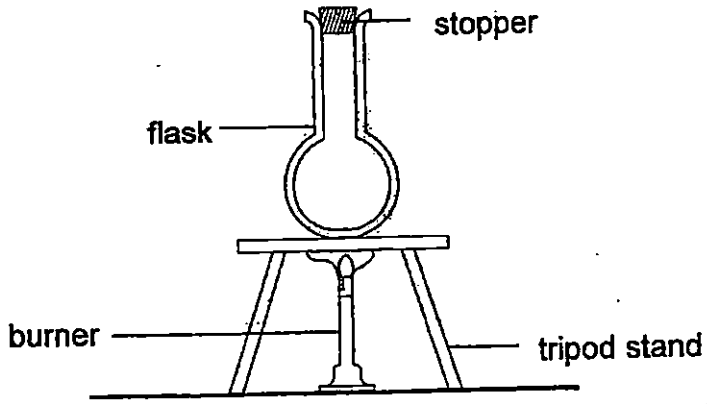


Which of the following correctly shows the objects at the positions, A, B and C?

	A	B	C
(1)			
(2)			
(3)			
(4)			

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21. The diagram below shows a flask fitted with a stopper.



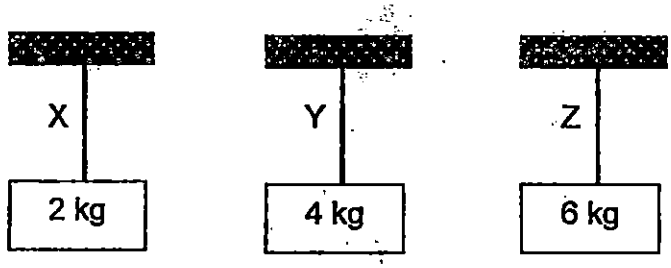
The flask was heated and after a minute, the stopper popped out. Which of the following explains why the stopper popped out?

(1) The flask expanded.
(2) The stopper expanded.
(3) The air in the flask expanded.
(4) The flask and the stopper expanded.

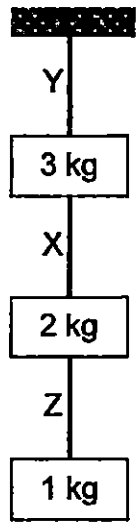
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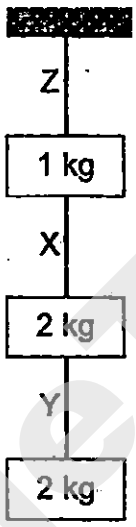
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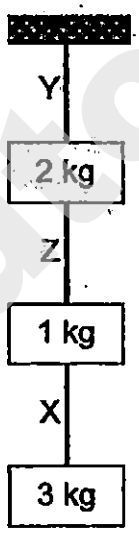
22. Three types of string, X, Y and Z, had weights hanging from them. The weights were increased until the strings broke. The maximum weight that the strings could hold before breaking is shown below.

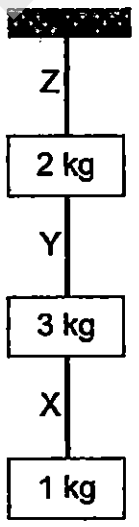


Which of the following shows a possible arrangement of the weights?

(1)


(2)


