

# METHODIST GIRLS' SCHOOL

Founded in 1887



## END-OF-YEAR EXAMINATION 2014 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: \_\_\_\_\_ (    )

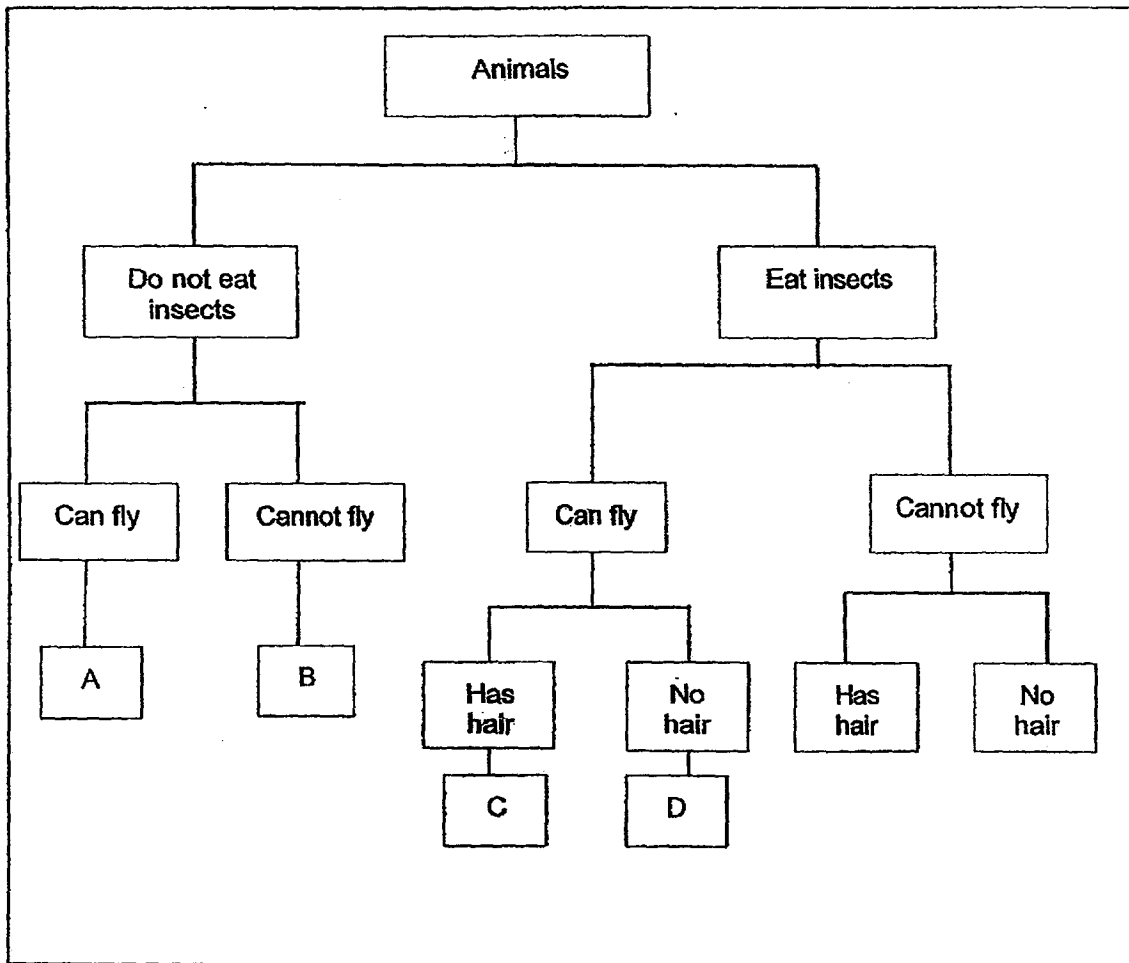
Class: Primary 5. \_\_\_\_\_

Date: 30 October 2014

This booklet consists of 14 printed pages including this page.

