

**Test:** Primary 5 Science (Term 4) - Henry Park

**Points:** 72 points

**Name:** \_\_\_\_\_

**Score:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

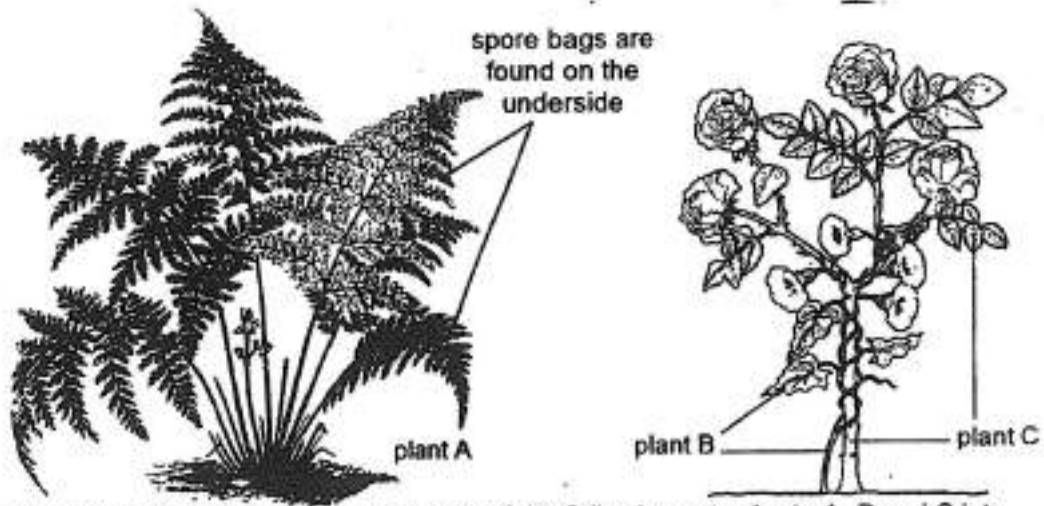
Select multiple choice answers with a cross or tick:

Only select one answer

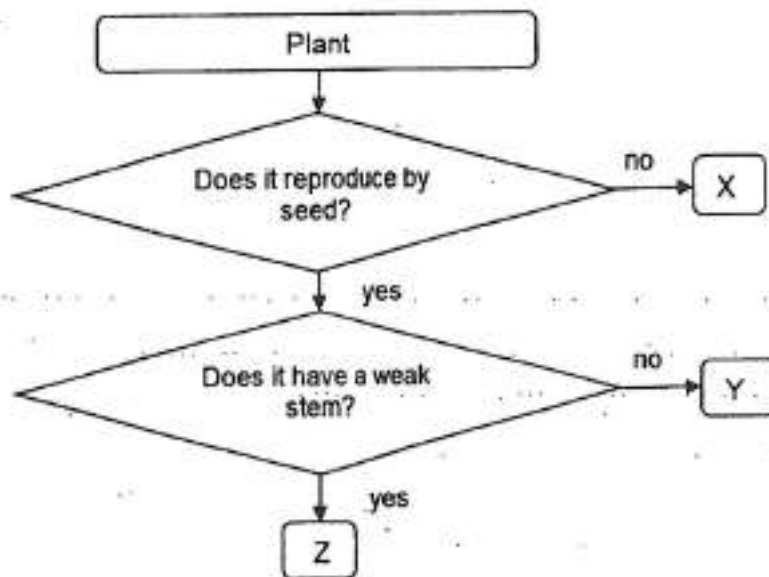
Can select multiple answers

For each question, four options are given. One of them is the correct answer. (56 marks)

The diagrams below show three types of plants A, B and C.



Based on the information above, which one of the following puts plants A, B and C into the correct groups?



- A) 

Group X	Group Y	Group Z
A	C	B
- B) 

Group X	Group Y	Group Z
C	A	B
- C) 

Group X	Group Y	Group Z
B	A	C
- D) 

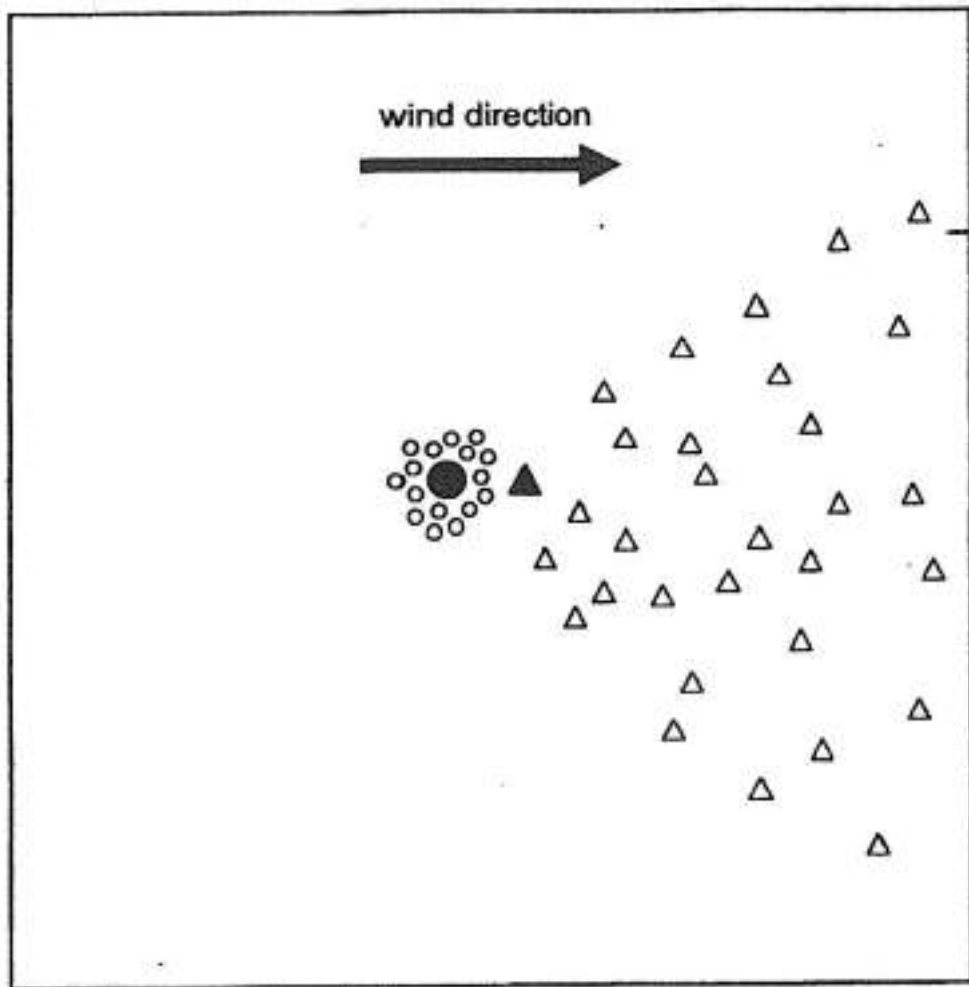
Group X	Group Y	Group Z
A	B	C

Which of the following statements is / are not correct of a cockroach and a mosquito?

- A Their young live in water.
- B Their young do not have wings.
- C They have 3 stages in their life cycles.

- 
- A) C only
  - B) A and B only
  - C) B and C only
  - D) A and C only

The diagram shows the dispersal patterns of two types of plants.



Key		
parent plant	●	▲
young plant	○	△

How are the seeds of the two plants likely to be dispersed?

A)

Plant	
●	▲
Water	Wind

- B) Wind | Water
- C) Splitting | Wind
- D) Splitting | Animal

**Question 4 of 56**

Primary 5 Science (Term 4) 2 pts

Anthony is given three steel bars, A, B and C as shown below.



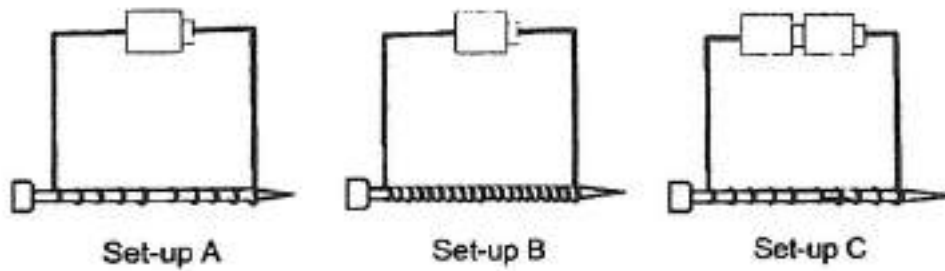
Anthony placed the steel bars next to each other and recorded his observations in the table below.

Arrangement of steel bars	Observation
	They moved towards and stuck to each other.
	They moved away from each other.
	They moved towards and stuck to each other.
	They moved towards and stuck to each other slightly.

Based on his observation, which of the following are definitely magnets?

- A) A and B only
- B) A and C only
- C) B and C only
- D) A, B and C

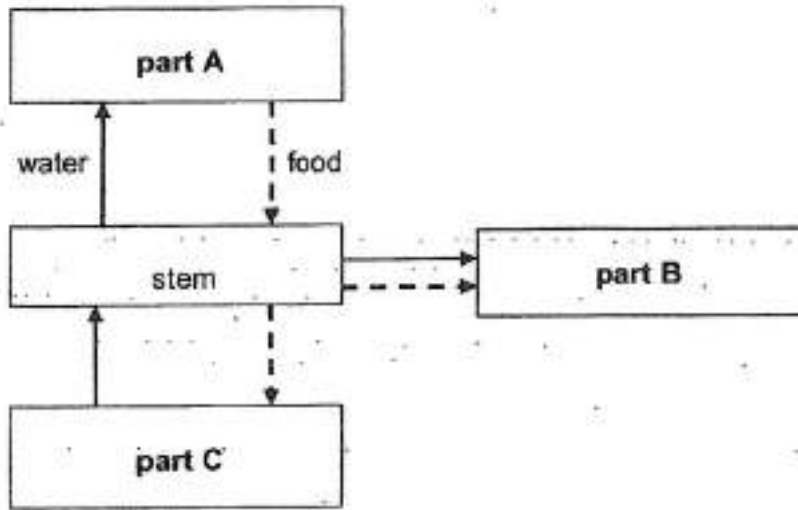
Janette prepared the following set-ups using identical batteries and iron nails. She measured the number of paper clips attracted to each iron nail.



Which of the following correctly matches the set-ups with the aims of the experiments Janette wants to conduct?

