



De La Salle School



St Anthony's Primary



SJI Junior



St Stephen's School

**CHRISTIAN BROTHERS' SCHOOLS  
PRELIMINARY EXAMINATION  
2015  
STANDARD SCIENCE  
PRIMARY 6**

**BOOKLET A**

**NAME :** \_\_\_\_\_

**CLASS :** \_\_\_\_\_

**1 hour 45 minutes**

Instructions to Candidates:

- Do not open this booklet until you are told to do so.
- You are allowed 1 hour 45 minutes to answer all the questions.

SECTION	MARKS	
	POSSIBLE	ACTUAL
A	60	
B	40	
TOTAL	100	

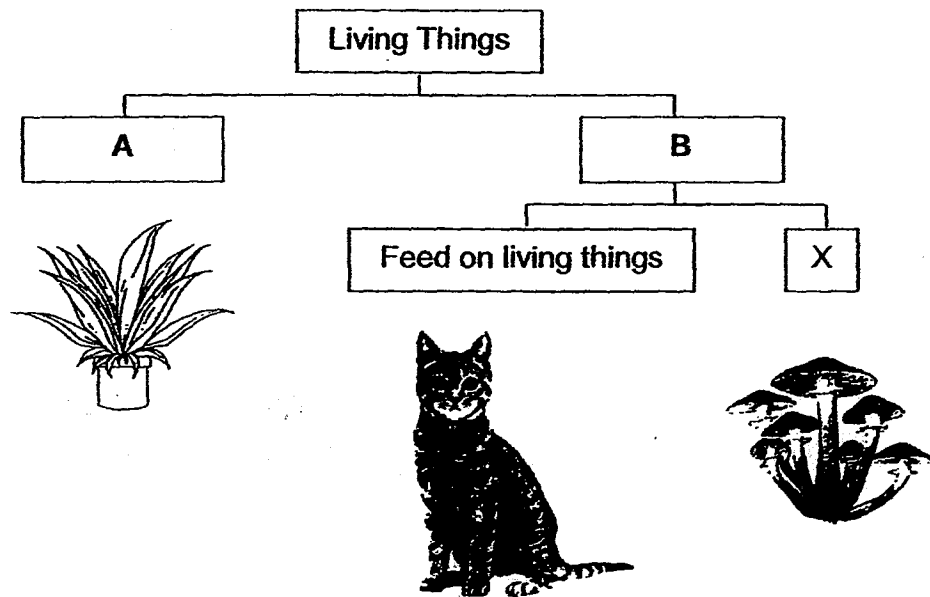
**This booklet consists of 27 printed pages.**

**Parent's Signature :** \_\_\_\_\_

**SECTION A: (30 X 2 = 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) and shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. The classification chart below shows how some living things are grouped.



Which one of the following best represents A, B and X?

	A	B	X
(1)	reproduce from seeds	reproduce from spores	do not reproduce from seeds
(2)	need air and water	do not need air and water	absorb nutrients from decaying matter
(3)	make their own food	absorb nutrients from decaying matter	do not make their own food
(4)	have chlorophyll	have no chlorophyll	absorb nutrients from decaying matter

2. Paul conducted an investigation on four flowers of Plant X to find out if a fruit can be produced when certain parts of a flower are removed. Plant X produces flowers which have male and female parts in the same flower.

The table below shows parts which have been removed from each of the four flowers.

	Anthers removed	Stigma removed	Petals removed
Flower A	✓		
Flower B		✓	
Flower C			✓
Flower D	✓		✓

Which groups of flowers are still able to develop into fruits?

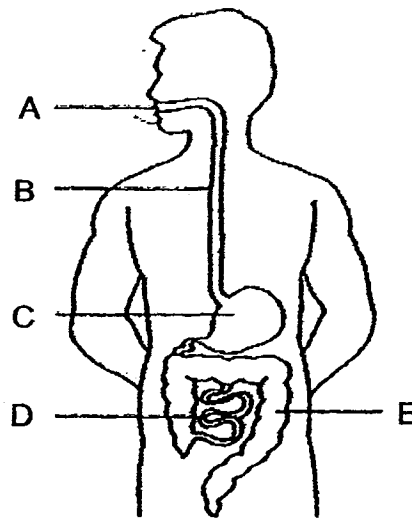
- (1) A and D only
- (2) B and C only
- (3) A, B and D only
- (4) A, C and D only

3. Which of the following statements about human reproduction is **FALSE**?

- A: Eggs are produced by females.
- B: Fertilisation involves a male and a female sex cell.
- C: After fertilisation, the egg will develop into a young.
- D: During fertilisation, one egg is fertilised by many sperms.

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

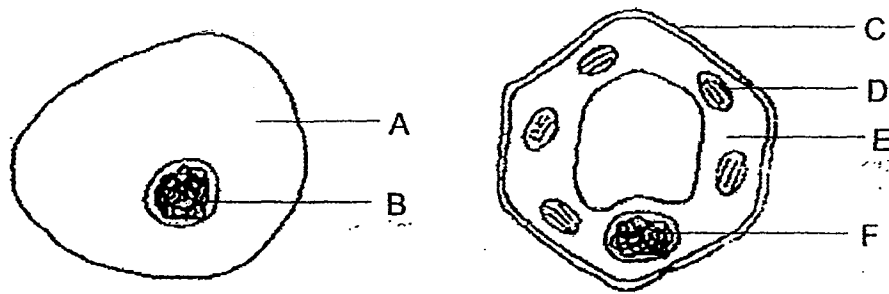
4. The diagram below shows the human digestive system.



Which one of the following correctly identifies where digestion of food takes place?

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

5. Study the diagram of an animal and a plant cell as shown below.



Four children made the following comments.

Will : B and F perform similar functions.

Xinyi: A and E allow substances to enter the cells.

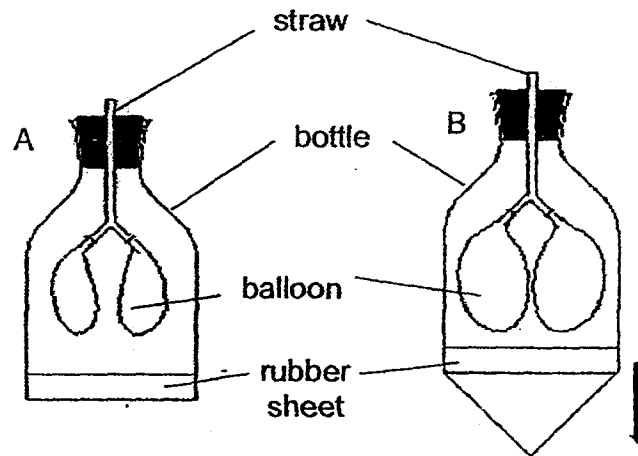
Yani : C provides a regular shape for the plant.

Zen : D is found in plant cells but not in animal cells.

Which of the following children made the correct comment(s)?

- (1) Zen only
- (2) Yani only
- (3) Will and Xinyi only
- (4) Will, Yani and Zen only

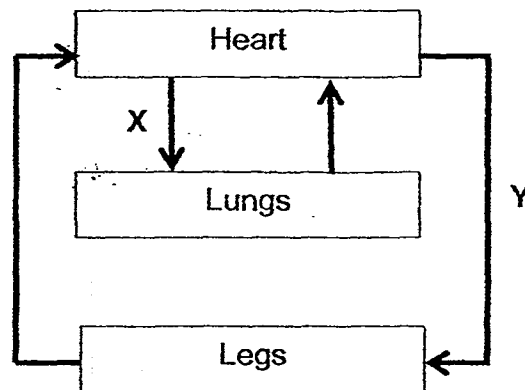
6. A lung model was created as shown in Diagram A. When the rubber sheet was pulled down, an observation was seen as shown in Diagram B.



Which of the following correctly represents the parts of the human respiratory system?

	balloon	bottle	straw
(1)	ribcage	lungs	windpipe
(2)	windpipe	lungs	ribcage
(3)	lungs	windpipe	ribcage
(4)	lungs	ribcage	windpipe

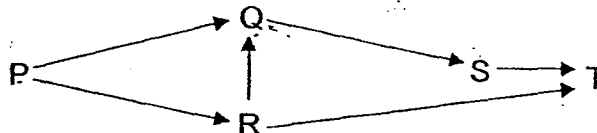
7. The diagram below shows how blood flows in certain parts of the body.



Which one of the following about the blood in blood vessels X and Y is correct?

	X	Y
(1)	rich in carbon dioxide	rich in oxygen
(2)	poor in carbon dioxide	poor in oxygen
(3)	rich in carbon dioxide	poor in oxygen
(4)	poor in carbon dioxide	rich in oxygen

8. Study the diagram of a food web in a community shown below.

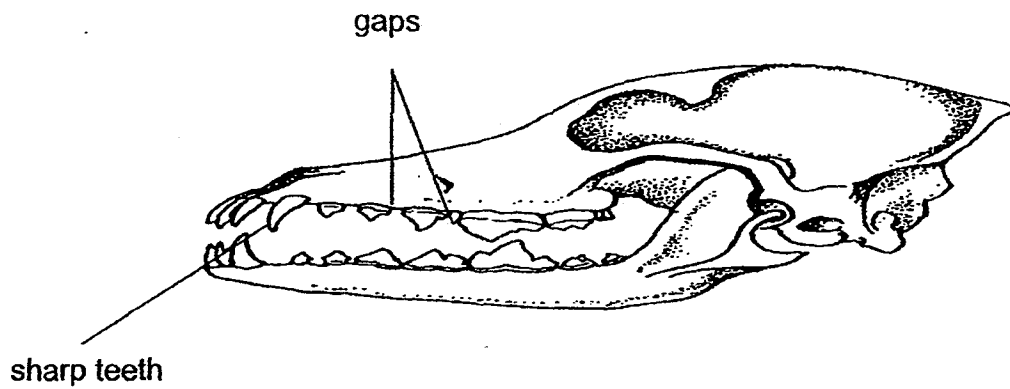


A sudden forest fire took place in the community, causing many trees to be burnt down.