For each question from 1 – 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. Samy saw a flying animal. He observed that it fed on insects and had an outer covering of hair. He then drew a classification chart to classify this animal as shown below.

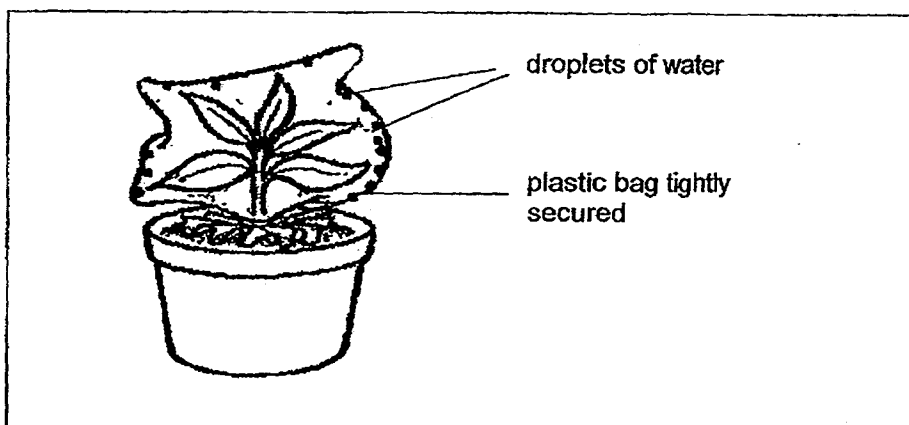


Based on the classification table above, which letter, A, B, C or D best represents the group which the animal belongs to?

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

(Go on to the next page)

2. In the diagram below, the leaves of a plant were wrapped with a plastic bag and left overnight. Droplets of water were seen on the inside of the plastic bag the next day.



Which one of the following statements correctly describes the formation of the water droplets?

- (1) The water from the soil condensed on the plastic bag.
  - (2) The morning dew condensed on the inside of the plastic bag.
  - (3) Water droplets from the surrounding air condensed and entered the plastic bag.
  - (4) The leaves gave off water vapour which condensed on the inside of the plastic bag.
3. Ali pasted a different number of paper wings on four identical seeds, A, B, C and D. He dropped them from the same height above the ground and measured the time taken for each seed to drop to the ground. The table shows his results.