<input type="radio"/> A)	To find out whether the number of coils around the nail affects the number of paper clips attracted by the nail.	To find out whether the number of batteries affects the number of paper clips attracted by the nail.
	Set-ups A and B	Set-ups A and C
<input type="radio"/> B)	To find out whether the number of coils around the nail affects the number of paper clips attracted by the nail.	To find out whether the number of batteries affects the number of paper clips attracted by the nail.
	Set-ups B and C	Set-ups A and B
<input type="radio"/> C)	To find out whether the number of coils around the nail affects the number of paper clips attracted by the nail.	To find out whether the number of batteries affects the number of paper clips attracted by the nail.
	Set-ups A and B	Set-ups B and C
<input type="radio"/> D)	To find out whether the number of coils around the nail affects the number of paper clips attracted by the nail.	To find out whether the number of batteries affects the number of paper clips attracted by the nail.
	Set-ups A and C	Set-ups B and C

Plant X produces sweet and juicy fruits. The diagram below shows the different parts of plant X and how substances are transported within the plant.



Which of the following correctly identifies part A, B and C?

- A) 

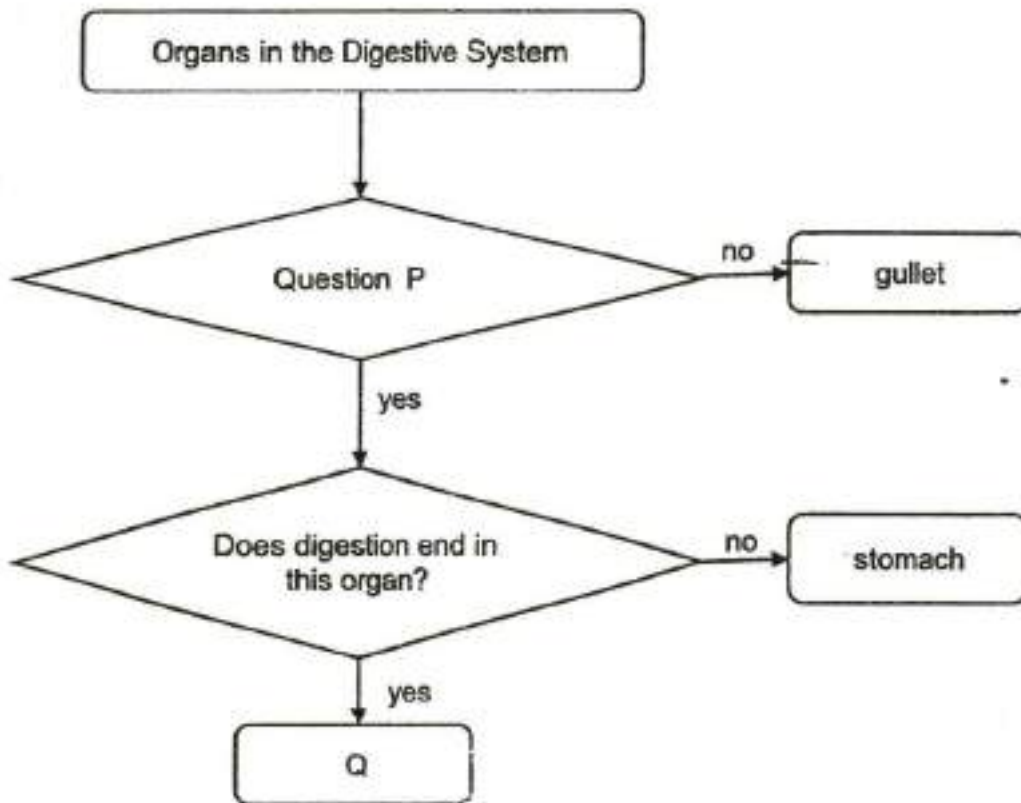
Part A	Part B	Part C
fruit	leaf	root
- B) 

Part A	Part B	Part C
leaf	root	fruit
- C) 

Part A	Part B	Part C
root	fruit	leaf
- D) 

Part A	Part B	Part C
leaf	fruit	root

Study the flow chart below.



Which one of the following is correct?

- A) 

Question P	Organ Q
Does it produce digestive juice?	Small intestine
- B) 

Question P	Organ Q
Does it break food into smaller pieces?	Mouth
- C) 

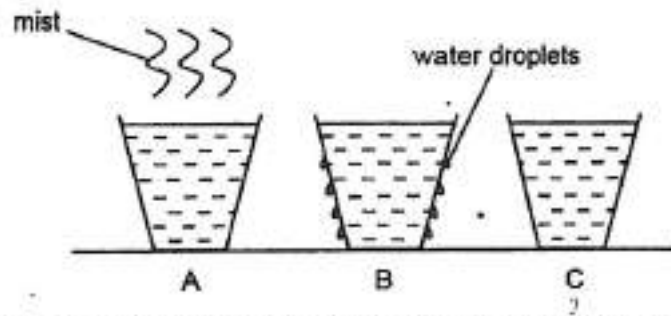
Question P	Organ Q
Does it absorb water from undigested food?	Small intestine
- D) 

Question P	Organ Q
Does it lead food to the stomach?	Large intestine



Mary poured water at different temperatures into three identical cups A, B and C and placed the cups on a table at room temperature.

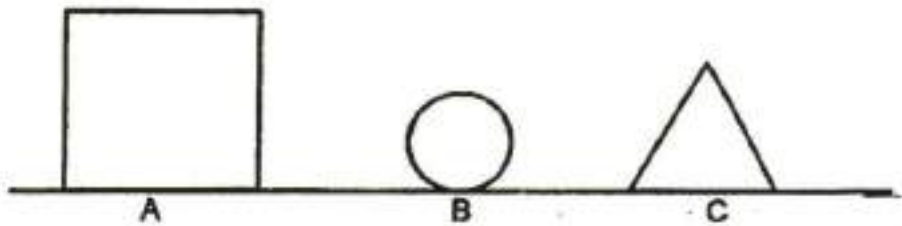
The diagram below shows how the cups looked like after 5 minutes.



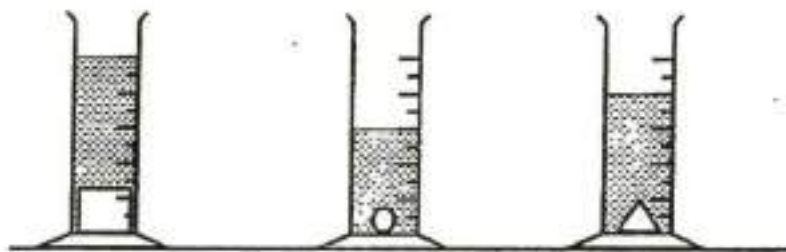
Arrange the cups according to the temperature of the water in the cups, from the highest temperature to the lowest temperature.

- 
- A) A, C, B
  - B) C, B, A
  - C) A, B, C
  - D) B, C, A

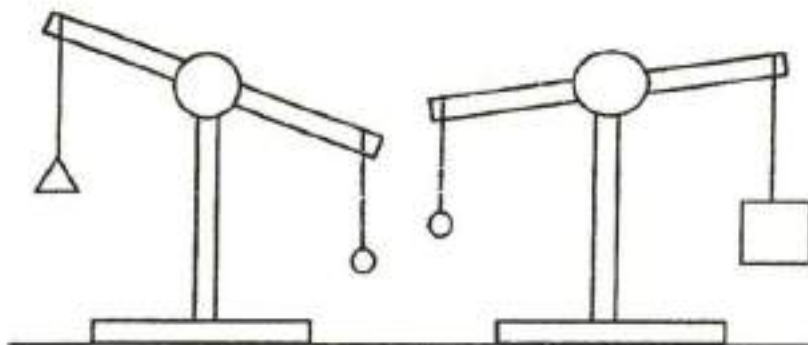
Benny has three objects, A, B and C, as shown below.



He placed these objects into similar measuring cylinders, each containing 10 ml of water.



He compared the mass of these objects as shown below.



Which of the following correctly identifies the object with the largest volume and the object with the largest mass?

- A) 

Largest volume	Largest mass
A	A
- B) 

Largest volume	Largest mass
A	B
- C) 

Largest volume	Largest mass
B	A
- D) 

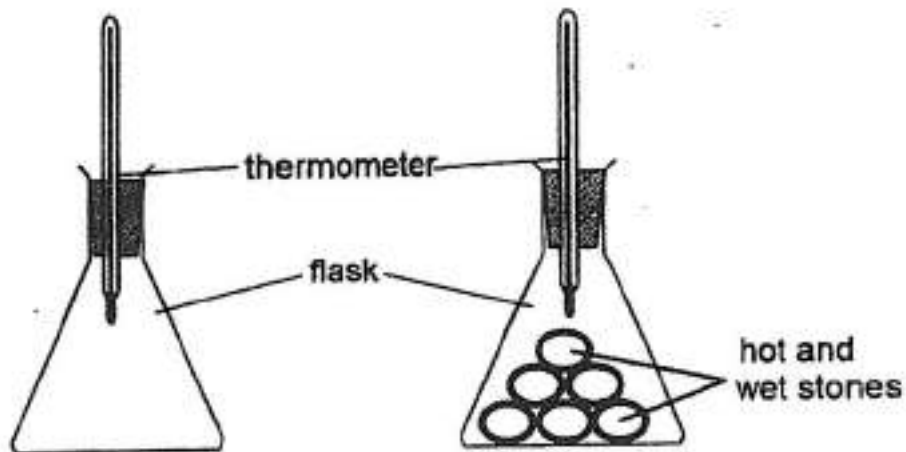
Largest volume	Largest mass

**Question 10 of 56**

Swee Lin recorded the temperature of air inside the flask.

Then, she placed some stones that are both hot and wet in the flask.

Then she immediately closed the flask such that it became air-tight.



What would likely happen to the air inside the flask after 1 minute?

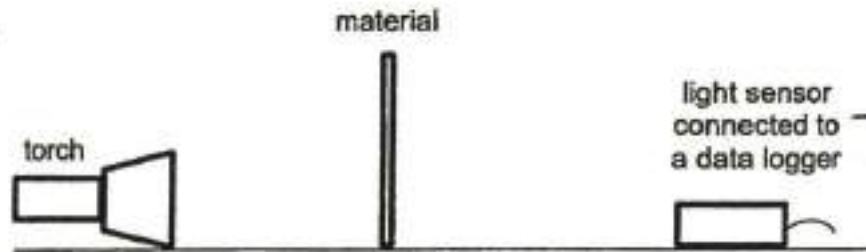
The air inside the flask would \_\_\_\_\_.

- A lose heat
- B gain heat
- C contain less water vapour
- D contain more water vapour

- 
- A) A and C only
  - B) B and C only
  - C) A and D only
  - D) B and D only

The following experiment was conducted in a dark room using a torch light that gives out 500 units of light.

Four different materials, P, Q, R and S, of the same thickness were placed between the torch and the light sensor connected to a data logger.