As a result of the fire, which one of the following populations of organisms will decrease the most?

- (1) Q
- (2) R
- (3) S
- (4) T

9. Jie Lun found the skull of Animal X, shown below, during a camping trip. He concluded that the skull belonged to an animal that preyed on other animals.

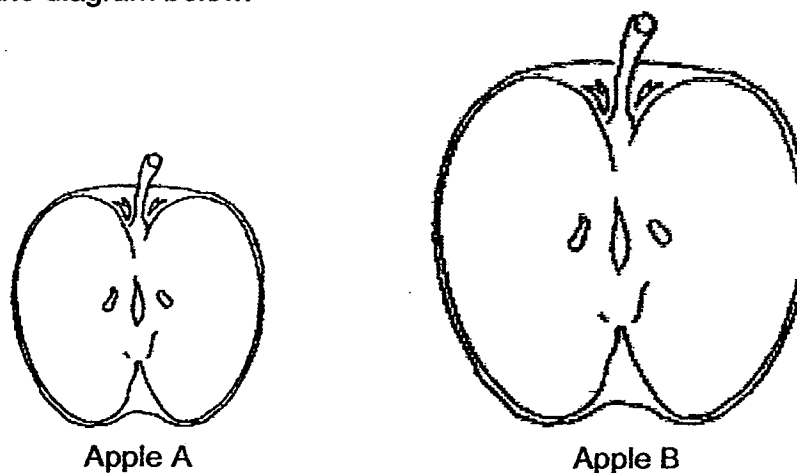


Which one of the following observations helped Jie Lun arrive at this conclusion?

- (1) The skull is hard.
- (2) The teeth are sharp.
- (3) The skull is long and pointed.
- (4) There are big gaps between the teeth.



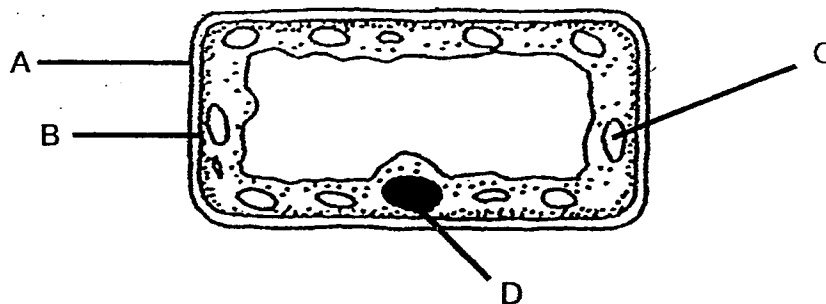
10. Study the diagram below.



The table below shows some characteristics of apples A and B.

Characteristics	Apple A	Apple B
Size	Small	big
Taste	bland and juicy	sweet
Days to ripe	10	8

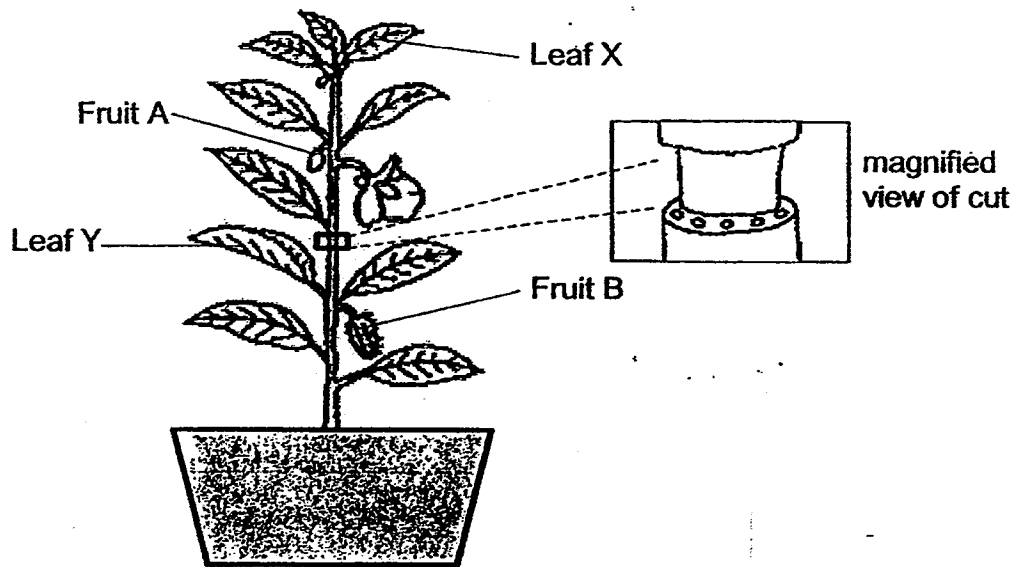
Scientist Lim wanted to create a type of apple that is big, sweet and juicy and takes the shortest days to ripen. She took out a cell from apple A as shown.



Which one of the following cell parts should Scientist Lim make changes to so that she will achieve her aim?

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

11. Khairul removed an outer ring from a plant, as shown below. The food and water carrying tubes have been removed. The plant was watered regularly for two weeks.



He observed that Fruit B grew bigger after one week while Fruit A and Leaf X withered.

Which one of the following statements best explains his observation?

- (1) Food is made by Fruit B itself.
- (2) Food is absorbed by Fruit B from the soil.
- (3) Food is transported from Leaf Y to Fruit B.
- (4) Food is transported from Leaf X to Fruit B.

12. A group of students counted the animals and plants in the school garden. The results are shown in the table below.

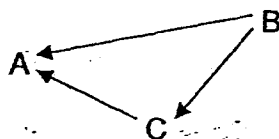
Organism	Earthworm	Hibiscus Plant	Sparrows	Banana Plant
Number	8	18	4	2

Based on the table above, which of the following statement(s) about the plants and animals in the school garden is/are **TRUE**

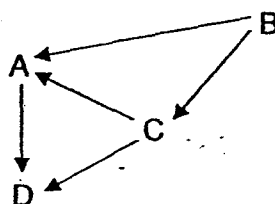
- A: There are four populations of animals.  
B: There are two populations of plants and animals each.  
C: A school garden community is represented in this table.

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

13. Study the food web shown below.



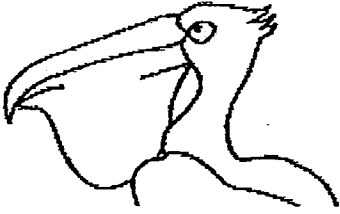
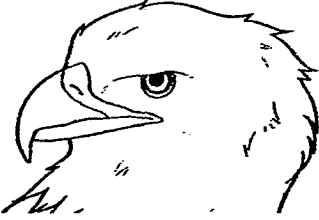


After some time, a large number of D was introduced into the community and the relationships among the organisms changed as shown below.



Which one of the following correctly shows the changes in populations of organisms A, B and C when a large number of D was introduced?

	Organism A	Organism B	Organism C
(1)	decrease	increase	remain the same
(2)	remain the same	increase	increase
(3)	increase	decrease	increase
(4)	decrease	increase	decrease

14. Birds have different types of beaks to help them adapt to their environment.

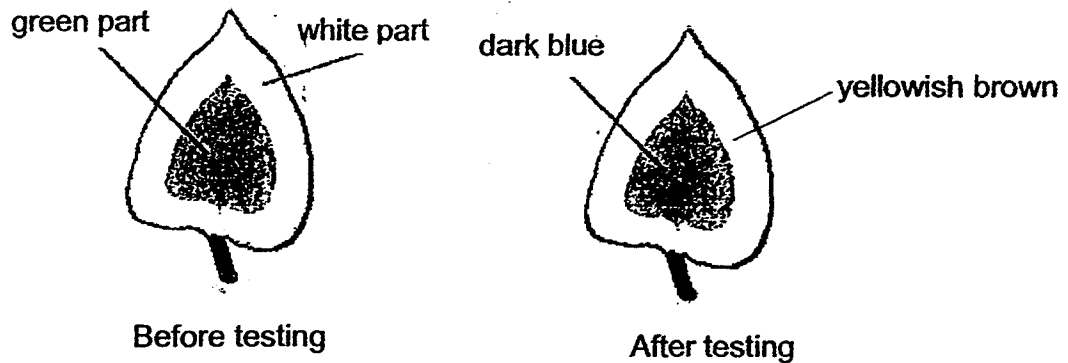
Beak	Example of Bird	Function
A		To scoop fish out of the water
B		To peck the ground for insects
C		To draw nectar from flowers
D		To crush hard seeds and nuts

Which beak(s) has/have been correctly matched to its/their functions?

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

15. Willy carried out an iodine test with a leaf plucked from a plant that had been exposed to sunlight for several hours. Iodine is a yellowish brown liquid that turns dark blue in the presence of starch.

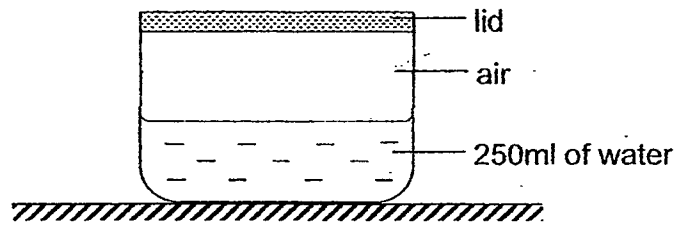
The diagram below shows the results of his test.



Which of the following conclusions can be made from the test?