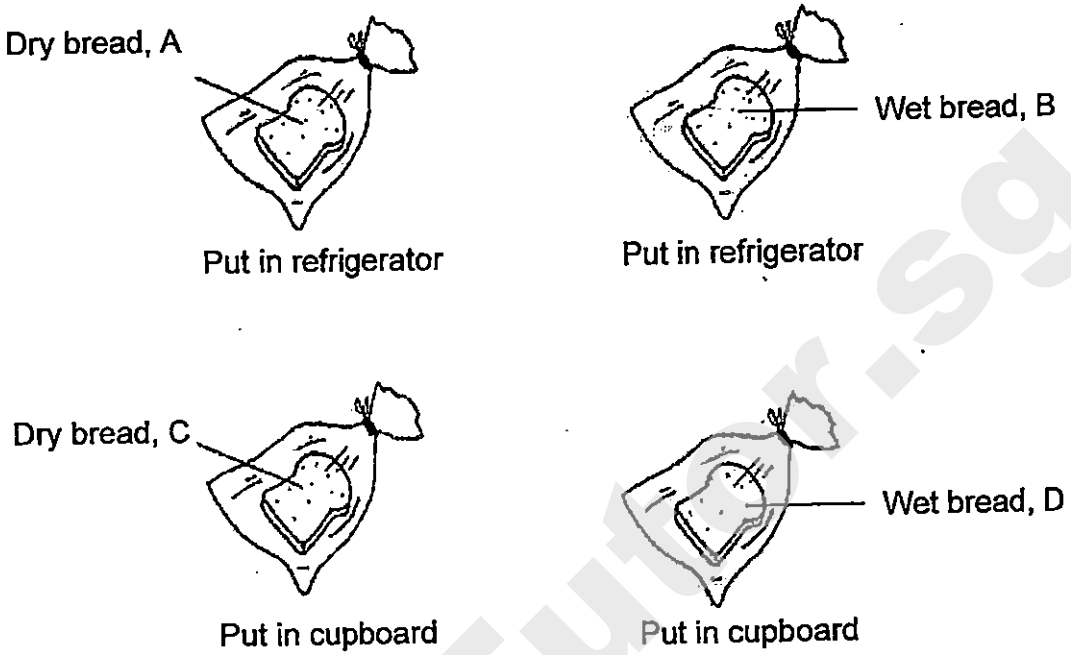
(3)


(4)


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23. Tom prepared four slices of bread, A, B, C, and D. He placed each of the four slices of bread into identical plastic bags and sealed them as shown below. He put A and B in a refrigerator. He put C and D in a cupboard.



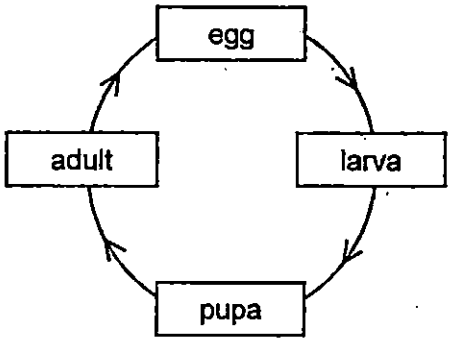
Which slice of bread would turn mouldy first?

(1) A
(2) B
(3) C
(4) D

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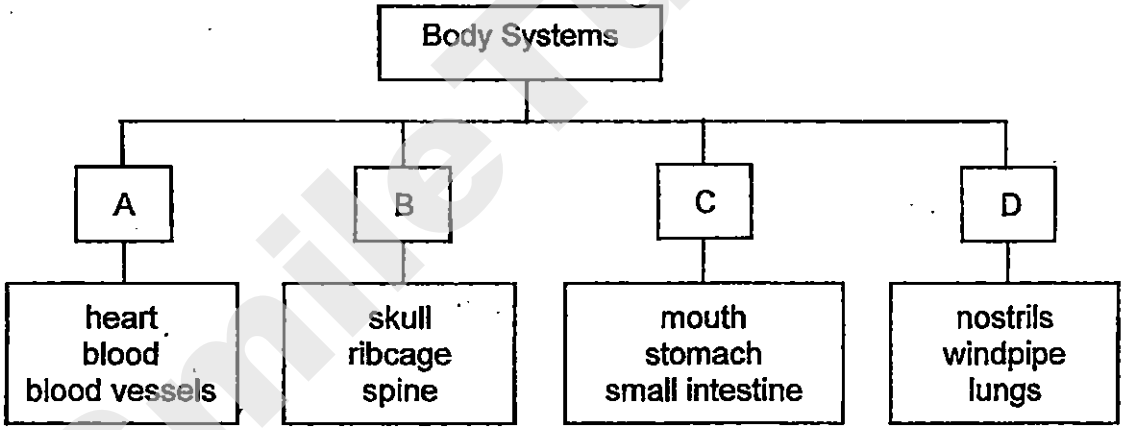
24. The diagram below shows the life cycle of an animal.