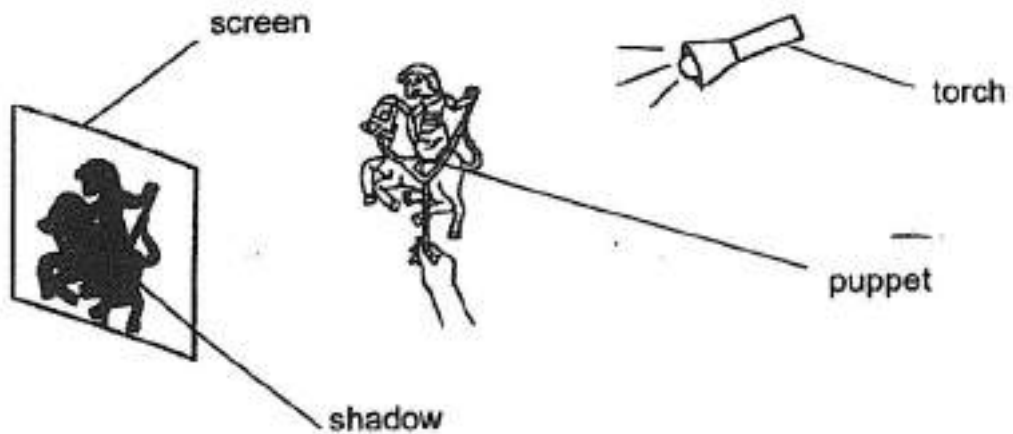
The amount of light that was detected by the data logger was shown in the table below.

Material	P	Q	R	S
Amount of light detected (units)	480	250	90	0

Which one of the materials can be used to make the door of a room such that people on the outside cannot see what is happening inside the room?

- A) P
- B) Q
- C) R
- D) S

A shadow play is performed by placing a puppet between a screen and a torch.



The shadow cast on the screen can be made bigger by \_\_\_\_\_.

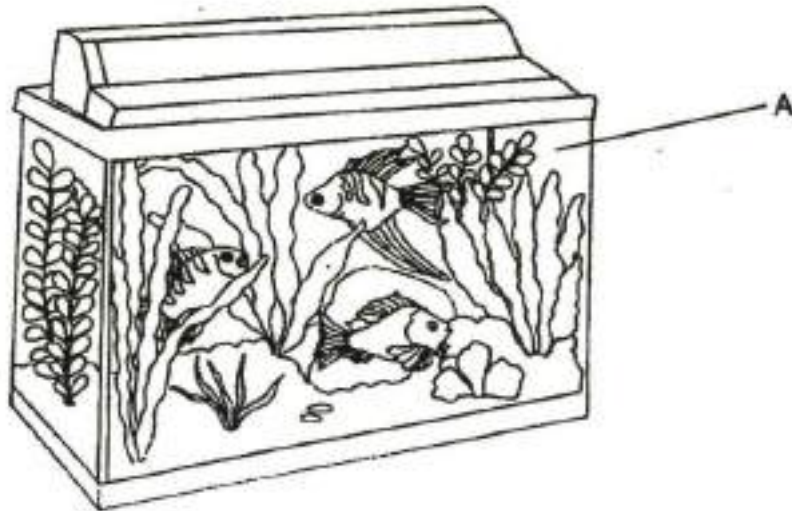
- A moving the torch further from the puppet
- B moving the torch closer to the puppet
- C moving the screen closer to the puppet
- D moving the screen further from the puppet

- 
- A) A only
  - B) D only
  - C) B and D only
  - D) B and C only

The table below shows the properties of four different materials, W, X, Y and Z.

	Allows most light to pass through	Waterproof	Flexible
W		✓	✓
X	✓		✓
Y	✓	✓	
Z	✓	✓	✓

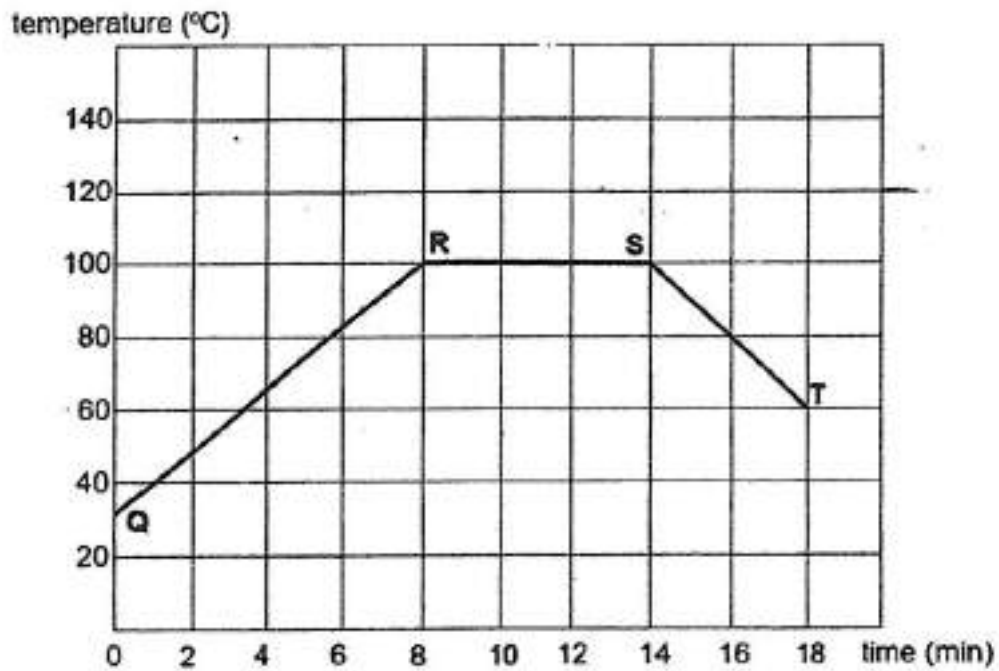
Key  
✓ : present



Which of the following materials, W, X, Y, or Z is most suitable for making part A of the fish tank as shown above?

- A) W
- B) X
- C) Y
- D) Z

The graph below shows the change in the temperature of water in a container, as it was brought to boil and then left to cool.



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

- A Water gained heat from Q to R.
- B Water turned into steam between R and S.
- C Evaporation of water did not take place between S and T.

- 
- A) A and B only
  - B) A and C only
  - C) B and C only
  - D) A, B and C

A scientist observed that the temperature of air on Earth has increased over the last 50 years.

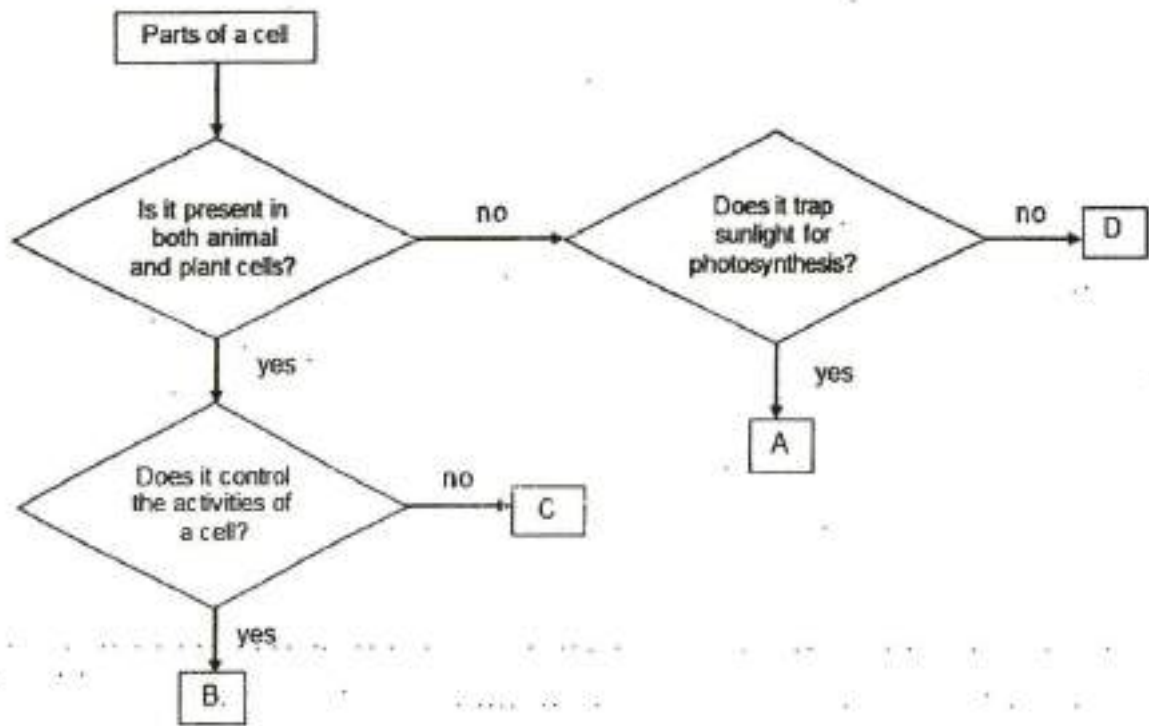
Which of the following activities could have caused the increase in the temperature?

- A An increase in the planting of trees
  - B An increase in the use of air-conditioners
  - C An increase in the number of vehicles on the road
  - D An increase in the use of solar energy to produce electricity
- 

- A) A and B only
- B) B and C only
- C) A and D only
- D) C and D only



The flow chart below identifies different parts (A, B, C and D) of a cell.



Which one of the following correctly represents the nucleus and the cell wall?

- A) 

Nucleus	Cell Wall
B	A
- B) 

Nucleus	Cell Wall
C	A
- C) 

Nucleus	Cell Wall
B	D
- D) 

Nucleus	Cell Wall
C	D

Diagram 1 shows a root cell of a plant.

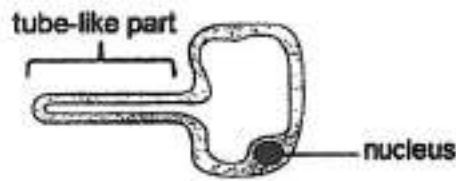


Diagram 1

Diagram 2 shows cells of a leaf.

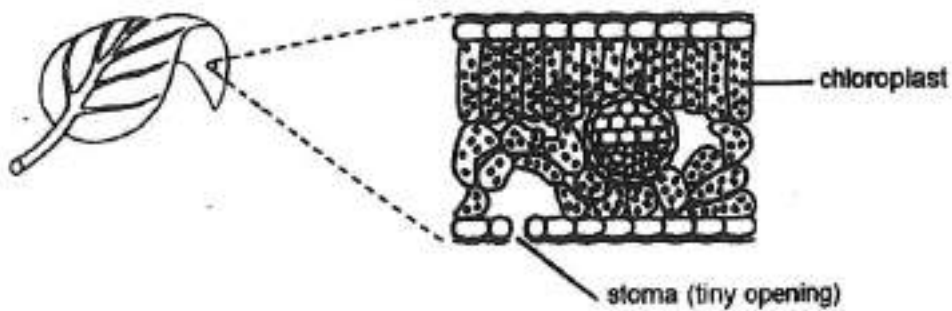


Diagram 2

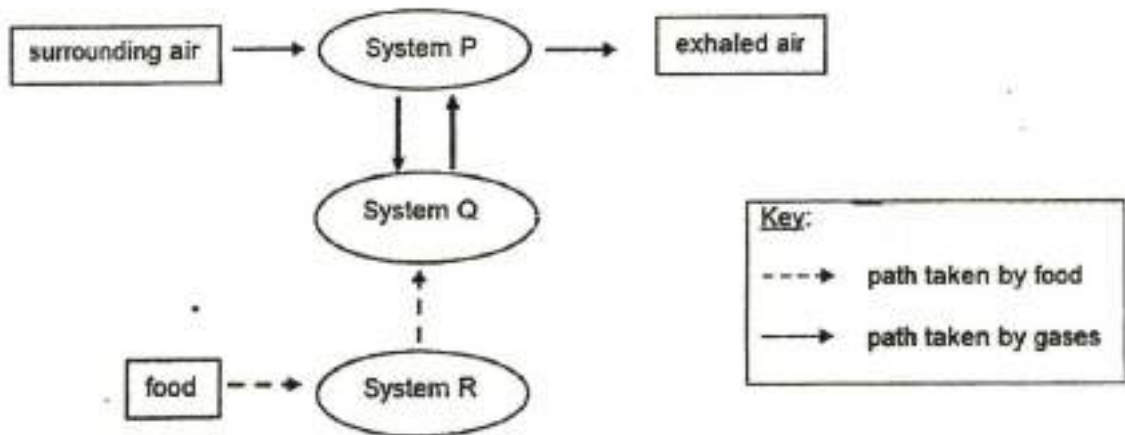
The table below shows the parts and functions of the root and leaf cells.