- W: Starch is present only in the green part of the leaf.  
X: Starch is present in both green and white parts of the leaf.  
Y: Starch is present in all parts after the leaf is exposed to sunlight.
- (1) W only  
(2) X only  
(3) W and X only  
(4) W, X and Y

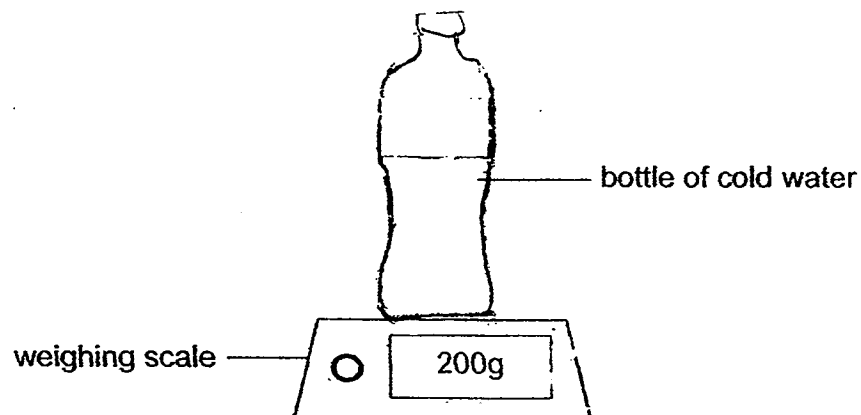
16. Jeevan set up an experiment using a 500ml container. He filled it with 250ml of water as shown below.



He opened the lid, poured another 100ml of water into the container then closed it with the lid.

Which one of the following correctly represents the total volume of air in the container?

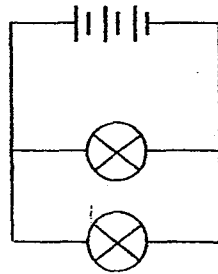
- (1) 150ml
  - (2) 250ml
  - (3) 350ml
  - (4) 400ml
17. A bottle of cold water was taken out of the refrigerator and placed on top of an electronic weighing scale at room temperature. The initial mass of the bottle was 200g as shown below.



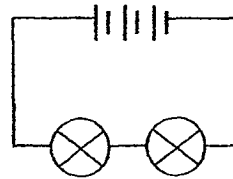
Which of the following correctly shows the changes in the mass recorded and the temperature of the cold water after five minutes?

	Mass	Temperature of the cold water
(1)	less than 200g	decrease
(2)	more than 200g	increase
(3)	200g	increase
(4)	200g	remain the same

18. Fazly set up an experiment using the electric circuits, X and Y as shown below.



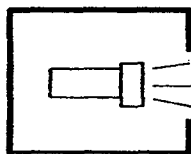
Circuit X



Circuit Y

Which one of the following shows what Fazly wants to find out through this experiment?

- ✓(1) The effect of arrangement of bulbs on brightness.  
 (2) The effect of number of bulbs used on brightness.  
 (3) The effect of arrangement of batteries on brightness.  
 (4) The effect of number of batteries used on brightness.
19. The set-up below shows light shining on a wooden ball.



torch

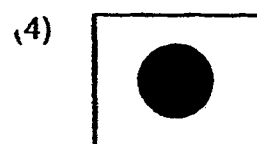


wooden ball



screen

Which one of the following is likely to be seen on the screen when the torch is turned on?





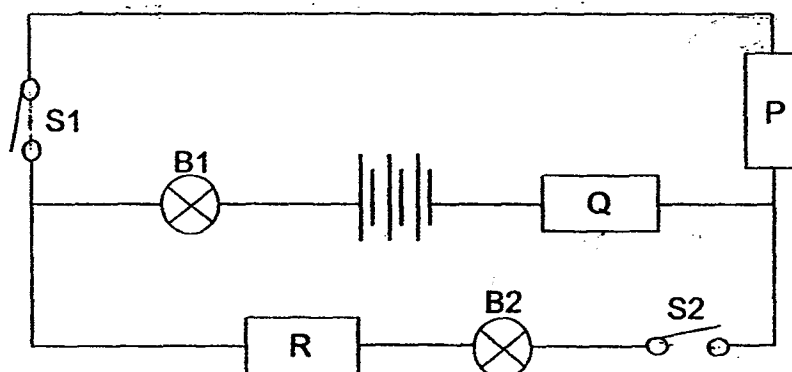
20. The table below shows the freezing points of three substances, A, B and C.

Substance	Freezing Point ( $^{\circ}\text{C}$ )
A	7
B	33
C	150

Based on the table above, which one of the following is correct?

- (1) A is a solid at  $3^{\circ}\text{C}$ .
- (2) A and B are both liquids at  $29^{\circ}\text{C}$ .
- (3) B and C are both solids at  $160^{\circ}\text{C}$ .
- (4) C can be a liquid or a gas at  $150^{\circ}\text{C}$ .

21. Wen Hao carried out an experiment as shown below to find out the electrical conductivity of materials P, Q and R.



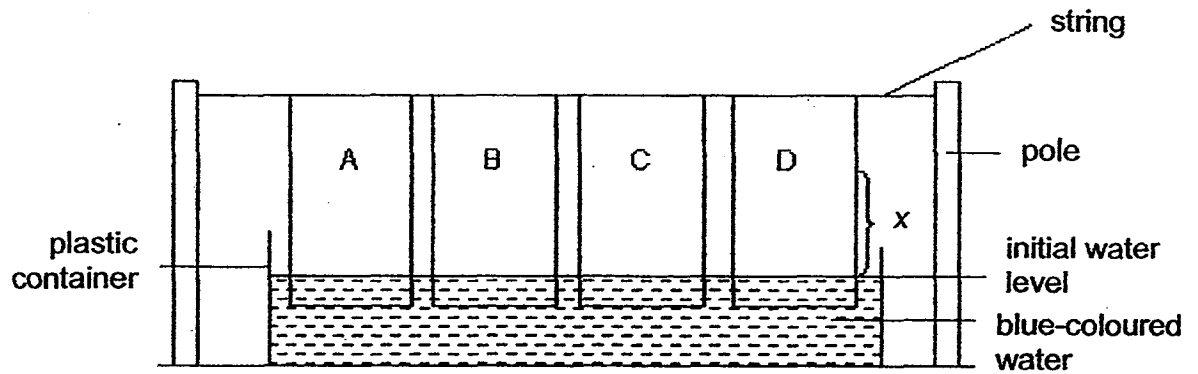
The table below shows the results of his experiment.

Switch that is closed	Bulb that lights up
S1	None
S2	B1 and B2
S1 and S2	B1 and B2

Which of the following correctly describes materials P, Q and R?

	Material P	Material Q	Material R
(1)	conductor	conductor	non-conductor
(2)	conductor	non-conductor	conductor
(3)	non-conductor	conductor	conductor
(4)	non-conductor	non-conductor	non-conductor

22. Jane conducted an experiment, as shown below, to find out which material, A, B, C or D, is the most absorbent to be made into a towel. The materials used in the experiment were of the same shape and same size.



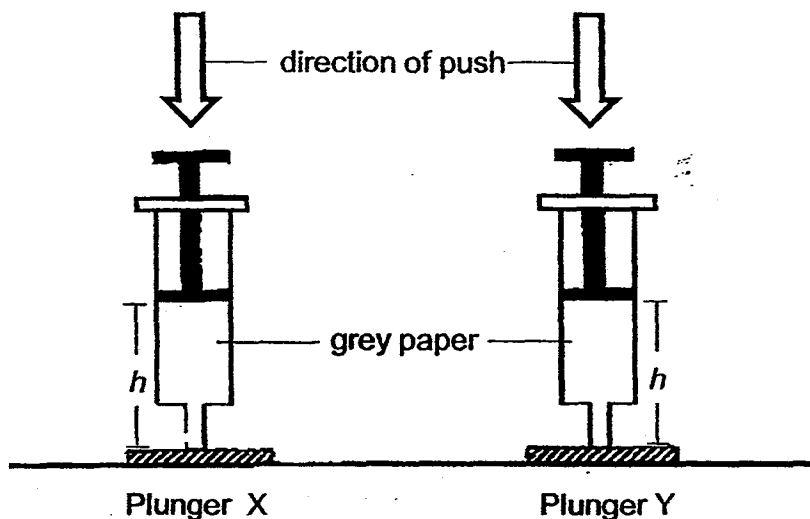
After 10 minutes, Jane measured the distance,  $x$ , which the water had travelled through each material. She recorded the results in the table below.

Material	Distance of water travelled, $x$ (cm)
A	10
B	12
C	6
D	8

Which is the most absorbent material to be made into a towel?

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

23. Ally carried out an experiment, as shown below, using plungers X and Y wrapped in grey paper. Plungers X and Y contained substances at different states.



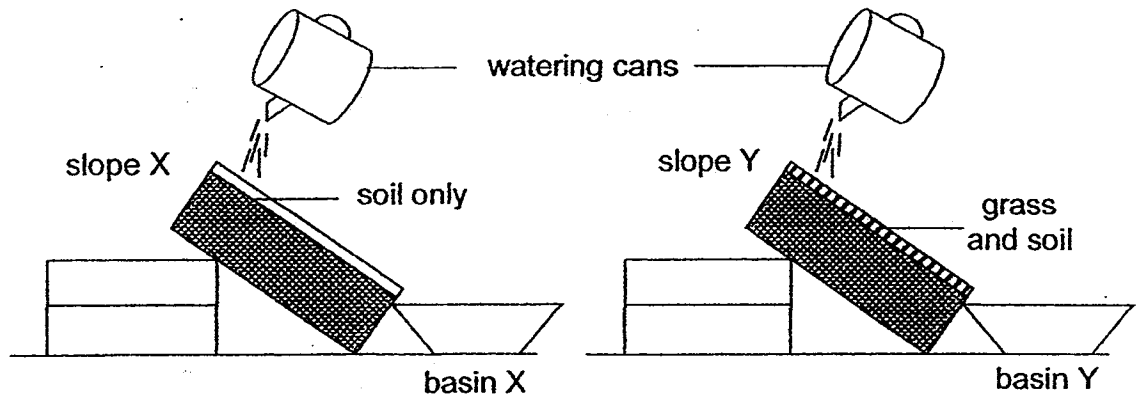
She pushed both plungers downwards and recorded the heights of  $h$  in the table below. She repeated her experiment three times.