Which of the following animals go through the life cycle above?

(1) Butterfly and frog
(2) Mosquito and beetle
(3) Chicken and cockroach
(4) Cockroach and butterfly

25. Study the classification chart below and match the parts of the human body to the body systems, A, B, C and D.



	A	B	C	D
(1)	Circulatory	Digestive	Skeletal	Respiratory
(2)	Respiratory	Skeletal	Digestive	Circulatory
(3)	Circulatory	Skeletal	Digestive	Respiratory
(4)	Respiratory	Digestive	Skeletal	Circulatory

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PRIMARY 5 END-OF-YEAR EXAMINATION 2015

Name: _____ ( )

Date: ~~29~~ 30 October 2015

Class: Primary 5 (

Time: 8.00 a.m. to 9.25 a.m.

Duration: 1h 25min

Parent's Signature: _____

Marks: _____ / 30

SCIENCE

BOOKLET B

INSTRUCTIONS TO CANDIDATES

Write your name, register number and class.

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

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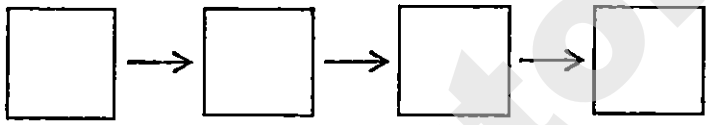
Section B (30 marks)

For the questions, 26 to 35, write your answers in the spaces provided.

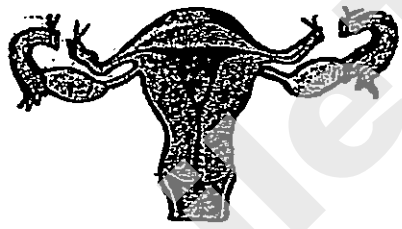
26. The following statements describe the process of sexual reproduction in humans.

A:	A sperm fuses with the egg.
B:	Sperms swim towards the egg.
C:	The fertilised egg starts to divide to form more cells.
D:	The unborn baby develops in the womb as organs begin to form.

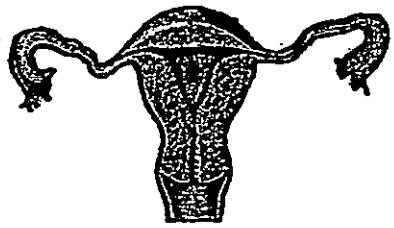
(a) Arrange the above statements, A, B, C and D, in the correct order in which they take place. [1]



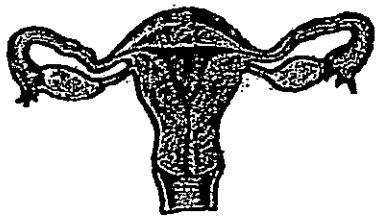
(b) The diagrams below show the reproductive parts of 3 women, X, Y and Z.



X



Y



Z

Which woman, X, Y or Z, will be able to give birth? Explain why. [2]

_____

_____

_____

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27. Sally observed three similar balsam plants, A, B and C with equally ripe fruits. Each plant was placed in a different room. Her observations are shown in the table below.

Balsam plant	A	B	C
Temperature of the room (°C)	25	30	35
Time taken for the fruit to split (h)	4	2	1

(a) Which variable was changed in Sally's experiment? [1]