	Description of part	Function
A	The root cell has a tube-like part.	To increase surface area to absorb more water to make food.
B	The presence of numerous tiny openings in the leaf.	To take in oxygen to make food.
C	The presence of chlorophyll in the chloroplasts in the leaf cells.	To absorb sunlight to make food.

Based on the information given, which of the following is correct?

- A) A and B only
- B) A and C only
- C) B and C only
- D) A, B and C

The diagram below shows how food, oxygen and carbon dioxide are transported in the human body.



Which systems do P, Q and R represent?

- A) 

P	Q	R
circulatory	respiratory	digestive
- B) 

P	Q	R
digestive	circulatory	respiratory
- C) 

P	Q	R
respiratory	circulatory	digestive
- D) 

P	Q	R
respiratory	digestive	circulatory

Jamie removed a part of the stem of a plant as shown in Diagram 1.

After some time, she noticed a swelling at part X of the stem as shown in Diagram 2.

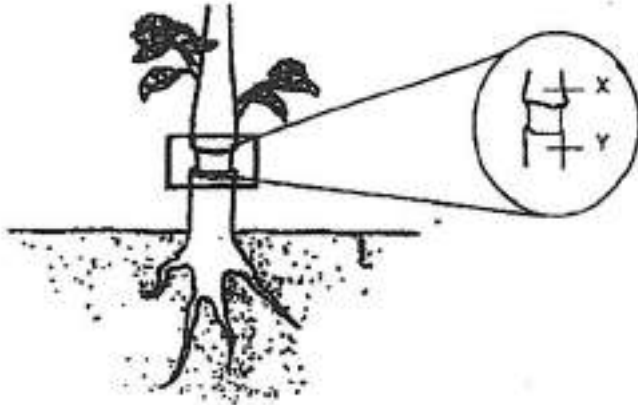


Diagram 1

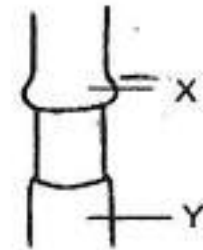


Diagram 2

Based on the information given, which one of the following statements is correct?

- A) The plant will continue to grow and reproduce.
- B) The plant will die as food from the leaves cannot reach the roots.
- C) The plant will die as food and water cannot be transported around the plant.
- D) The plant will wither and die as water from the roots cannot reach other parts of the plant.

**Question 20 of 56**

Primary 5 Science (Term 4) 2 pts

A group of boys were trapped in a sealed cave when rising flood waters prevented them from moving towards the only opening of the cave.

Which one of the following most likely shows the changes in the composition of the air inside the cave after two hours?

- A) 

Carbon dioxide	Oxygen	Water vapour
decreased	increased	increased
- B) 

Carbon dioxide	Oxygen	Water vapour
decreased	increased	remained unchanged
- C) 

Carbon dioxide	Oxygen	Water vapour
increased	decreased	increased
- D) 

Carbon dioxide	Oxygen	Water vapour
increased	decreased	remained unchanged

**Question 21 of 56**

Primary 5 Science (Term 4) 2 pts

The statements, A, B, C and D, describe a part of the process of how fruits and seeds are formed in a flowering plant.

- A The male and female reproductive cells fuse in the ovule.
- B The pollen lands on the stigma.
- C The anther releases the pollen.
- D The pollen tube grows towards the ovule.

Which one of the following shows the correct sequence of the process? \_\_\_\_

- A) B, C, A, D
- B) B, C, D, A
- C) C, B, A, D
- D) C, B, D, A

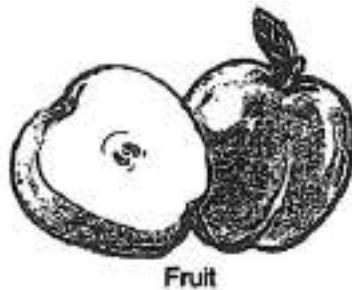
Kai Seng recorded the physical traits of his parents and himself as shown in the table below.

Father	Mother	Kai Seng
short hair	long hair	short hair
brown eyes	black eyes	black eyes
single eyelid	double eyelid	single eyelid
attached earlobes	detached earlobes	attached earlobes
dimples	dimples	dimples

Which of the following are the physical traits Kai Seng inherited from his parents?

- A) length of hair and attached earlobes only
- B) dimples, single eyelid and length of hair only
- C) eye colour, dimples and attached earlobes only
- D) single eyelid, dimples, eye colour and attached earlobes only

Mei Ling wants to find out whether a fruit she has picked up is dispersed in the same way as the fruit shown in the diagram below.



Which of the following investigations should she carry out?

- A Observe if the fruit has a sweet smell.
- B Find the mass of the fruit by weighing it.
- C Cut open a fruit to check if it has small, hard seeds.

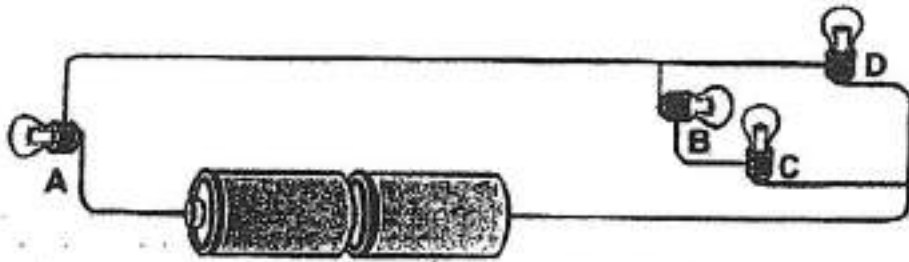
- A) A and B only
- B) A and C only
- C) B and C only
- D) A, B and C

Question 24 of 56

Primary 5 Science (Term 4)

2 pts

Study the circuit shown below carefully.



When one of the bulbs is fused, three other bulbs remain unaffected and continue to light up.

Which one of the following is the fused bulb?

- A) A
- B) B
- C) C
- D) D

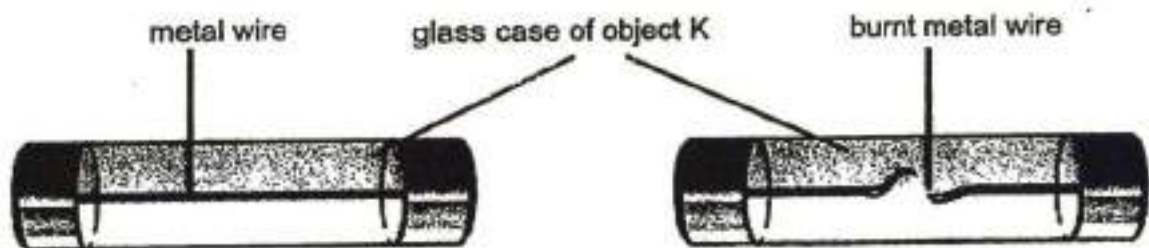
Question 25 of 56

Primary 5 Science (Term 4)

2 pts

An electric circuit powers an oven. Object K is part of the electric circuit.

The diagram below shows object K.

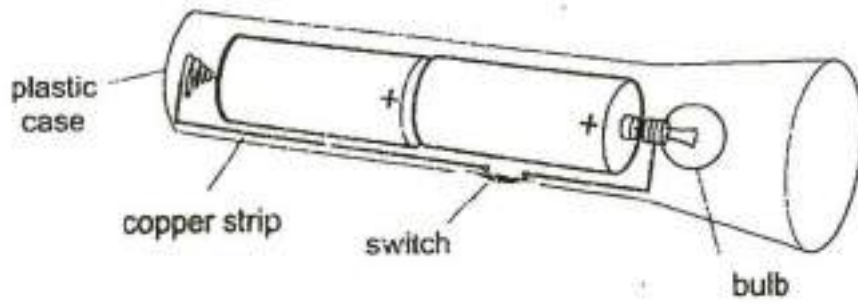


Which one of the following would happen if the metal wire burns out in object K?

- A) The light inside the oven will be brighter.
- B) The oven will not be able to produce heat.
- C) The temperature in the oven will be higher.
- D) The oven will be able to heat the food in it faster.

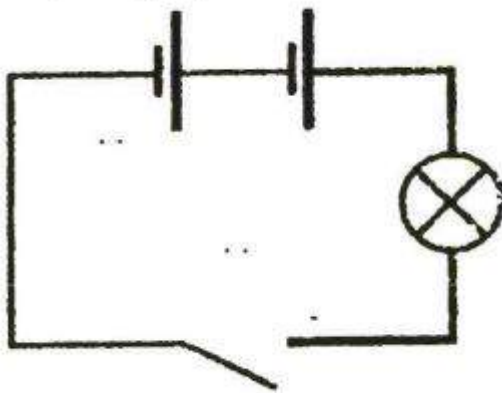


The diagram shows a torchlight containing two batteries, a switch and a bulb.

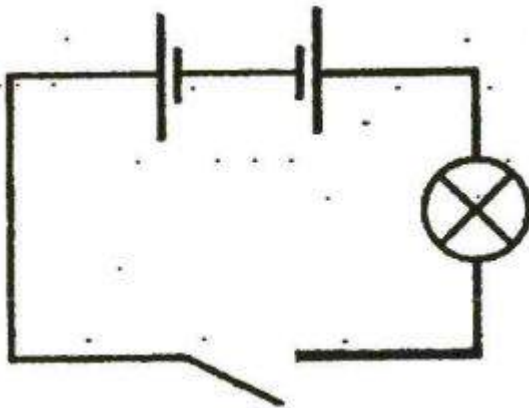


Which one of the following circuit diagrams represents circuit in the torchlight?