	Height of $h$ (cm)		
	Initial	Plunger X	Plunger Y
1 <sup>st</sup> try	8	5	8
2 <sup>nd</sup> try	8	4	8
3 <sup>rd</sup> try	8	4	8

Which one of the following correctly describes the state of the substance contained in Plunger X and Y?

	State of substance in Plunger X	State of substance in Plunger Y
(1)	Gas	Gas
(2)	Solid	Solid
(3)	Gas	Liquid
(4)	Liquid	Solid

24. Rita set up an experiment as shown below to find out the effects of deforestation.



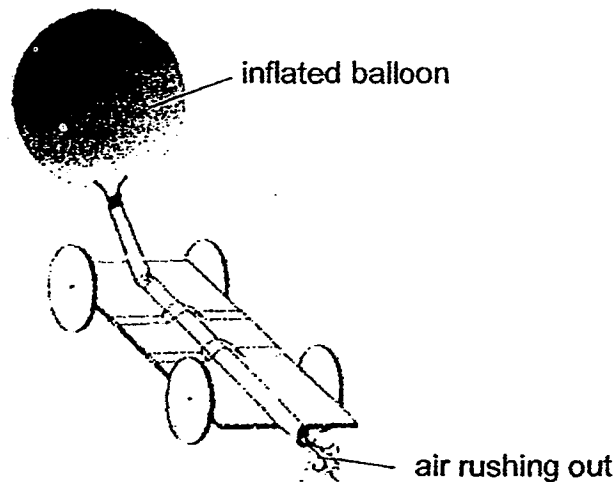
Rita then poured 500ml of water over both set-ups and made some observations of both basins X and Y.

Which of the following observations could Rita have made?

- A: The water collected in basin Y would be the highest.
- B: Highest mass of soil will be found in the water collected in basin X.
- C: Both basins have the same amount of soil and water collected.

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

25. Indrani taped a straw firmly to a toy car. She attached an inflated balloon at one end of the straw as shown below.



When she released the balloon, air rushed out of the balloon, producing a force. However, the car did not move forward as Indrani had expected.

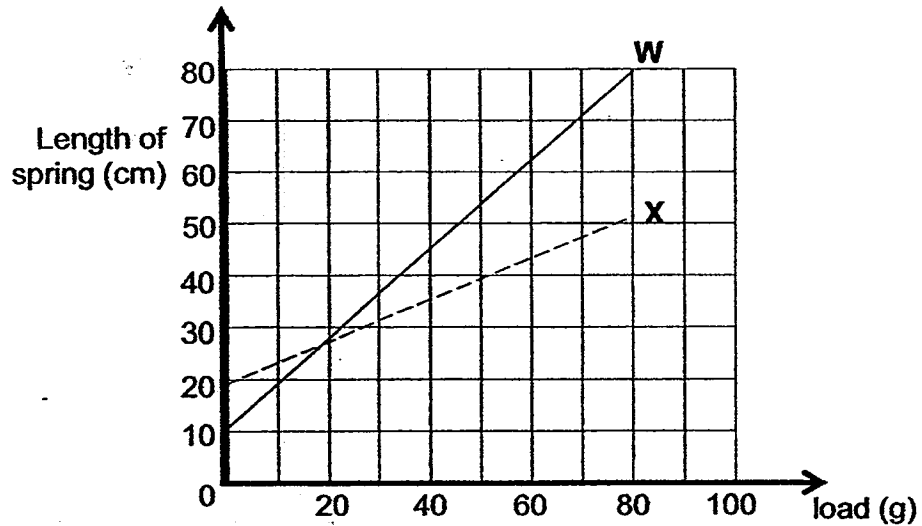
Which of the following explains Indrani's observation?

The toy car could not move because the force of air rushing out of the balloon was smaller than \_\_\_\_\_.

- A: the weight of the straw and toy car
- B: friction between the toy car and floor
- C: the weight of the balloon and the straw
- D: friction between the balloon and the straw

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

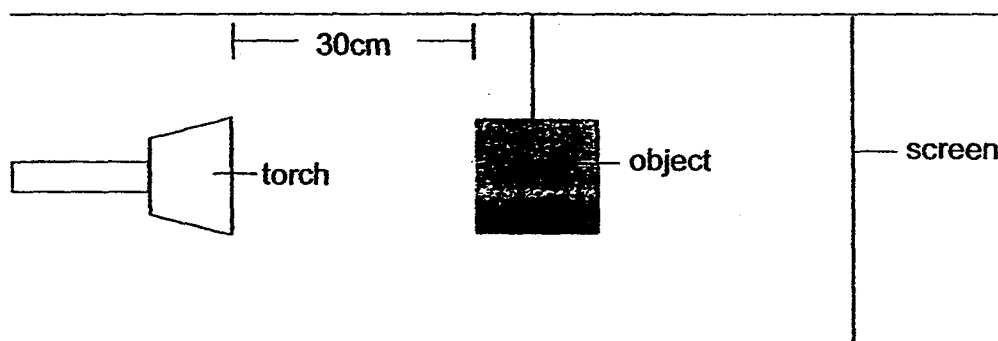
26. Nisha conducted an experiment on Springs W and X. She hung various loads one at a time and recorded the length of the spring. She plotted her results in the graph below.



Which one of the following correctly represents the conclusion that Nisha can draw from her experiment?

	Spring with shorter length at start of experiment	Spring that can be stretched more with the same load
(1)	W	W
(2)	X	W
(3)	W	X
(4)	X	X

27. Aryan set up an experiment to find out how the distance between a torch and an object will affect the height of the shadow formed.



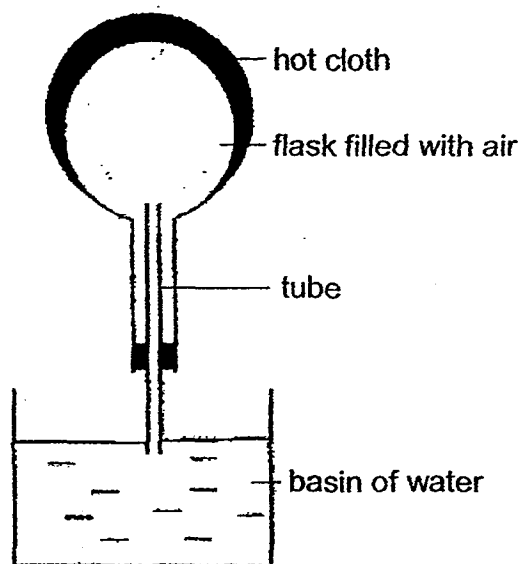
When he placed the torch at a distance of 30cm from the object, the height of the shadow formed by the object is 8cm.

Based on Aryan's aim, which set of data is possible?

	Distance between torch and object (cm)	Height of shadow formed (cm)
(1)	5	8
(2)	50	30
(3)	40	10
(4)	12	26



28. Study the set-up below.

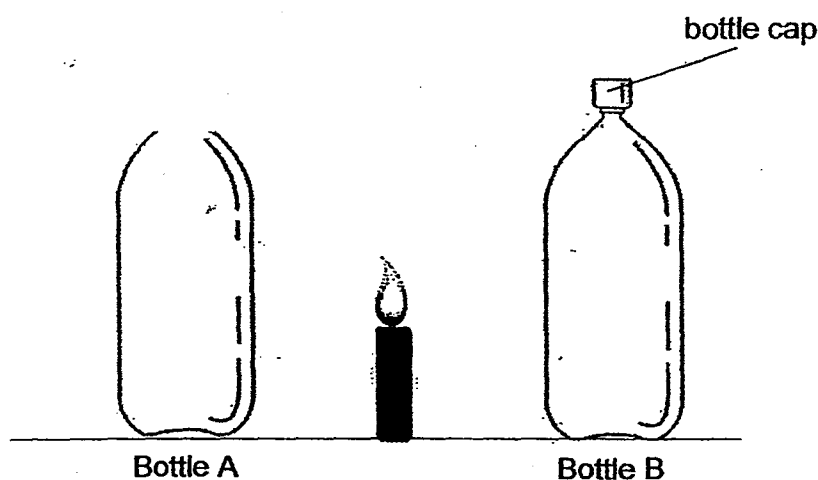


Based on the above set-up, which of the following statement is true?

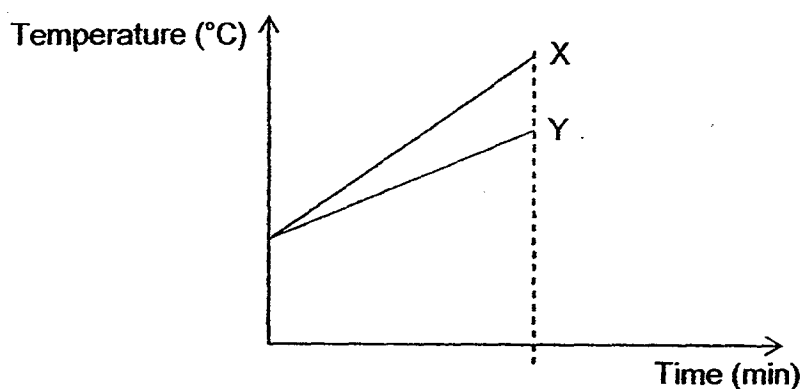
- P: Air in the flask gained heat from the cloth.
- Q: Water gains heat from the air in the flask.
- R: Air bubbles are seen in the water.
- S: Hot cloth gains heat from the surroundings.

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

29. The diagram below shows a candle flame placed at the same distance from two identical clear glass bottles A and B. Bottle A is left open while bottle B is covered with a bottle cap.