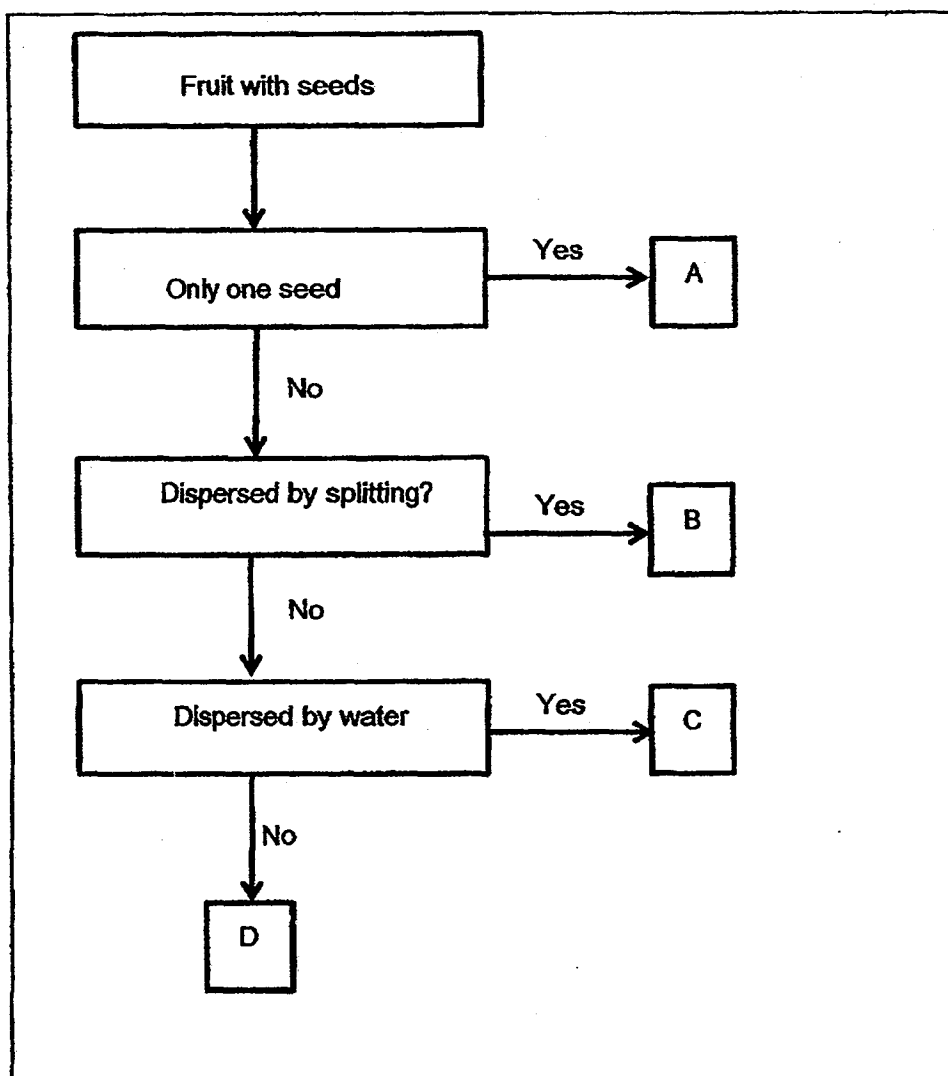
Seed	A	B	C	D
Time taken (sec)	3.5	8.6	4.2	7.8

Which one of the following correctly matches the number of paper wings each seed has?

	Seed A	Seed B	Seed C	Seed D
(1)	4	3	5	2
(2)	5	2	4	3
(3)	2	5	3	4
(4)	3	4	2	5

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4. Study the flow chart below.