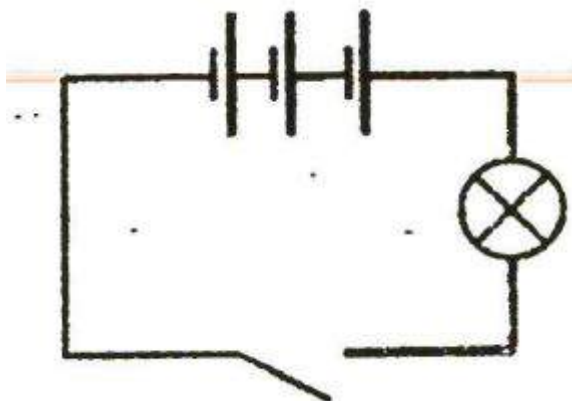
A)



B)

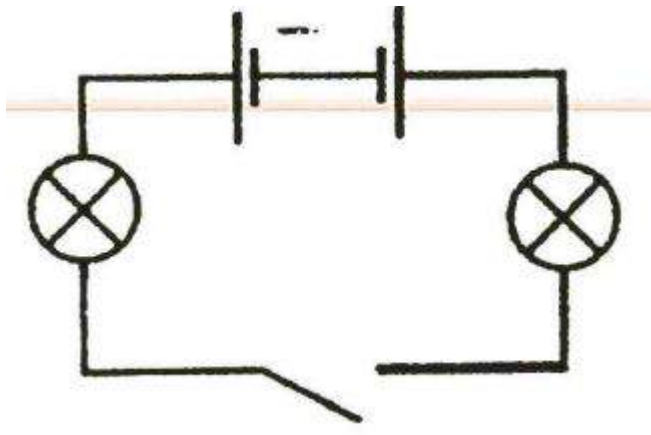


C)



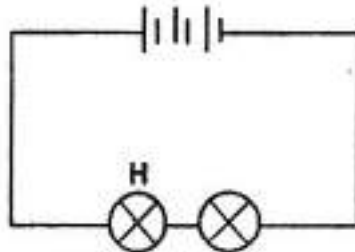
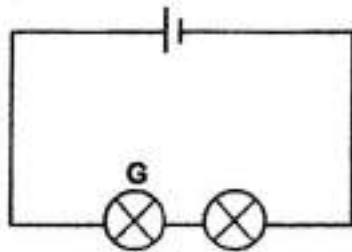
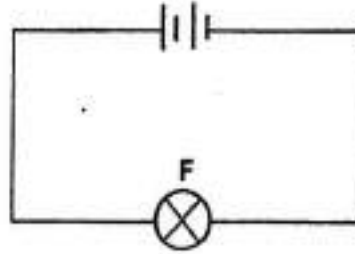
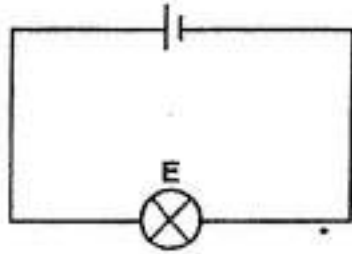
D)





The diagram below shows four circuits with different arrangements of identical batteries and bulbs.

The bulbs in all the four circuits light up.



Which one of the following shows the brightness of the bulbs correctly?

- A)
 

Low		High
F	H	G
- B)
 

Low		High
E	G	H
- C)
 

Low		High
G	F	H
- D)
 

Low		High
G	E	F

Diagrams S and T show two circuits with rods made of materials X and Y. The rods were placed across each circuit as shown below.

Identical batteries and bulbs were used in both circuits.

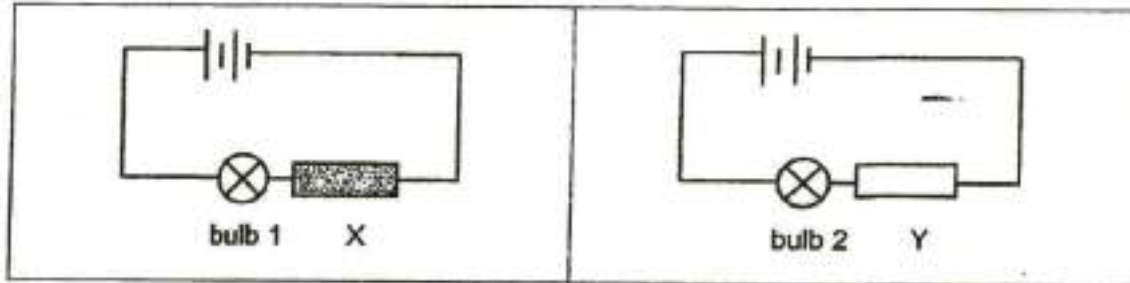


Diagram S

Diagram T

It was observed that bulb 1 did not light up but bulb 2 lit up brightly.

Based on the information given, which of the following statements are likely to be correct?

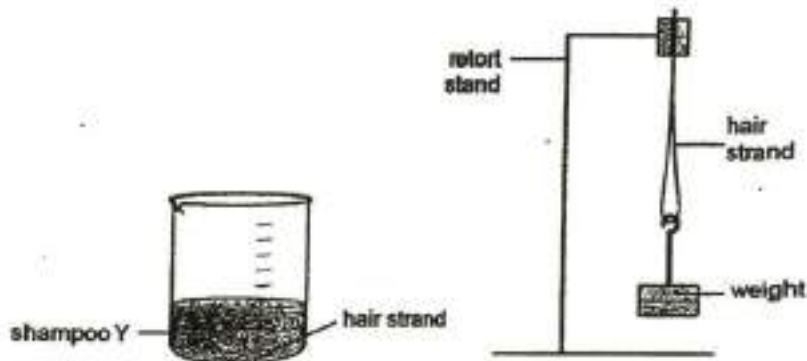
- A Bulb 1 has fused.
- B Material Y is a conductor of electricity.
- C Material X is a non-conductor of electricity.

- A) A and B only
- B) A and C only
- C) B and C only
- D) A, B and C

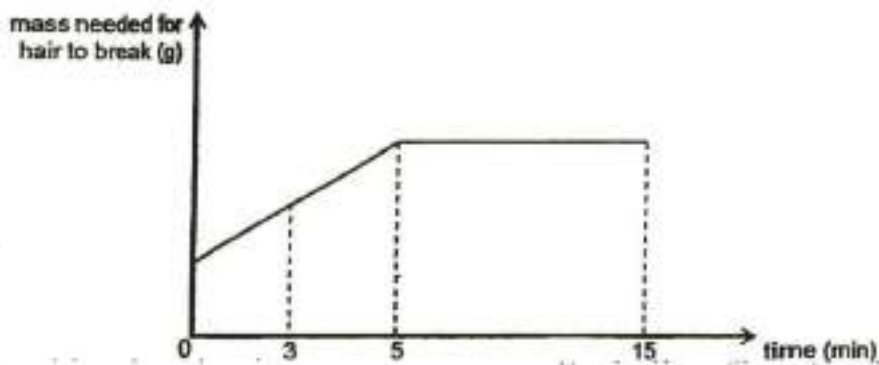
Paul wanted to find out how the amount of time a strand of hair is soaked in shampoo Y affects the strength of the hair.

He soaked 3 similar strands of hair in shampoo Y and tested it at 3 different points in time.

Then he added weights to each strand of hair until it broke.



He charted the results of his experiment in the graph below.



Based on the information given in the graph above, describe the relationship between the length of time the strand of hair was soaked in the shampoo and the strength of the hair. (2 marks)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

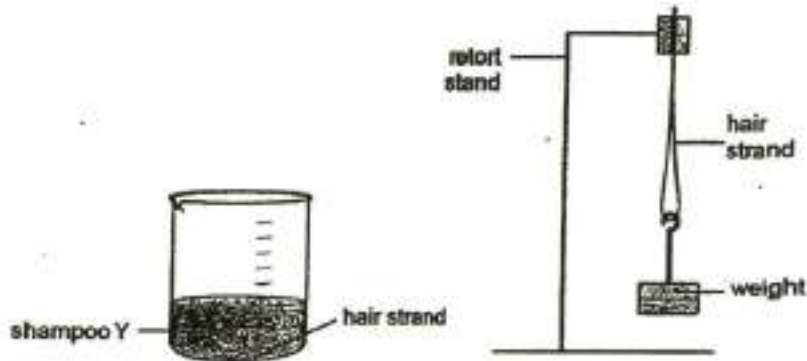
*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

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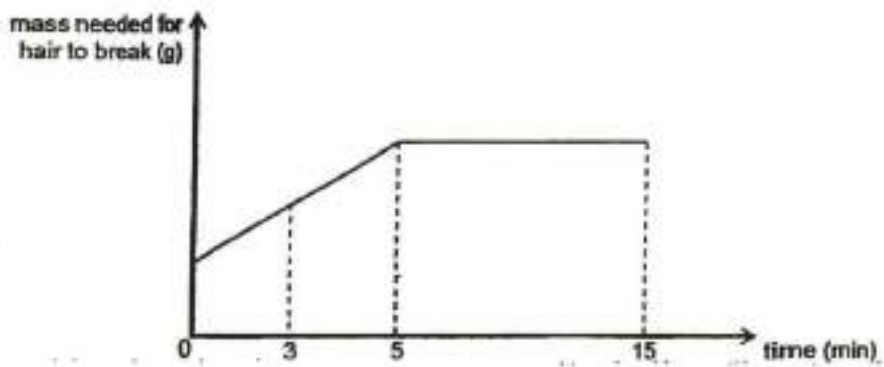
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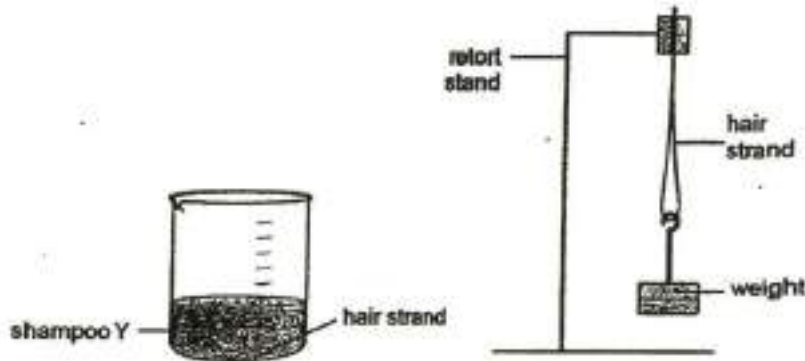
Name the dependent variable measured in this experiment.

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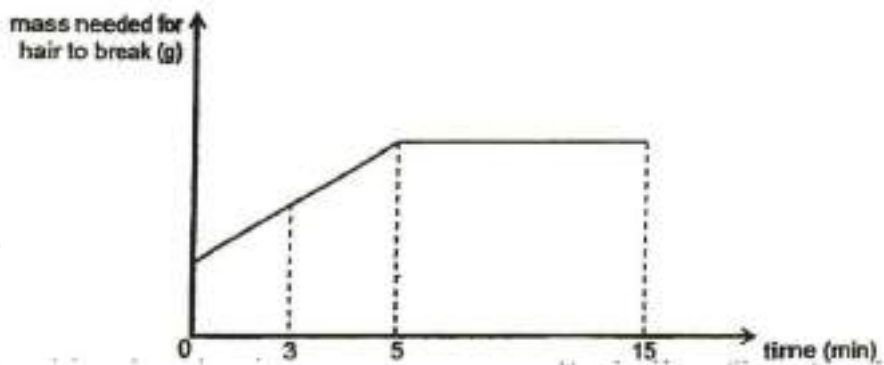
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He soaked 3 similar strands of hair in shampoo Y and tested it at 3 different points in time.