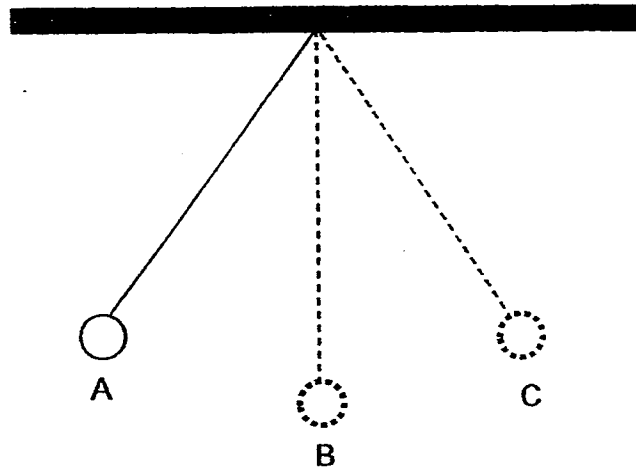
The temperature change in both containers is shown in the graph below.



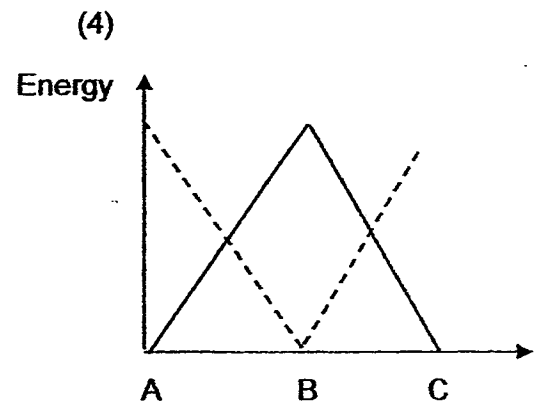
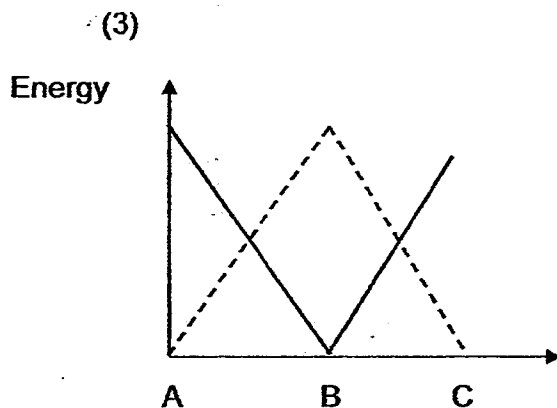
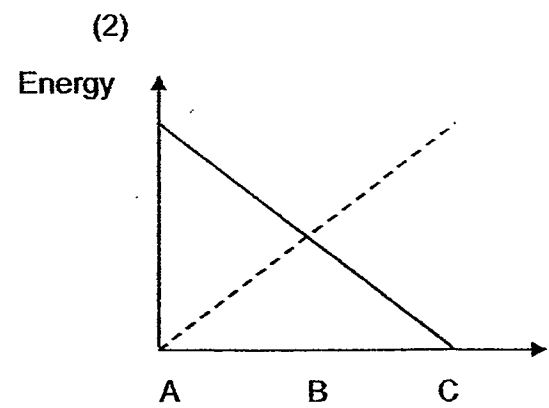
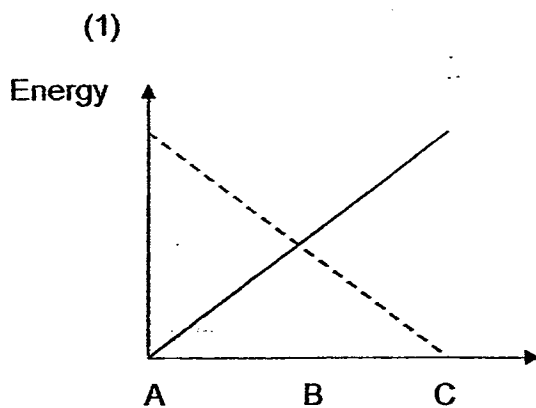
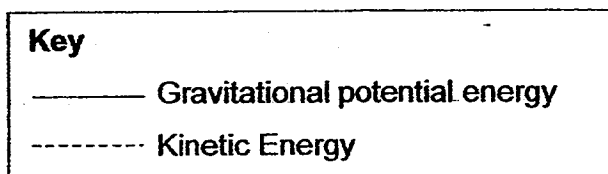
Which one of the following shows correctly the graph and the reason for the bottle A?

	Graph	Reason
(1)	X	more heat is trapped
(2)	Y	more heat is trapped
(3)	X	less heat is trapped
(4)	Y	less heat is trapped

30. The diagram below shows a pendulum bob hanging from a string



Which one of the following graphs correctly shows how the gravitational potential energy and kinetic energy of the pendulum bob change as it moves from A to C?



End of Booklet A





De La Salle School



St Anthony's Primary



SJI Junior



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**CHRISTIAN BROTHERS' SCHOOL  
PRELIMINARY EXAMINATION  
2015  
STANDARD SCIENCE  
PRIMARY 6**

**BOOKLET B**

NAME : \_\_\_\_\_

CLASS : \_\_\_\_\_

**1 hour 45 minutes**

**Instructions to Candidates:**

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	POSSIBLE	ACTUAL
B	40	

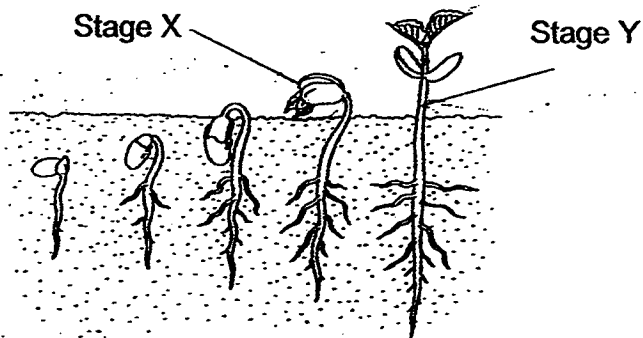
**This booklet consists of 15 printed pages.**

**Parent's Signature : \_\_\_\_\_**

**SECTION B: 40 MARKS**

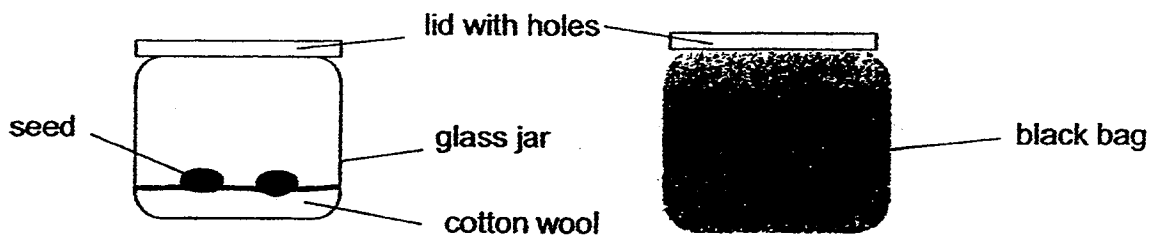
Read questions 31 to 44 carefully and write your answers in the spaces provided.

31. The diagram below shows the life cycle of a plant.



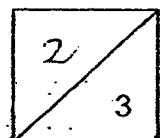
- (a) State one difference between the way the plant obtains food in Stage X and Stage Y. [1m]

John put some wet cotton wool into two glass jars. He placed some seeds on the cotton wool in each jar. He covered one of the glass jars with a black bag as shown below.

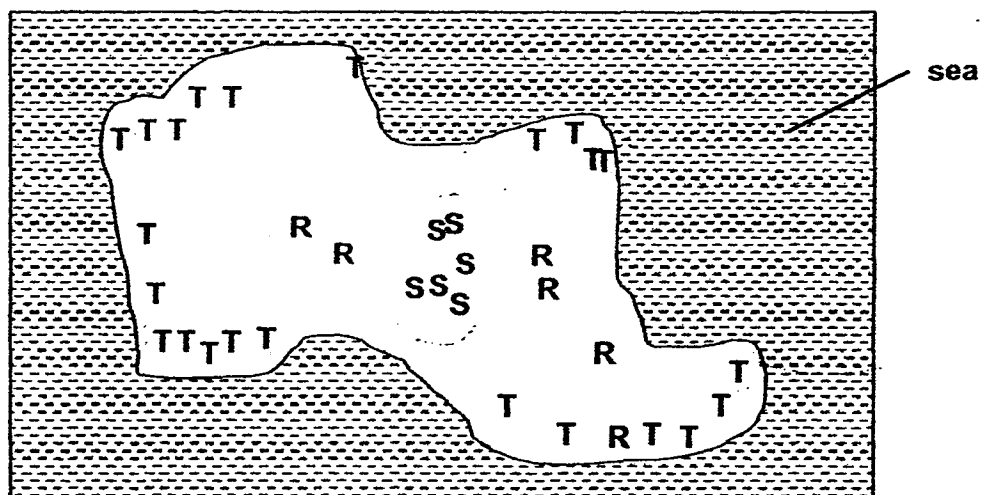


- (b) What was John trying to find out? [1m]

- (c) State one other variable that John must keep the same in his experiment. [1m]



32. The diagram below shows the map of an island with different kinds of plants, R, S and T. Some animals also live on the island.



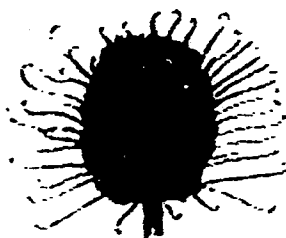
- (a) From the diagram above, which type of plant, R, S or T is most likely to be dispersed by splitting? Explain why. [1m]

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The picture below shows a magnified view of a fruit.