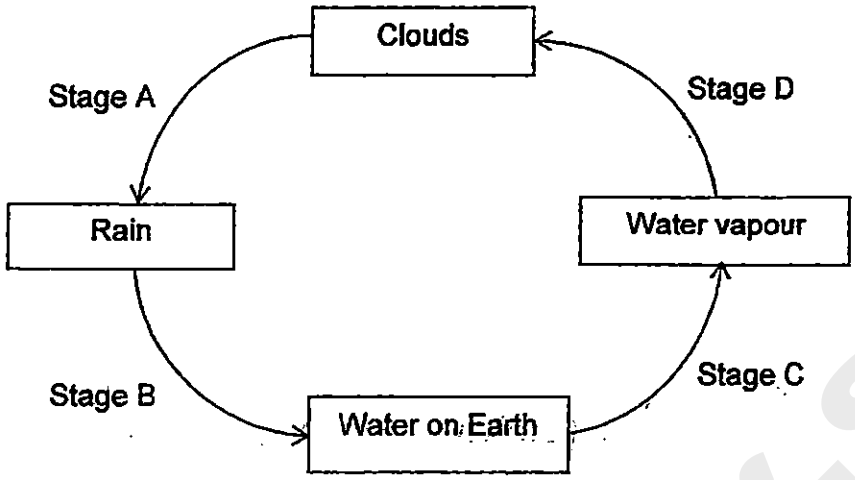
(b) Based on her observations in the table above, what can Sally conclude about the temperature of the room and the time taken for the fruit to split? [2]

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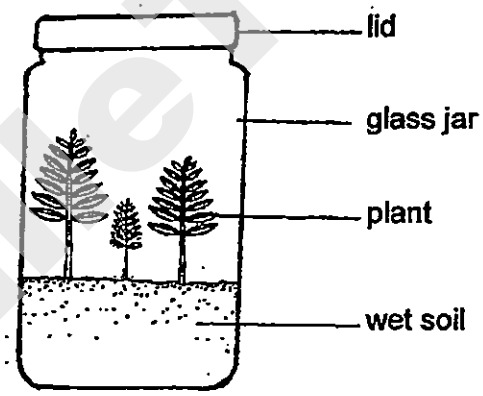
28. The water cycle is shown in the diagram below.



(a) Which stage(s), A, B, C and D, involve(s) a change in state of water? [1]

_____

(b) A few plants were placed in a glass jar as shown in the diagram below. The jar was sealed tightly with a lid and was left in a garden for a few weeks.



Explain how the plants in the jar obtained a constant supply of water over the few weeks. [2]

_____

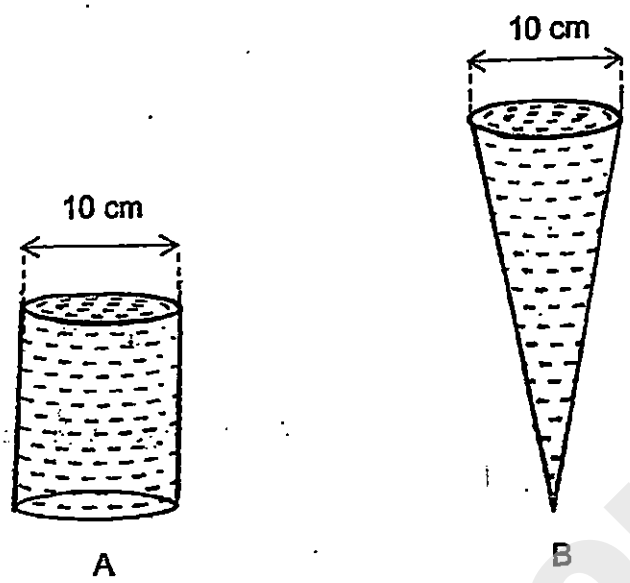
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29. Tom had two containers, A and B, with the same capacity. He filled them with the same volume of water and placed them in a field.