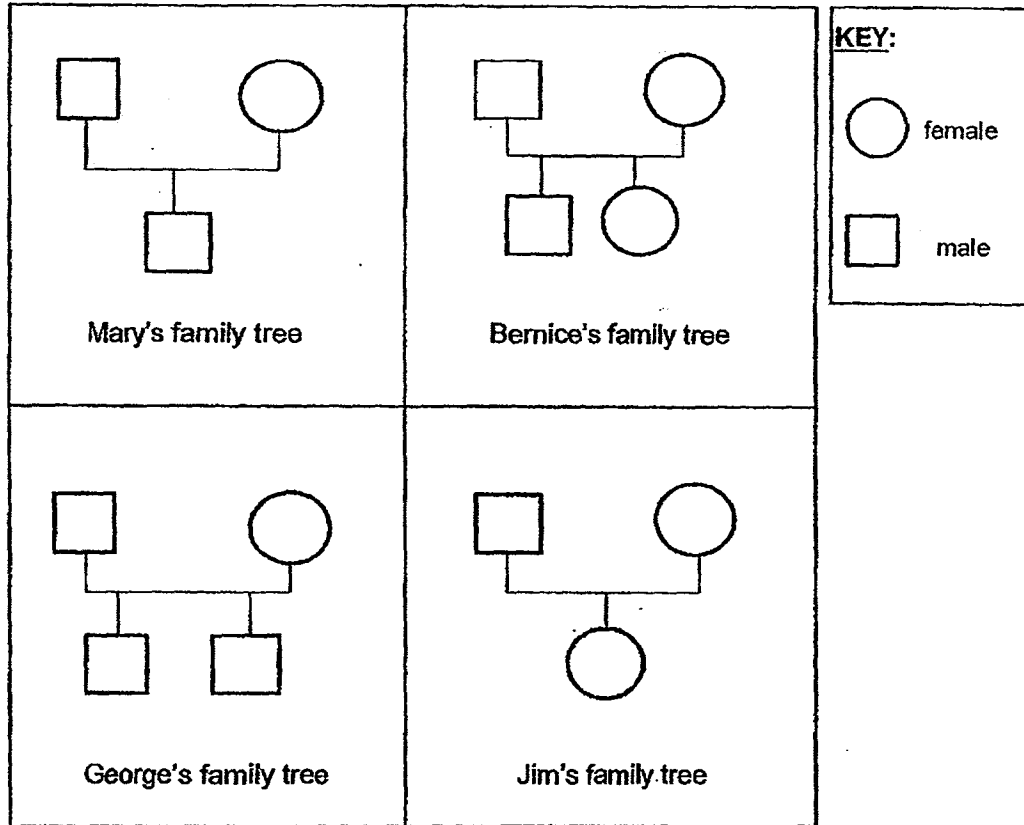


Which of the following best represents seeds A, B, C and D?

	A	B	C	D
(1)	Saga	Lotus	Apple	Longan
(2)	Longan	Saga	Lotus	Apple
(3)	Longan	Lotus	Apple	Saga
(4)	Apple	Longan	Saga	Lotus

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5. Mary asks her friends, Bernice, George and Jim to draw their family trees. The diagrams below show what they have drawn.

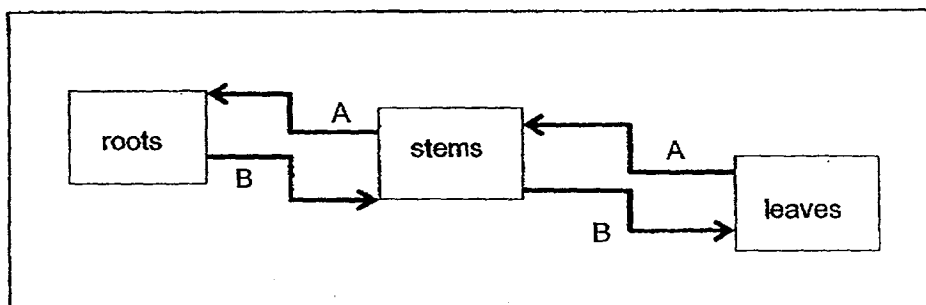


Based on the diagrams above, which children have incorrectly drawn their family trees?

- (1) Mary and Jim only
- (2) Jim and George only
- (3) Mary and Bernice only
- (4) Bernice and George only

(Go on to the next page)

6. The diagram below shows how both substances, A and B, are transported in a plant.



What do substances A and B represent?

	A	B
(1)	water	sugar
(2)	sugar	water
(3)	mineral salts	sugar
(4)	mineral salts	water

7. The following table shows the comparison between sexual reproduction in humans and plants.

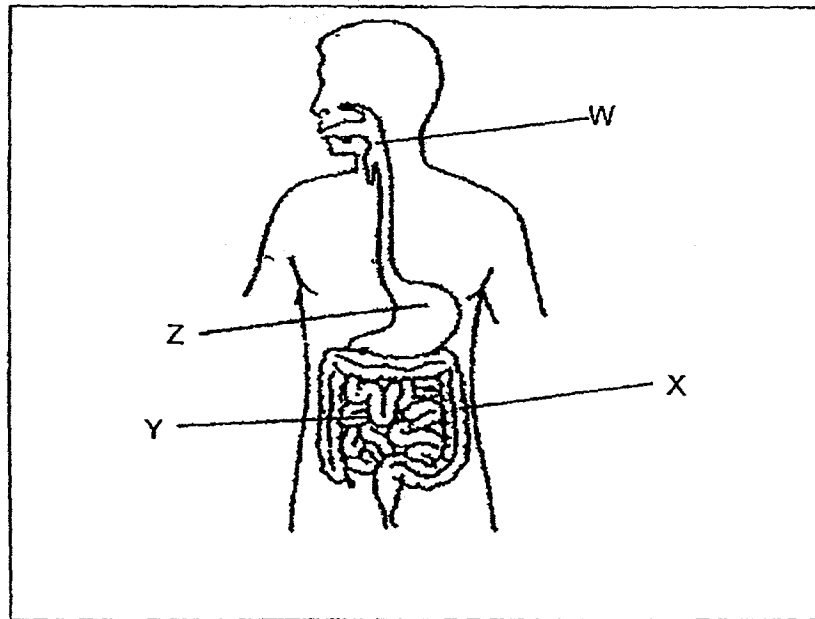
	Humans	Plants
Female reproductive cell	X	Y
Male reproductive cell	sperm	pollen grains
After fertilisation	a baby is formed	Z