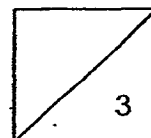
Magnified view of the fruit

- (b) Which type of plant, R, S or T is this fruit from? Explain how it is dispersed on the island. [2m]

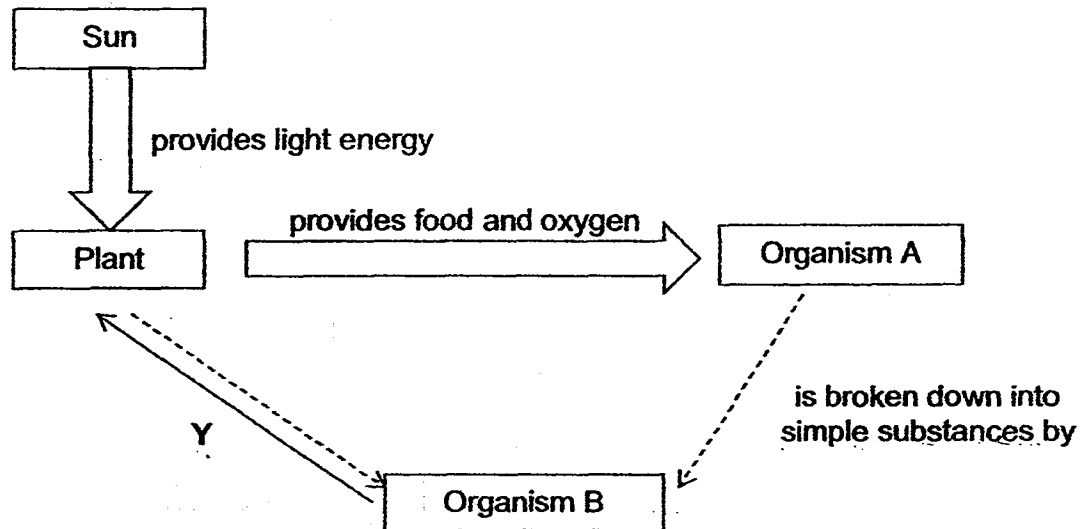
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33. Siti drew the following diagram below which shows the transfer of energy from one organism to the next.



Siti predicted that organism B could be an earthworm.

- (a) Explain why Siti's prediction is **INCORRECT**. [1m]

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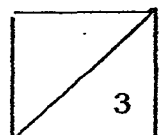
- (b) Arrow Y shows the relationship between organism B and plants. State **two** ways in which plants benefit from this relationship. [2m]

Benefit 1: \_\_\_\_\_

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Benefit 1: \_\_\_\_\_

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34. Li Sheng found two different types of moths, X and Y, when he was walking in the forest. Moth X is light-coloured and Moth Y is dark-coloured. The moths are food for predators like birds.

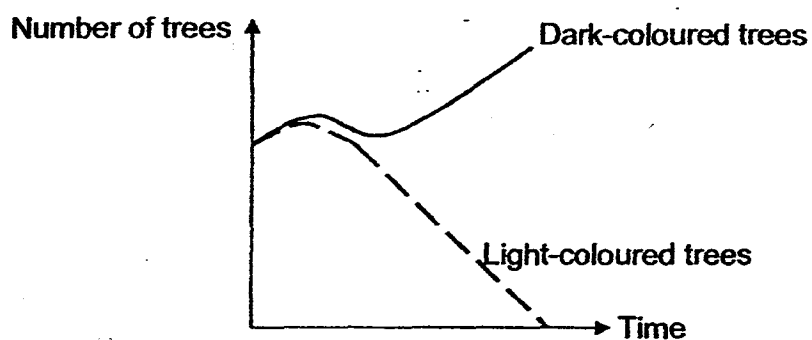


**X**  
**Light-coloured Moth**



**Y**  
**Dark-coloured Moth**

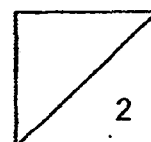
In the same habitat, there are trees with light-coloured trunks and trees with dark-coloured trunks. Over a period of time, the populations of the trees change as shown below in the graph below.



Which moth, X or Y would more likely to survive in this new condition?  
Explain your answer. [2m]

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35. The table below compares the difference in the amount of each type of gas between inhaled and exhaled air.

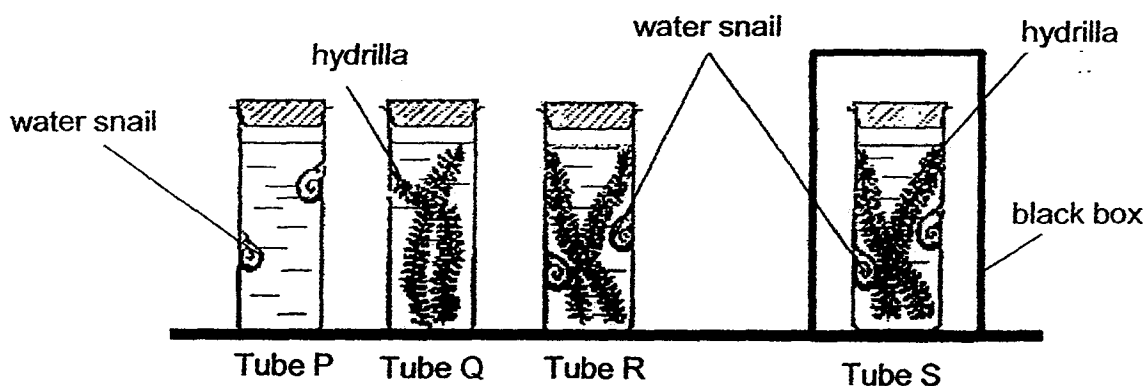
Gas	Inhaled air	Exhaled air
A	less	more
B	less	more
C	remain the same	remain the same
D	more	less

- (a) Fill in the blanks below with the correct gas A, B, C or D. [1m]

Nitrogen : \_\_\_\_\_

Oxygen : \_\_\_\_\_

The diagram below shows four glass tubes, P, Q, R and S, each containing different organisms.

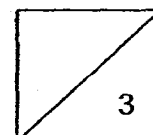


The four tubes were sealed and kept in a well-lit room for six hours.

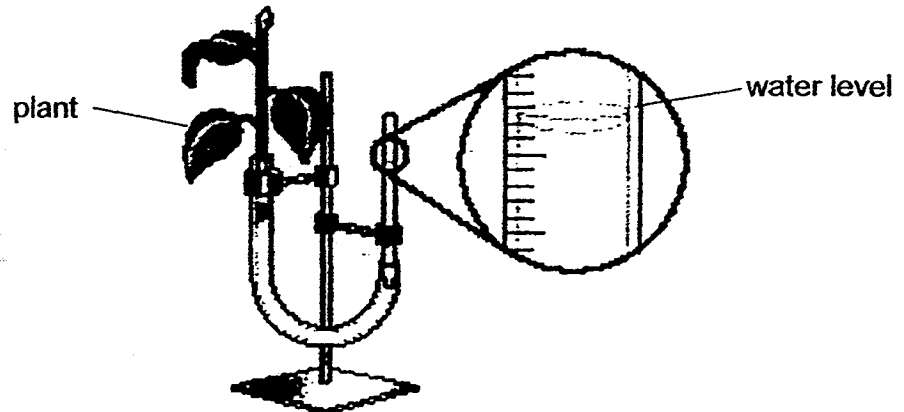
- (b) In which tube would there be the highest increase in carbon dioxide after six hours? Explain your answer. [2m]

\_\_\_\_\_

\_\_\_\_\_



36. Janet used the set-up below to measure the rate at which plants take in water.

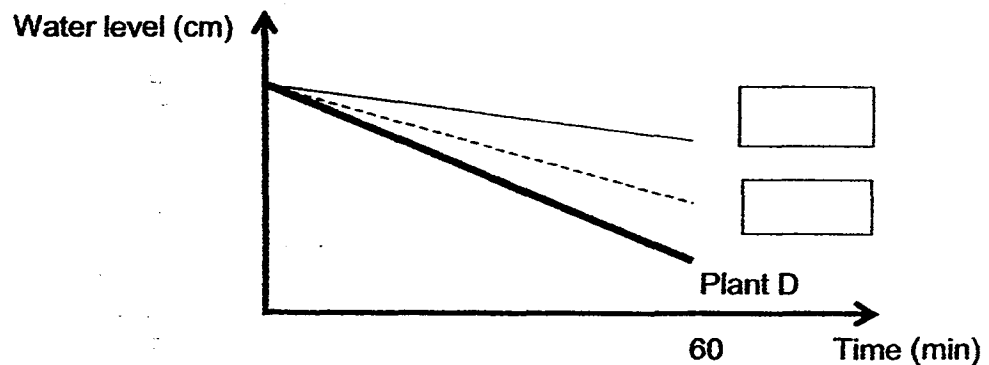


She used four identical plants for her experiment. Some transparent oil was applied on some of the leaf surfaces as shown below. She placed all the set-ups under sunlight.

Plant	Surface(s) covered with oil
A	Top only
B	Bottom only
C	Both top and bottom
D	None

The graph below shows the change in water level for the four plants, A, B, C and D over 60 minutes.

- (a) Fill in the boxes with "Plant A" and "Plant B" to label the line graphs that show the correct water levels. [1m]

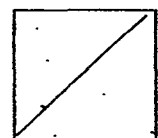


- (b) Janet observed that plant C withered after a few days. Explain why. [1m]

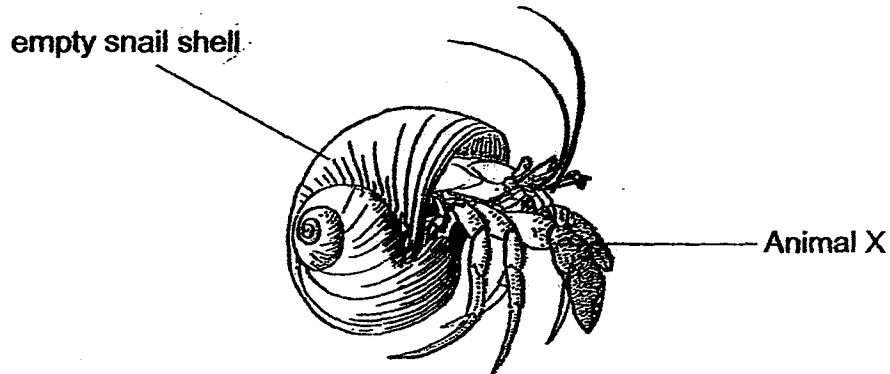
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37. Animal X can be found in the seas. It looks for empty shells to live in as shown in the diagram above.