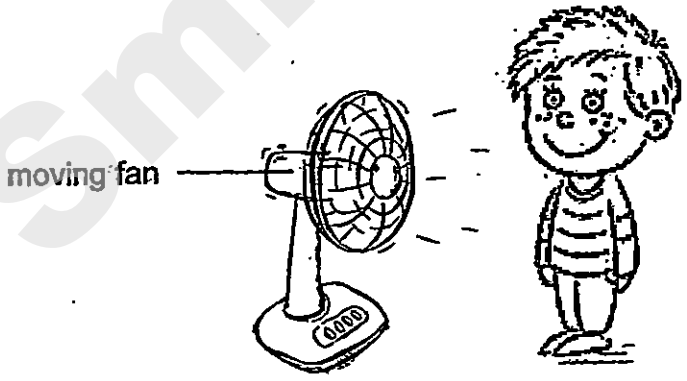


(a) In which container, A or B, will the water take a longer time to evaporate? Explain why. [1]

_____

_____

(b) After playing soccer, Tom switched on a fan and it blew at him for some time.



Tom noticed his sweat dry faster when the fan blew at him. Explain why. [2]

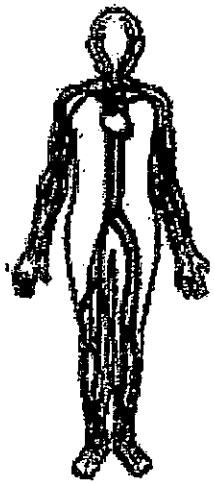
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_____

/ 3

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30. The diagrams below show two human body systems. Identify the systems in (a) and (b). Explain how they work together to remove carbon dioxide from the body in (c) and (d). [4]

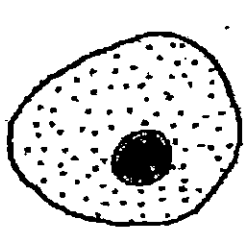
	Explain how the systems work together to remove carbon dioxide from the body.
 (a)_____ system	(c)
 (b)_____ system	(d)

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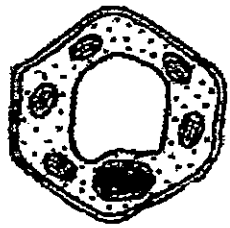
4

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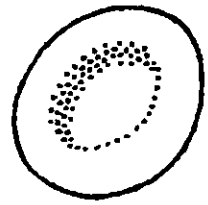
31. The diagrams below show 3 different cells, A, B and C.



A



B



C

(a) Based on your observations of the cells above, which cell, A, B or C, is a plant cell? Give two reasons. [2]

_____

_____

_____

(b) Genetic information is needed for a cell to reproduce. Which cell(s), A, B and C, is/ are able to reproduce? Give a reason. [1]

_____

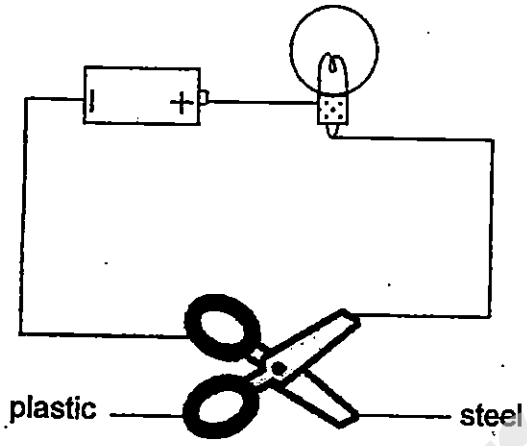
_____

3

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32. Study the electric circuit below.



All the parts of the circuit are in good working condition.

(a) Explain why the bulb cannot light up. [1]

_____

_____

(b) Using all parts of the circuit and without adding or removing any part of the circuit, suggest a change to the circuit to make the bulb light up. [1]