Then he added weights to each strand of hair until it broke.



He charted the results of his experiment in the graph below.



For a new experiment, Paul wants to investigate how different types of shampoo (X, Y and Z) affects the strength of the hair.

Suggest two changes Paul has to make to the set-ups in the current experiment so that he can carry out the new experiment fairly. [2]

Change 1: \_\_\_\_\_

\_\_\_\_\_

Change 2: \_\_\_\_\_

\_\_\_\_\_

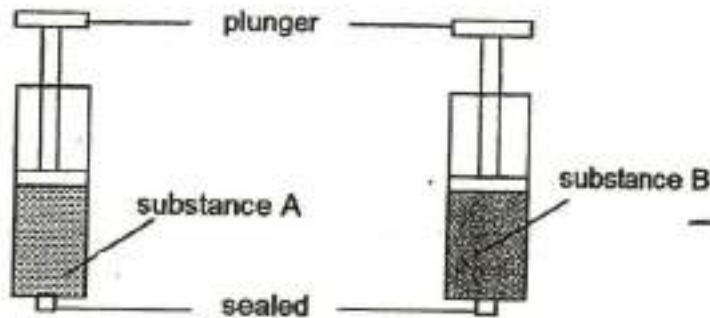
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**Question 32 of 56**

Primary 5 Science (Term 4) 2 pts

Johnny filled two sealed syringes with equal amount of substances A and B as shown in the diagram below.



When Johnny pushed in the plunger, he observed that substance A can be compressed but not substance B.

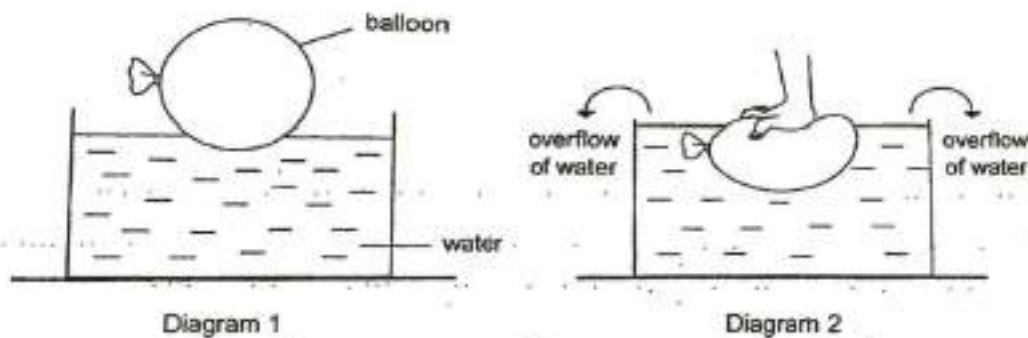
Which state of matter (solid, liquid or gas) could substance B be? Explain why. (2 marks)

**Question 33 of 56**

Primary 5 Science (Term 4) 0 pts

Johnny filled a balloon with substance A and placed it on the water in a glass container. He observed that the balloon was floating on the water as shown in diagram 1.

When Johnny pushed the balloon downwards, some water in the container overflowed as shown in diagram 2.



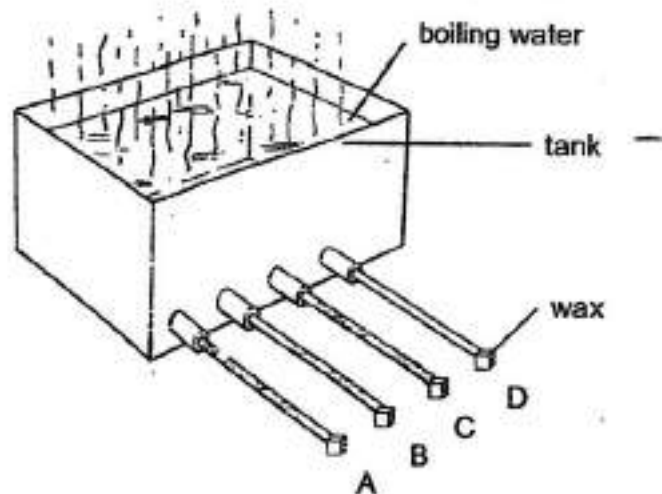
State two other properties of substance A that can be inferred from Johnny's experiment as shown in diagram 2. [2]

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*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

Four similar rods made of different materials, steel, iron, copper and plastic, were attached to a tank filled with hot water.

Four identical cubes of wax were attached to the ends of the four rods as shown in the diagram below.



The table below shows the time taken for the wax to melt.

Rod	Time taken for the wax to melt (min)
A	1.0
B	1.5
C	3.0 plastic
D	1.3

Describe the direction of heat flow in the experimental set-up shown above. (1 mark)

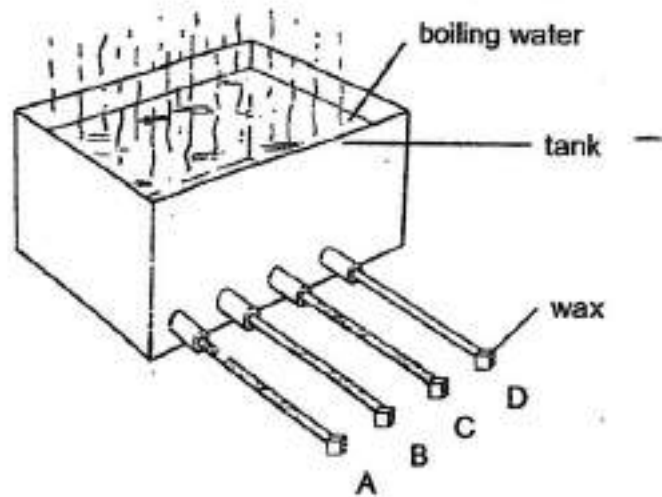
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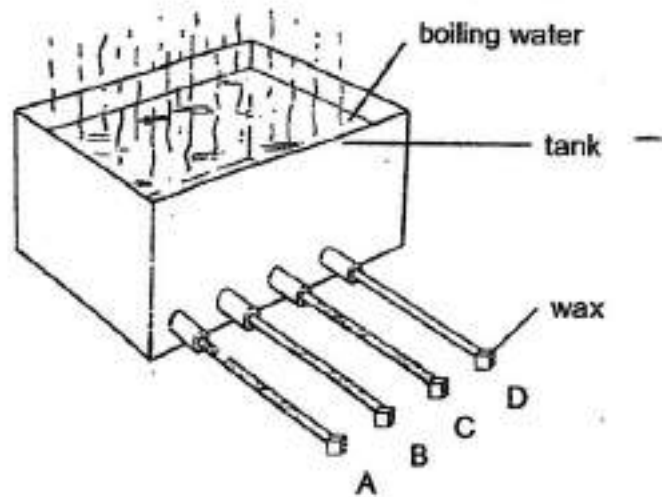
Rod	Time taken for the wax to melt (min)
A	1.0
B	1.5
C	3.0 plastic
D	1.3

Which rod is likely made of plastic? Explain why.

---

Four similar rods made of different materials, steel, iron, copper and plastic, were attached to a tank filled with hot water.

Four identical cubes of wax were attached to the ends of the four rods as shown in the diagram below.



The table below shows the time taken for the wax to melt.

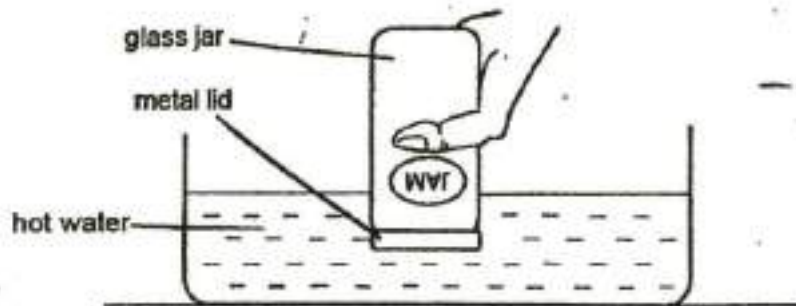
Rod	Time taken for the wax to melt (min)
A	1.0
B	1.5
C	3.0 plastic
D	1.3

Based on the above experiment, state which material should be used to make cups to keep soft drinks cold for a long time.

---

A metal lid was fitted tightly on a glass jar.

Mani placed the lid and part of the jar into a container of hot water as shown in the diagram below.



After a few minutes, Mani could remove the metal lid easily.

[2]

Explain why.

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Jeff placed one of his wet shoes, as shown in the diagram below, near an open window to dry.



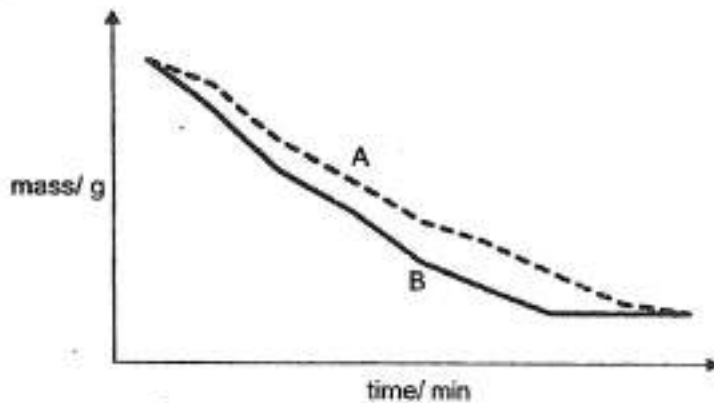
State the process that allows the wet shoe to become dry after a few hours.

---

Question 39 of 56

Primary 5 Science (Term 4) 2 pts

Another wet shoe was placed in a spot near the open window under direct sunlight.



Which one of the graphs, A or B, shows the mass of the shoe that was exposed to direct sunlight?

Explain your answer.

[2]

Question 40 of 56

Primary 5 Science (Term 4) 0 pts

Jeff noticed that his brother usually removes the shoe laces and opens up his wet shoes, as shown in the diagram below, to dry the shoes more quickly.



Explain how removing the shoe laces and opening up the shoes help them to dry more quickly.