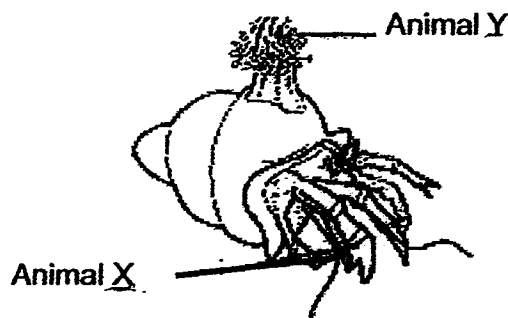
- (a) Based on the information given, explain how living in empty snail shells helps Animal X survive. [1m]

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The diagram below shows Animal Y. It usually attaches itself to the shells of Animal X.

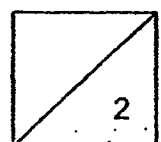


- (b) Given that animal Y does not move freely from one place another, state how Animal X enables Animal Y survive in its environment. [1m]

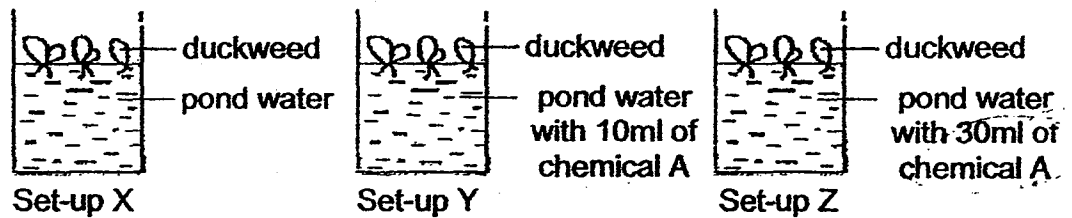
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38. Aini set up an experiment, as shown below, to find out how the amount of chemical A will affect the growth of duckweeds.



She placed the set-ups under the sun for a week and recorded her results in the table below.

	Initial no. of duckweeds	Final no. of duckweeds
<b>Set-up X</b>	20	20
<b>Set-up Y</b>	20	15
<b>Set-up Z</b>	20	4

- (a) Based on Aini's results, state the relationship between the amount of chemical A present in pond water and the population of the duckweeds.

[1m]

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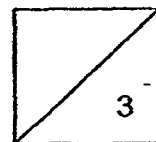
- (b) What will happen to the population of aquatic animals in the sea when there is a large spillage of chemical A? Explain why.

[2m]

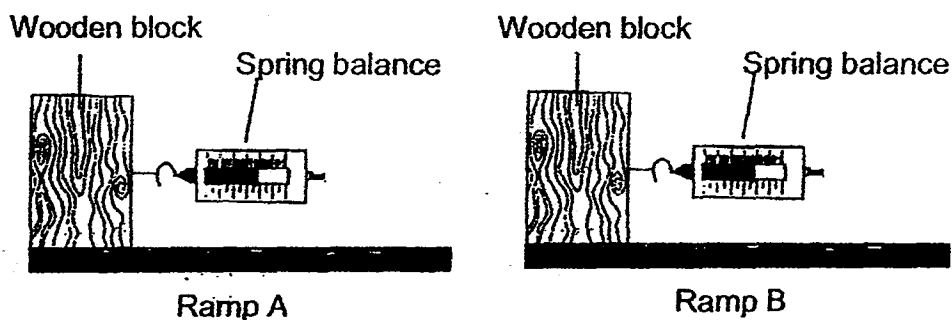
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39. Charles set up an experiment as shown below. He used a spring balance to pull two identical wooden blocks across ramp A and ramp B.



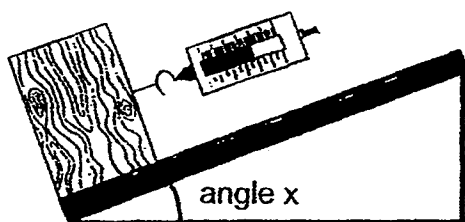
- (a) Charles noticed that more force was required to move the wooden block across ramp A than ramp B. Given a reason for his observation. [1m]

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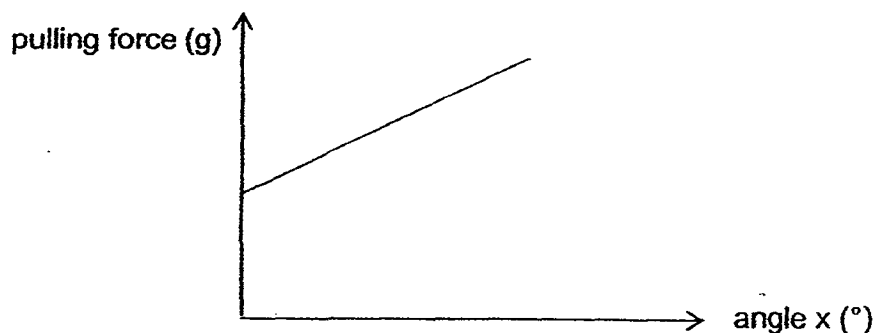


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Charles repeated his experiment using ramp A as shown below. He measured the force needed to pull the wooden block using different angle  $x$ .



The graph below shows his results.

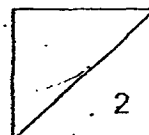


- (b) State how the pulling force changes with angle  $x$ . [1m]

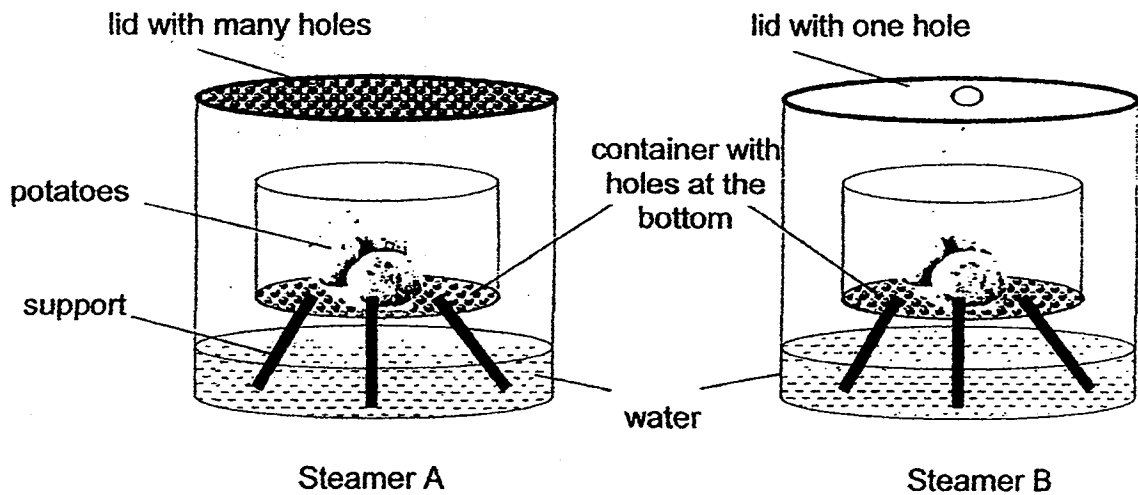
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40. Fiona wanted to cook some potatoes using steamer A and B as shown below.



She placed both steamers over a heat source.

- (a) Fiona observed that she needed to top-up the water in one of the steamers after some time.

Which steamer, A or B, did she add more water to? Give a reason for your answer. [2m]

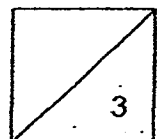
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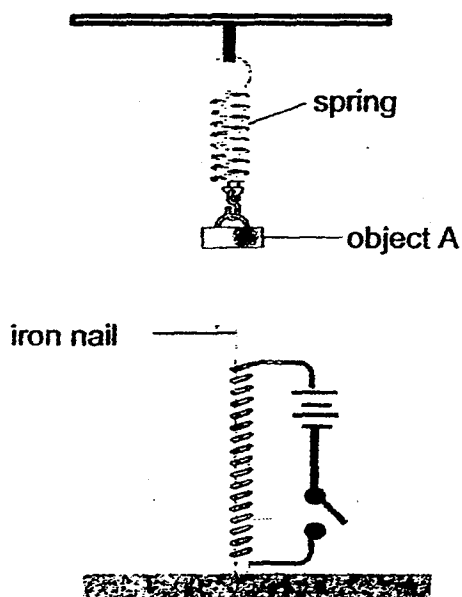
- (b) Suggest one thing that Fiona can do to ensure that the potatoes steam faster in both steamers, without changing any part of the steamer. [1m]

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41. Su Ying hung object A on a spring as shown below. She placed an electromagnet below the object and recorded the length of the spring. She repeated the experiment with objects B and C.



The table below shows the length of the spring when the switch was closed each time.

Object	Length of spring when switch was opened (cm)	Length of spring when switch was closed (cm)
A	10	8
B	10	10
C	10	14

- (a) Which object is definitely a magnet? Give a reason for your answer.

[2m]

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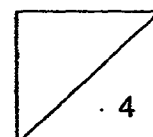
- (b) What can you conclude about the property of the material used to make object C? Give a reason for your answer.