What missing information do X, Y and Z represent in the table above?

	X	Y	Z
(1)	ovary	egg	seeds are formed
(2)	ovum	stigma	fruits are formed
(3)	ovary	ovary	fruits are formed
(4)	ovum	egg	seeds are formed

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8. The diagram below shows the human digestive system.

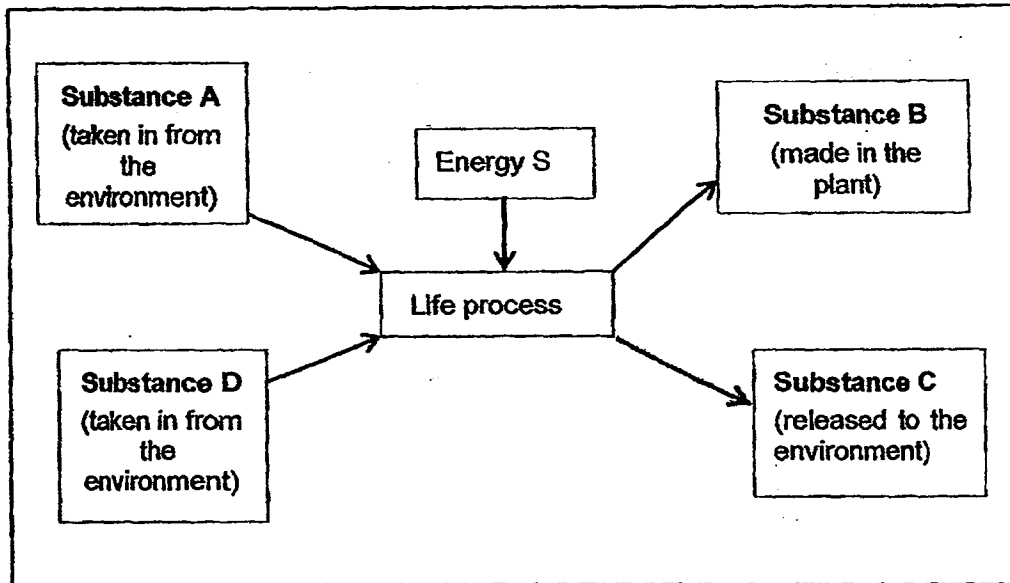


At which part of the digestive system does most of the food enter the circulatory system?

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

(Go on to the next page)