[1]

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Mrs. Teo bought a few hot buns which were packed in a Styrofoam box. When she opened the box, she noticed water droplets forming on the underside of the cover.



water droplets formed  
on the underside of  
cover

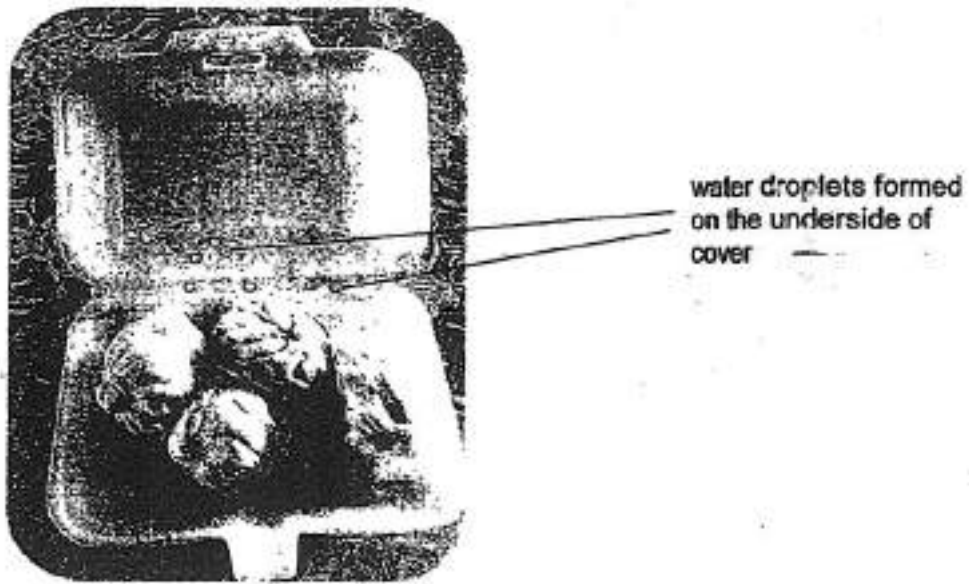
Mrs. Teo noticed that the buns became soaked with water after some time.  
Explain how this happened. (2 marks)

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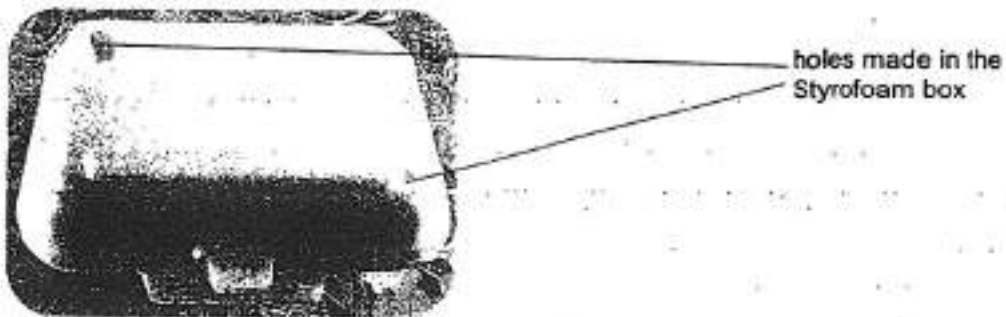
*Grading: This question type is not graded on this system and will not affect the final score as it was designed in such a way that it requires manual assistance.*

---

Mrs. Teo bought a few hot buns which were packed in a Styrofoam box. When she opened the box, she noticed water droplets forming on the underside of the cover.



Stall holders would make holes in the styrofoam box containing hot buns.



Explain how making holes in the Styrofoam box will prevent the buns from becoming too wet. [2]

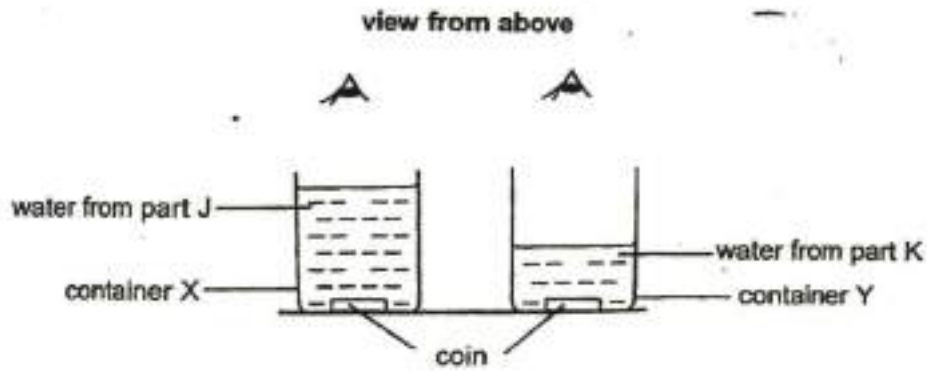
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Salim wanted to study how clear the water in a river was. He collected water from two different parts of the river, J and K.

He used two identical containers X and Y and placed a coin at the bottom of each container. Then he poured water from J into container X until the coin could no longer be seen from the top.

He repeated the experiment using water from K with container Y. The results of the experiment are shown below.



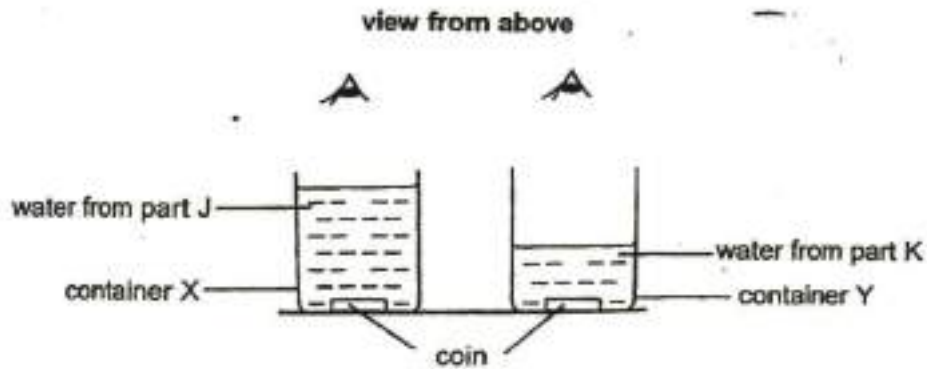
Which container (X or Y) has clearer water? Explain your answer. (2 marks)

---

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He used two identical containers X and Y and placed a coin at the bottom of each container. Then he poured water from J into container X until the coin could no longer be seen from the top.

He repeated the experiment using water from K with container Y. The results of the experiment are shown below.



Containers X and Y are made of clear glass.

Explain why the material should be the same to ensure a fair test. (1 mark)

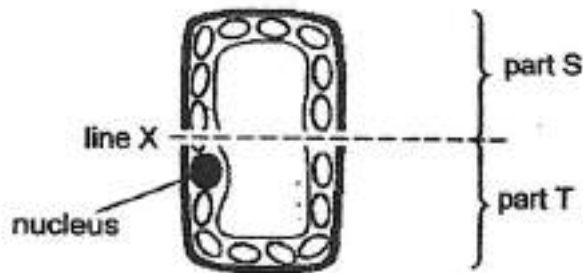
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Leela wanted to do an investigation on some plant cells. She cut the cells at line X as shown below.



After a few days, she recorded her observation in the table below.

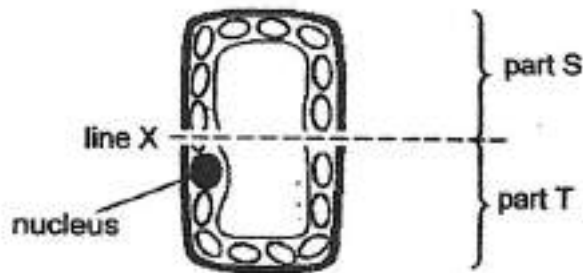
Part S	Part T
Shrunk and died	Cell remained alive, and the area around line X grew.

Explain why part T was able to continue to grow while part S died. (1 mark)

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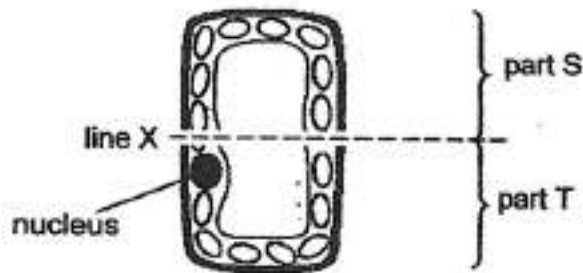
Part S	Part T
Shrunk and died	Cell remained alive, and the area around line X grew.

State a possible aim for Leela's experiment. (1 mark)

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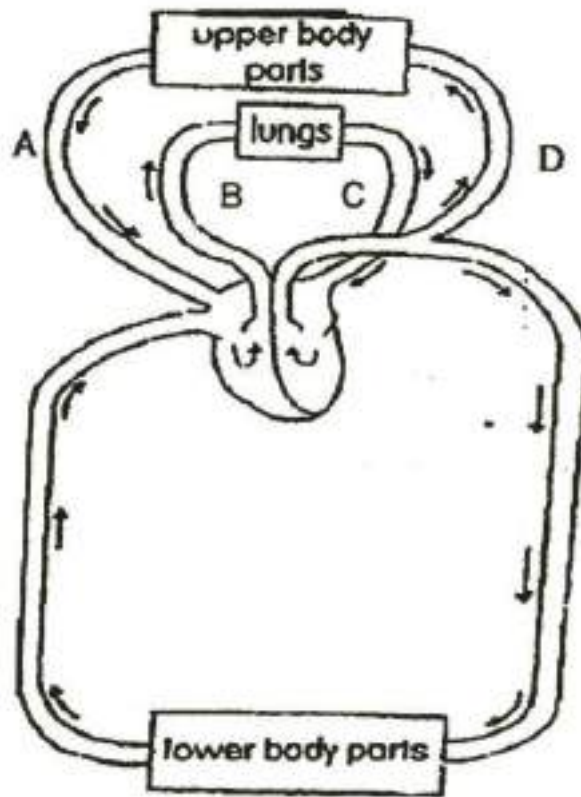
Part S	Part T
Shrunk and died	Cell remained alive, and the area around line X grew.

State the main function of the cell membrane. (1 mark)

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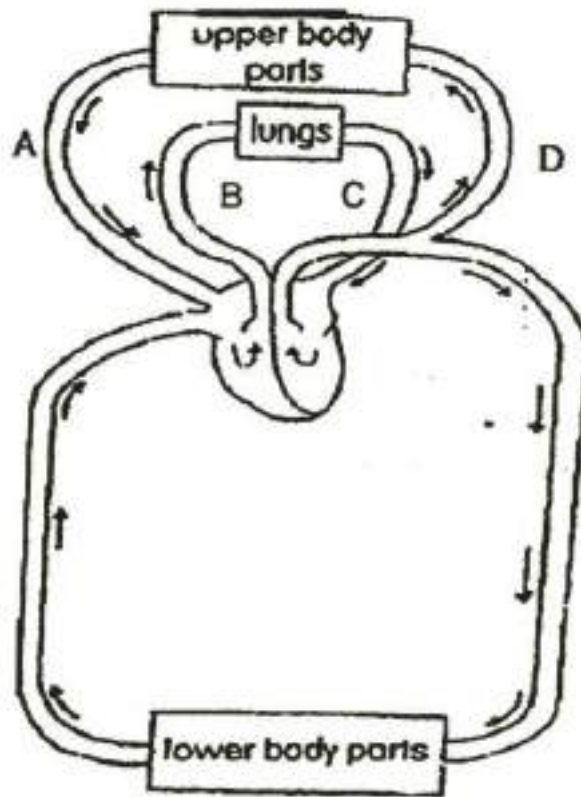
The diagram below shows blood flow in the human circulatory system.