[2m]

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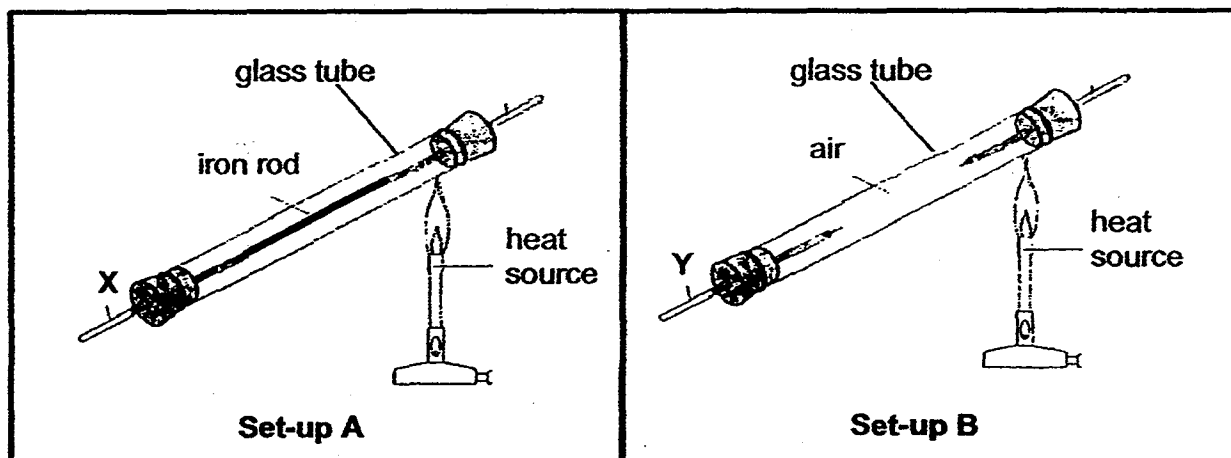


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42. Jamal set up an experiment as shown below.



He heated one side of the glass tubes in set-ups A and B for 15 minutes. He recorded the temperatures at points X and Y over 15 minutes as shown in the table.

Time (min)	Temperature at X ( $^{\circ}\text{C}$ )	Temperature at Y ( $^{\circ}\text{C}$ )
0	25	25
5	40	35
10	60	45
15	80	55

- (a) Based on his results, what can you conclude about the heat conductivity of an iron rod and air? Give a reason for your answer. [2m]

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Birds are often seen with their feathers fluffed up during winter months as shown in the pictures below.



sparrow in warm weather



sparrow in cold weather

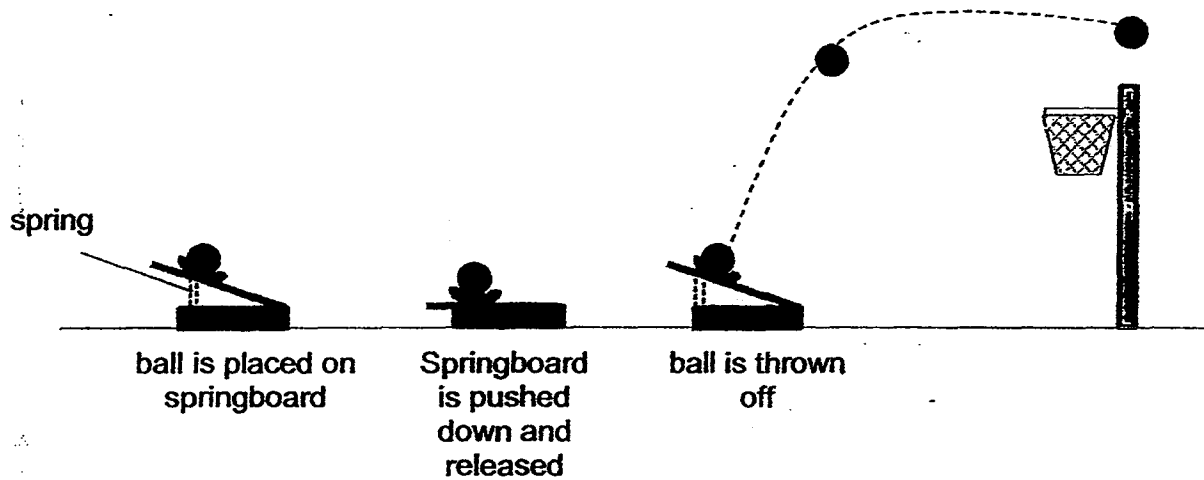
- (b) Explain how fluffing up their feathers help to keep the birds warm during the cold weather. [2m]

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43. Sunita was playing a game of Mini Shoot Basket with her brother. The diagram below shows how the game is played.



- (a) Complete the energy conversion below when the springboard was pressed and released. [2m]

$\Rightarrow$

energy in the spring board when pressed down	$+$	energy in the moving ball
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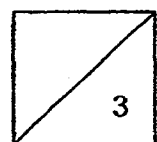
- (b) Sunita observed that the ball always flew over the basket but did not land in the hoop when she pushed the springboard down and released it.

Suggest one way in which Sunita can ensure that the ball will land in the basket. [1m]

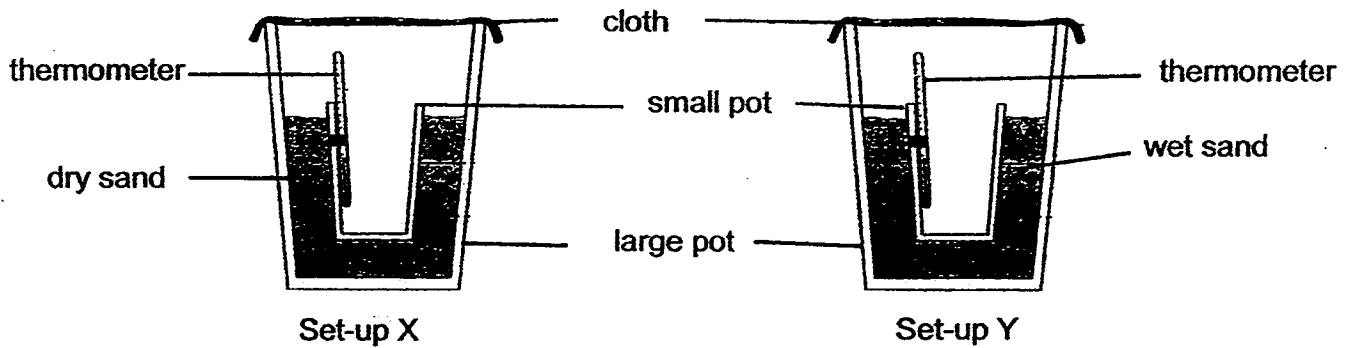
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44. Rahim set up the experiment as shown below.



He placed the set-ups in a dry place and recorded the temperature of the air inside the small pot for 20 minutes. The table below shows his results.

Time (min)	Set-up X ( $^{\circ}\text{C}$ )	Set-up Y ( $^{\circ}\text{C}$ )
0	30	30
20	30	22

- (a) Rahim observed that the cloth placed over the large pot in set-up Y had become wet at the end 20 minutes. Give a reason for his observation.

[2m]

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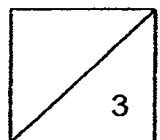
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- (b) Explain why the temperature of air in set-up Y decreased over time. [1m]

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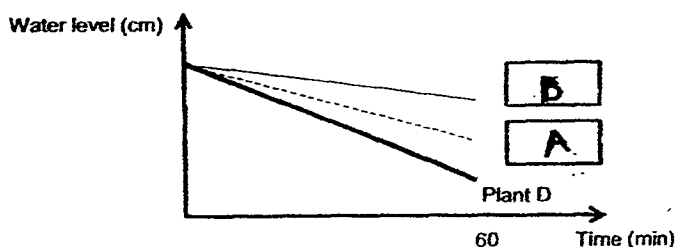
End of Paper

**EXAM PAPER 2015**  
**LEVEL : PRIMARY 6**  
**SCHOOL : CHRISTIAN BROTHERS' SCHOOLS**  
**SUBJECT : SCIENCE**  
**TERM : PRELIMINARY EXAMINATION**

**BOOKLET A**

Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10
4	4	2	1	4	4	1	2	2	4
Q 11	Q 12	Q 13	Q 14	Q 15	Q 16	Q 17	Q 18	Q 19	Q 20
3	2	4	1	1	1	2	1	4	1
Q 21	Q 22	Q 23	Q 24	Q 25	Q 26	Q 27	Q 28	Q 29	Q 30
3	2	3	2	2	1	4	3	4	3

- Q31a. At stage X, the seedling depends on its leaves to provide food while at stage Y it can make its own food by photosynthesizing. Q31b. If light is needed for germination. Q31c. Temperature of surrounding.
- Q32 a) S. It is very close to its parent plant.
- Q32 b) R. It has hook-like structures that will hook or cling onto the fur of animals living on the island.
- Q33a. B only breaks down dead organisms into simpler substances by decomposition which cannot be carried out by earthworms. Earthworms do not break down dead matter into simpler substances, as they are not decomposers.
- Q33b. Benefit 1 : The simple substances can be used as fertilizer.
- Q33b. Benefit 2 : X releases carbon dioxide or water which is used by plants for photosynthesis.
- Q34. Y. Y will have more places to camouflage themselves so they will not be easily spotted
- Q35a. Nitrogen : C                      Oxygen : D
- Q35b. S. Both the snail and hydrilla will respire and give out carbon dioxide but the photosynthesis by the plant due to the absence of light.
- Q36a. See Picture      Q36. Plant C cannot photosynthesize as no gaseous exchange could take place.



- Q37a. The shell protects itself from predators. Q37b. Y will have access to more food as it is carried from one place to another by X.
- Q38a. The larger the amount of chemical A present in pond water, the smaller the population of the duckweeds. Q38b. They will die. The aquatic animals may die when chemical A is consumed
- Q39a. Surface of A is rougher than B. Q39b. When angle X increase, the pulling force increase.
- Q40a. A. More water vapour escaped in A than in B as there were more holes.
- Q40b. Increase the heat source.
- Q41a. A. The spring became shorter as A was repelled by the electro-magnet.
- Q41b. C is made of a magnetic material as it was attracted by the electro-magnet.
- Q42a. Iron rod is a better heat conductor than air. Heat flowed faster through the iron rod than the air.
- Q42b. Air trapped in the fluffed up feathers helps to slow down heat loss from the bird's body to the surrounding.
- Q43a. Elastic potential  $\rightarrow$  Kinetic + Gravitational potential
- Q43b. Do not push springboard too low.
- Q44a. Water in the sand evaporated and turned into water vapour. The water vapour rose and condensed on the surface of the cloth to form water droplets.
- Q44b. As the water in the sand evaporated, it gained heat from the surrounding air.

**THE END**