_____

_____

2

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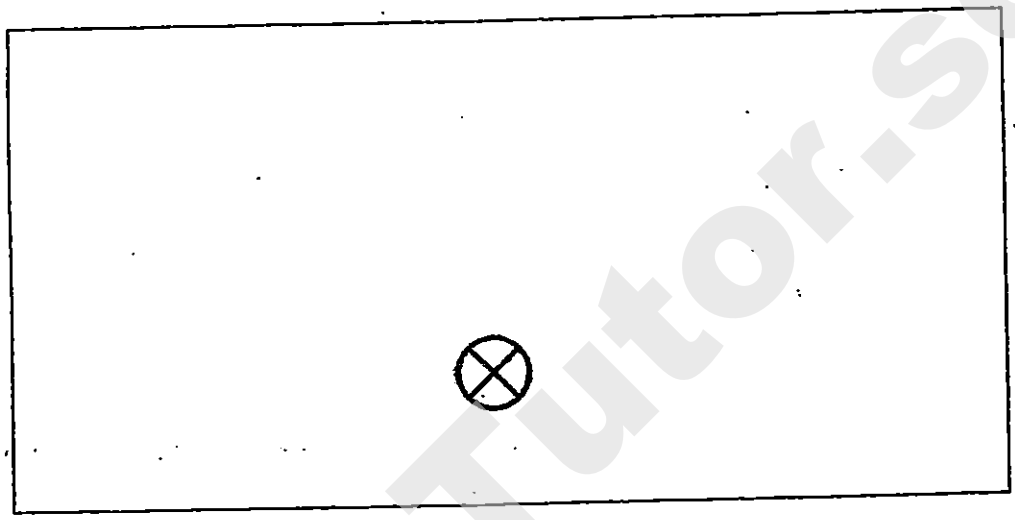
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33. Bala has the following materials:

- 1 bulb
- 2 wires
- 3 batteries

Bala wants to construct a circuit with all the materials to make the bulb glow the brightest.

(a) Complete the circuit diagram in the box below to show how Bala should construct the circuit. [2]



(b) In Bala's house, the lamps are arranged in parallel instead of in series.

What are two advantages of arranging the lamps in parallel? [2]

Advantage 1: _____

_____

_____

Advantage 2: _____

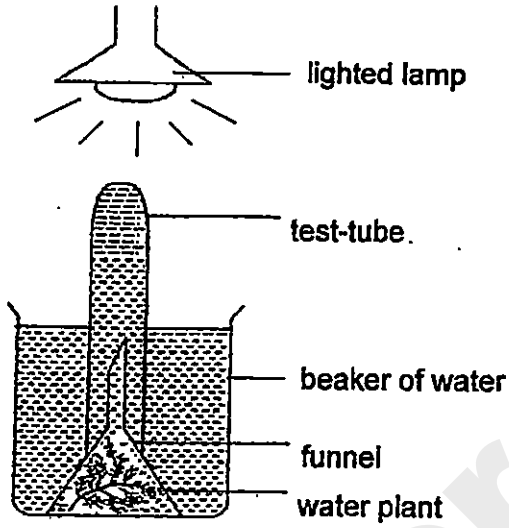
_____

_____

4

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34. Simon set up the experiment below in a dark room with a lighted lamp.



(a) What is the purpose of the lighted lamp in the experiment? [1]

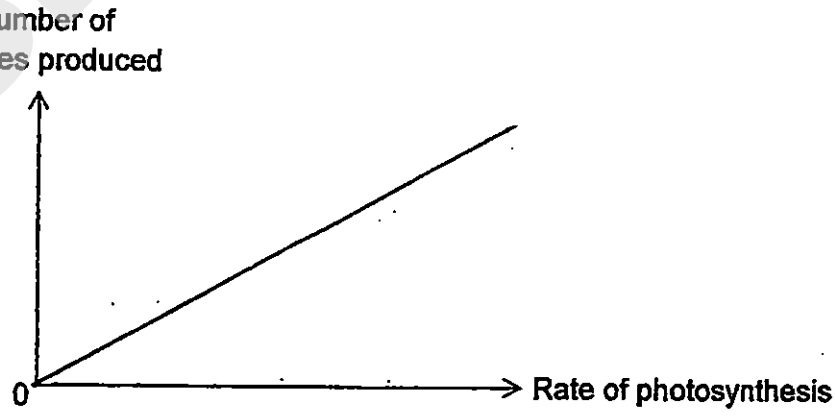
_____

_____

(b) After a few minutes, Simon observed bubbles produced by the water plant in the test-tube. Name the gas found in the bubbles. [1]