9. The diagram below represents a certain life process that takes place in green plants.



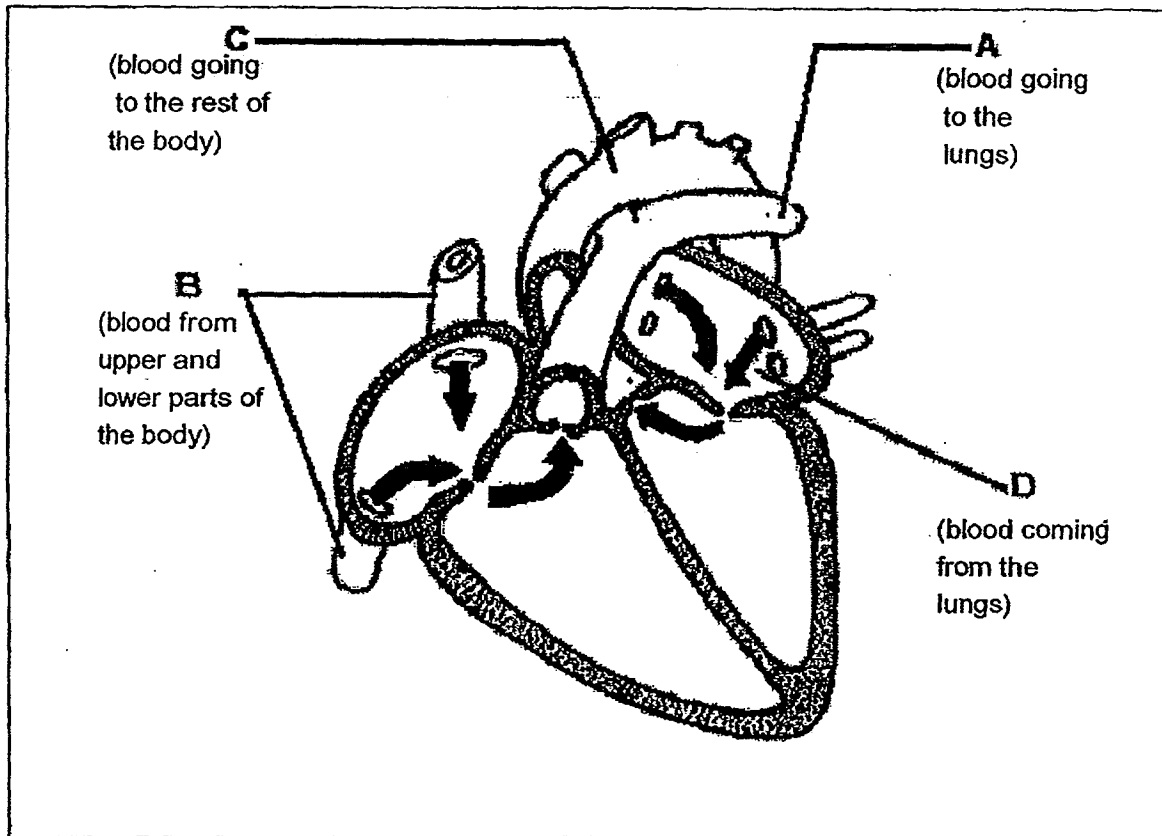
Which one of the following correctly identifies substances, A, B, C and D and Energy S?

	Substance				Energy S
	A	B	C	D	
(1)	food	water	oxygen	carbon dioxide	light
(2)	oxygen	food	carbon dioxide	water	heat
(3)	carbon dioxide	food	oxygen	water	light
(4)	oxygen	water	food	carbon dioxide	heat

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10. The diagram below shows the flow of blood in and out of the heart.