Which part (A, B, C or D) is likely to have the most amount of oxygen in the blood? Explain why. (1 mark)

---

The diagram below shows blood flow in the human circulatory system.



Jenny noticed that her heart rate increases after climbing the stairs. Explain why this happens. (2 marks)

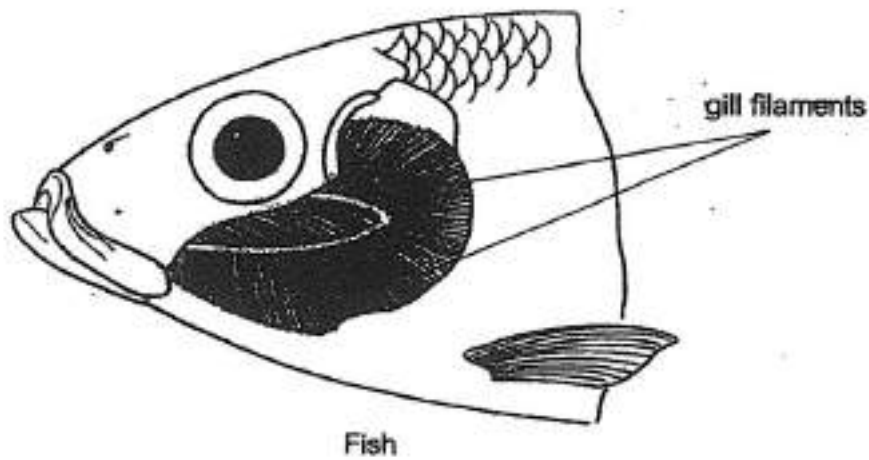
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---

The gills have many filaments to help in gaseous exchange as shown in the diagram below.

They are thin and has a large supply of blood flowing through them.



What is the **advantage** of having numerous gill filaments for gaseous exchange?

[2]

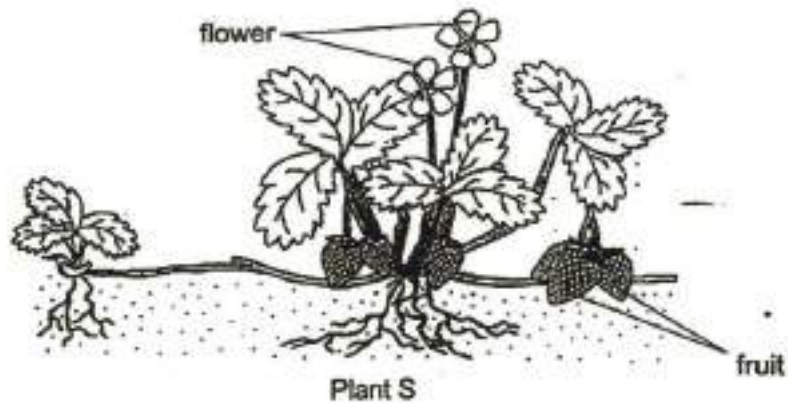
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---

Kim observed plant S shown in the diagram below.

She noticed that the fruit was of a bright red colour and was very juicy. It also contained small and hard seeds.



Bird Z feeds on the nectar found in the flowers of plant S. Bird Z lives in the nests built on top of tree K in the nearby forest.

When a large number of tree K was cleared for building houses, bird Z flew to another forest far away to live there.

Based on the information given, explain how a large number of bird Z leaving the forest could affect the growth of plant S. (2 marks)

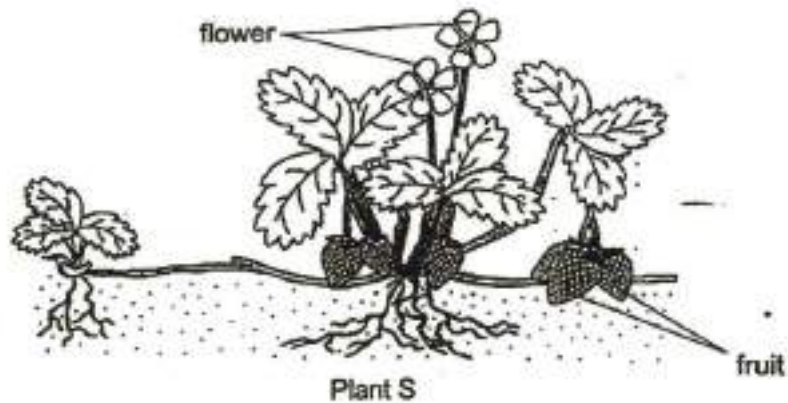
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Explain why plants disperse their seeds as far away as possible. (1 mark)

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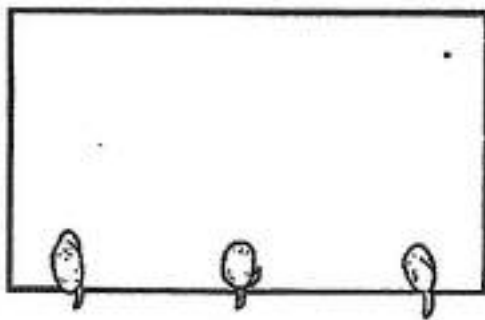
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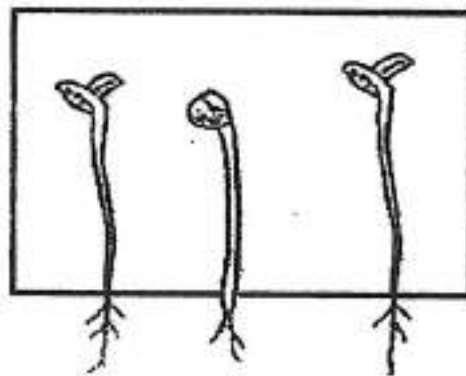
Joan carried out an investigation, using the steps listed below, to find out the effects of temperature on plant growth.

- Two sets of soaked seeds were placed on moist paper in containers.
- The containers were wrapped in foil to keep out sunlight.
- One container was placed in a refrigerator at 5°C for three days.
- The other container was left on a table at room temperature of 30°C for three days.

Diagrams A and B show the two set-ups of the seedlings after three days.



Set-up A  
(seedlings grown at 5°C)



Set-up B  
(seedlings grown at 30°C)

Describe and explain one difference in the appearance of the seedlings in both set-ups. (2 marks)

*This question is designed for extended answers that parent/ teacher will have to assign and guide child to attempt after the test has been completed.*

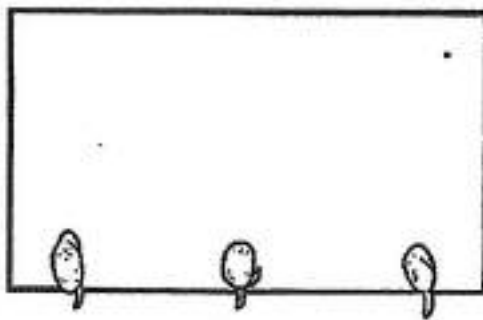
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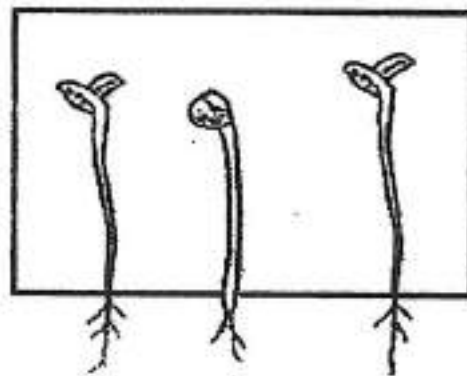
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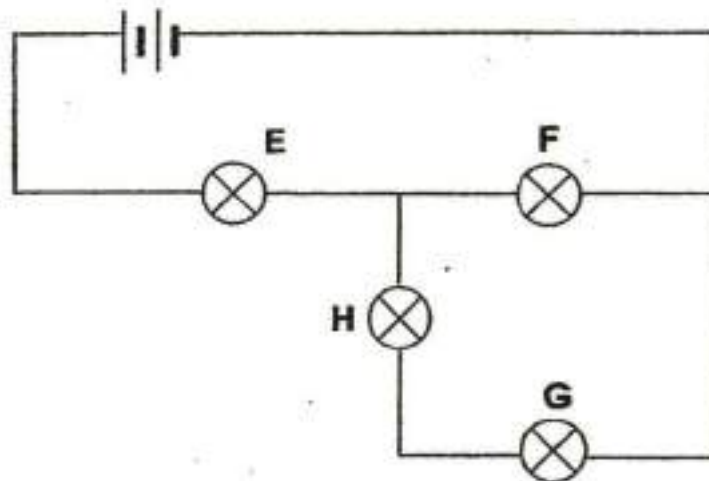
Explain why it is important for Joan to measure the length of more than one seedling in each set-up for her investigation. (1 mark)

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---

The diagram below shows an electric circuit with four identical bulbs, E, F, G and H.



Based on the circuit diagram above, complete the table given below correctly. Match the options below:

1. [ ]

Bulb fused in the circuit	Number of bulbs remain lit
	2

A. G

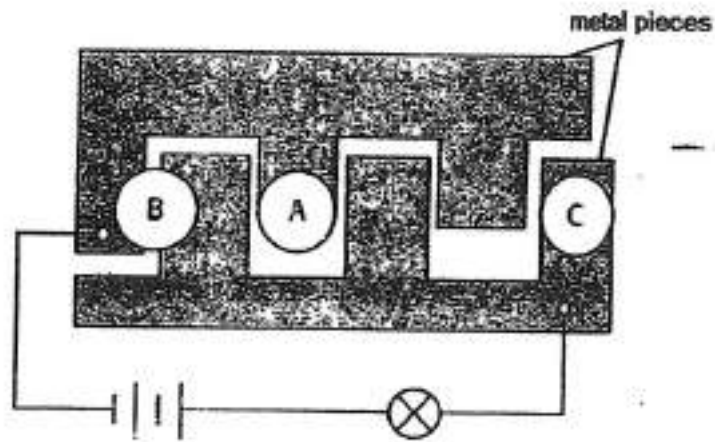
2. [ ]

Bulb fused in the circuit	Number of bulbs remain lit
	3

B. F

Ahmad made an electric circuit game board using two separate pieces of metal.

He observed that the bulb only lit up when he placed a metal disc correctly at one of the positions (A, B or C) shown in the diagram below.



Which one of the positions, A, B or C, would allow the bulb to light up when the metal disc is placed on it? Explain your answer.

Position : \_\_\_\_\_ [1]

Explain : \_\_\_\_\_ [2]  
 \_\_\_\_\_  
 \_\_\_\_\_