_____

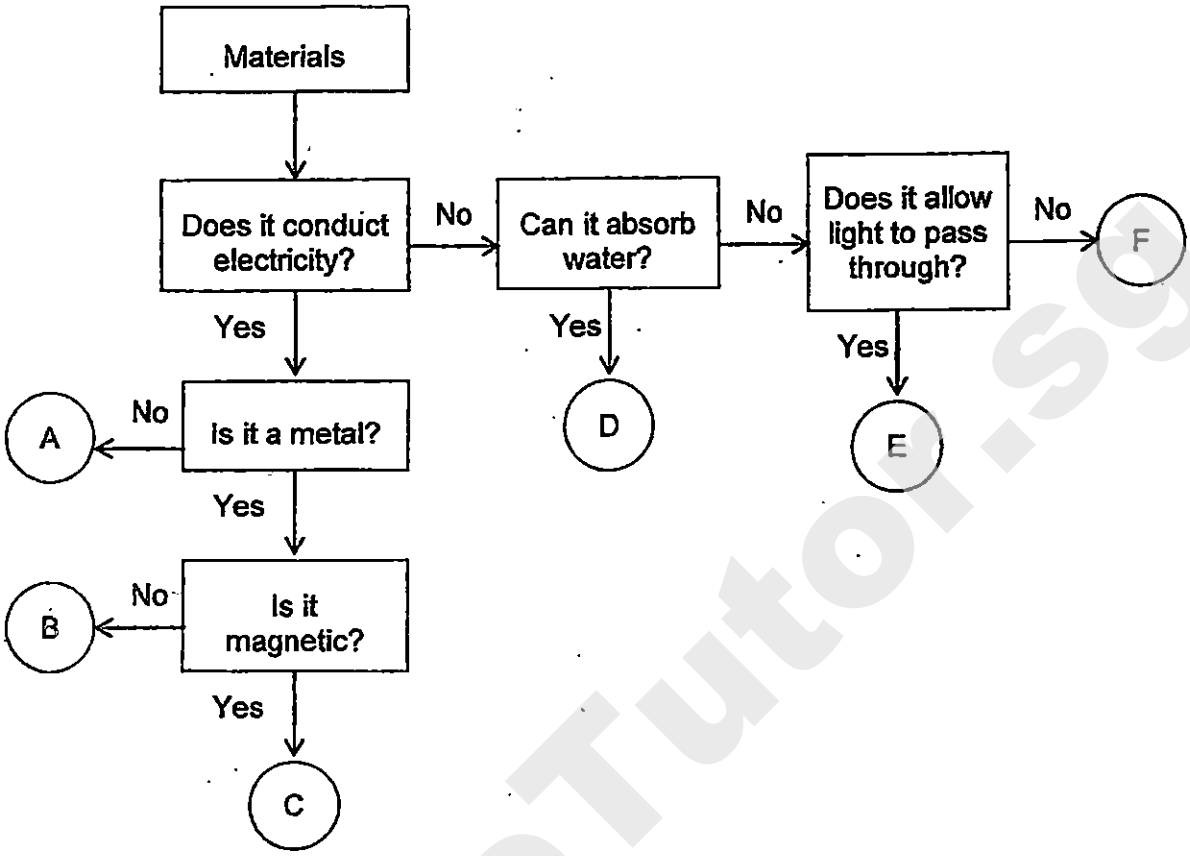
(c) Draw a line graph below to show the relationship between the number of bubbles produced and the rate of photosynthesis. [1]



3

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35. Study the flow chart below. A, B, C, D, E and F represent different materials.