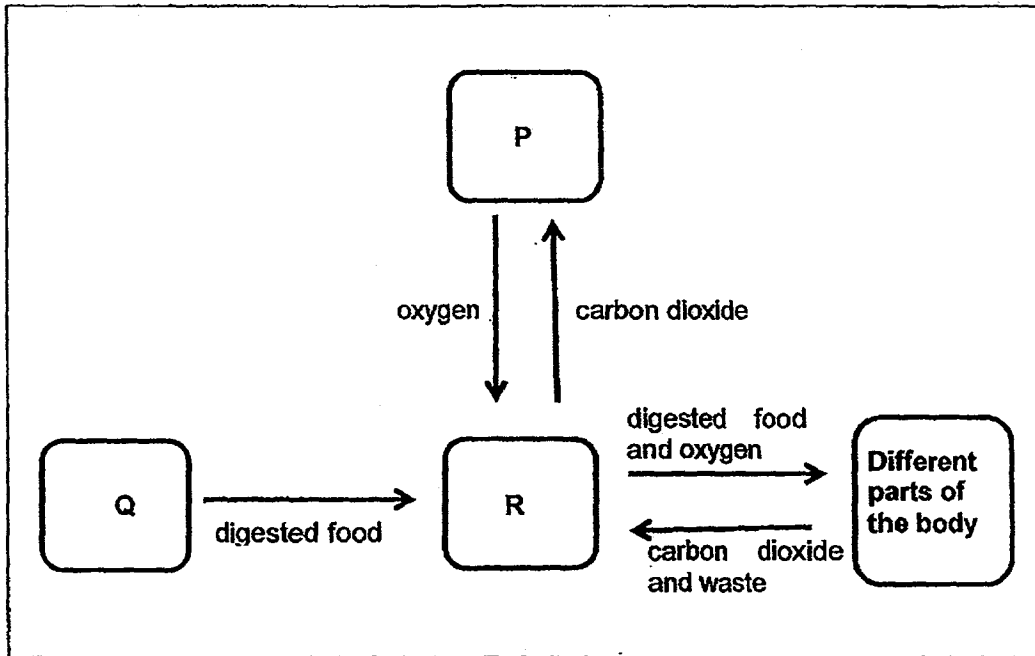


Which one of the following correctly indicates oxygen content in the blood at A, B, C and D?

	More oxygen	Less oxygen
(1)	A and B	C and D
(2)	B and D	A and C
(3)	A and D	B and C
(4)	C and D	A and B

(Go on to the next page)

11. In the diagram below, P, Q and R represent the different systems working together in the human body.

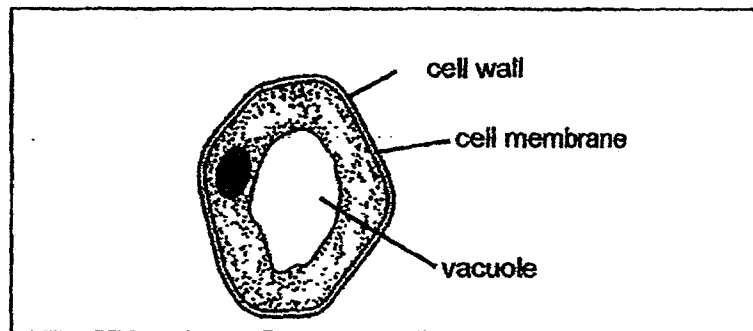


Based on the diagram above, what are systems P and R?

	P	R
(1)	Circulatory	Digestive
(2)	Circulatory	Respiratory
(3)	Digestive	Respiratory
(4)	Respiratory	Circulatory

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12. Samy observed a cell under a microscope as shown in the diagram below.



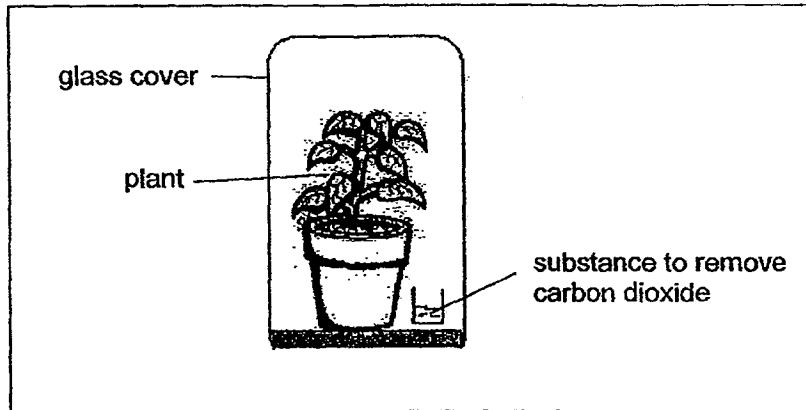
From which part of a multicellular organism could the above cell be taken from?