Identify the materials below. Write the letters, A, B, C, D, E or F, in the boxes provided. Use each letter only once. [2]

Material	Represented by letter
Ceramic	
Copper	
Glass	
Paper	

— End of Paper —

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LEVEL : PRIMARY 5
SCHOOL : TAO NAN SCHOOL
SUBJECT : SCIENCE
TERM : SA2

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q9	Q 10
4	**3**	**4**	**1**	**1**	**2**	**1**	**2**	**1**	**2**
Q 11	Q 12	Q 13	Q 14	Q 15	Q16	Q17	Q18	Q19	Q20
1	**3**	**4**	**2**	**1**	**2**	**1**	**4**	**2**	**3**
Q21	Q22	Q23	Q24	Q25					
3	**4**	**4**	**2**	**3**					

Q26a. B ➔A ➔C ➔D

Q26b. Z. Z is able to give birth as it has an ovary and the fallopian tube is not damage, clamp blocked for fertilization to take place.

Q27a. The temperature of each room each plant was placed in.

Q27b. The higher the temperature , the faster the time taken for the fruit to split.

Q28a. D and C

Q28b. The water from the wet soil evaporated. Water vapour condensed causing water droplets to form on the underside of the lid. The water droplets then dripped back down to the soil, giving the plants an endless supply of water.

Q29a. B. B has a smaller exposed surface area compared to A.

Q29b. The wind from the fan caused his sweat to evaporate faster.

Q30a. Circulatory system

Q30b. Respiratory system

Q30c. The circulatory system transport blood around the body. Blood rich in carbon dioxide will be transported to the lungs.

Q30d. The respiratory system expels the carbon dioxide and takes in oxygen.

Q31a. B. It has cell wall and chloroplasts, and only plant cells have cell wall and chloroplasts.

Q31b. A and B. They each have a nucleus containing genetic information which is needed for a cell to reproduce.

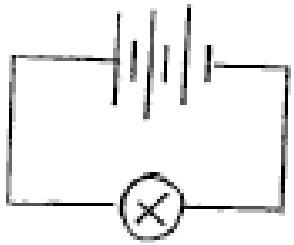
Q32a. Plastic is an electrical insulator and cannot conduct electricity. When the tip of the wire touches the plastic casing, the bulb cannot light up as it is an open circuit.

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Q32b. Connect the two steel ends of the scissors to the two ends of the wire.

Q33a. **SEE PICTURE**



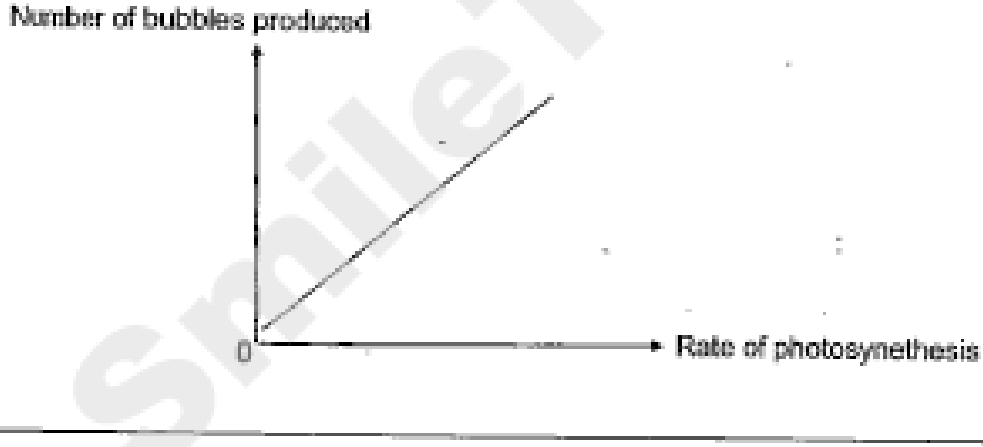
Q33b. Advantage 1 : The bulbs in parallel glow brighter than the bulbs in series.

Q33b. Advantage 2 : If one bulb fuses, the other bulbs will still remain lit.

Q34a. The purpose of the lighted lamp in the experiment is to enable the plant to take in light for photosynethesis .

Q34b. Oxygen

Q34c. **SEE PICTURE**



Q35 Ceramic – F, Copper – B, Glass – E, Paper – D

THE END

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