- A : leaf of a plant
- B : skin of an animal
- C : petal of a flower
- D : cheek of an animal

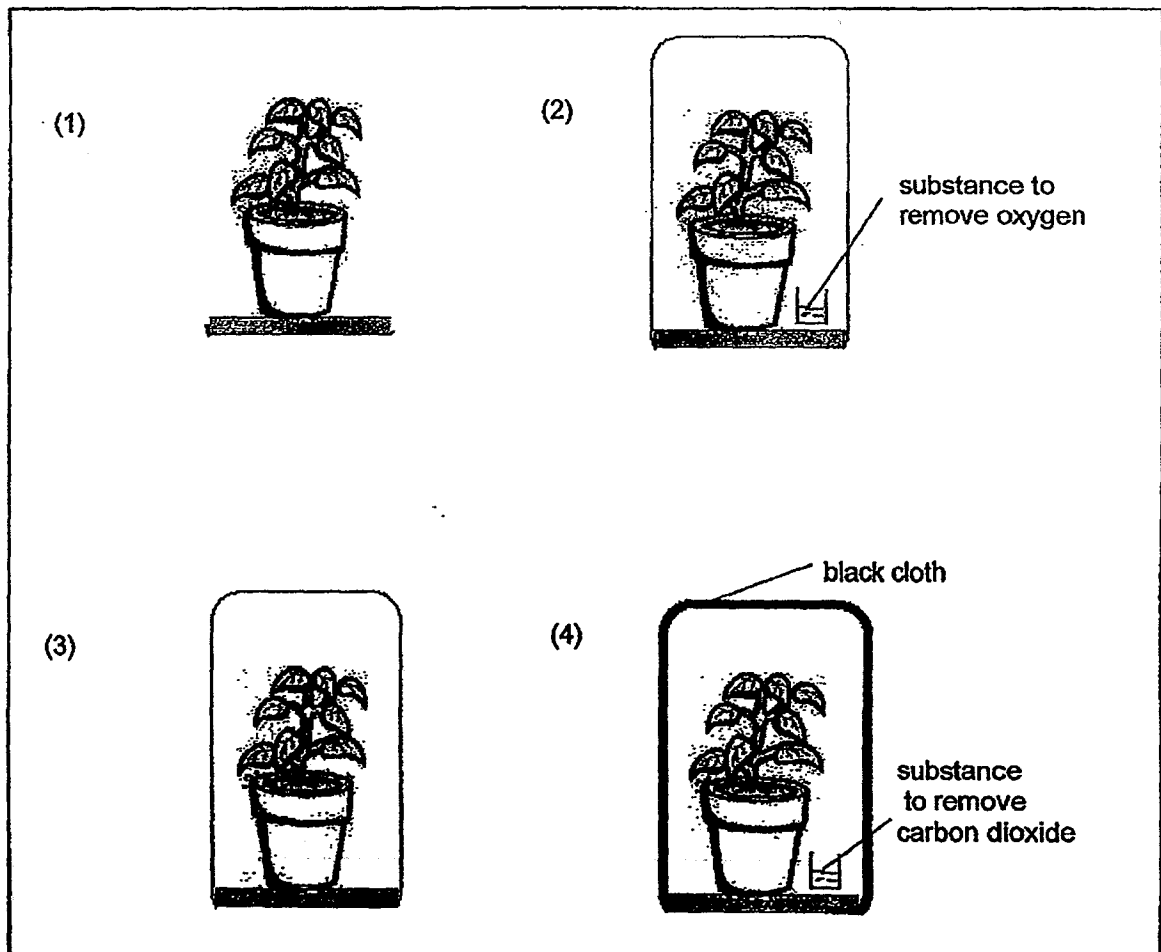
- (1) A
- (2) B
- (3) C
- (4) D

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13. Wei Ling conducted an experiment to find out if carbon dioxide is needed for photosynthesis. She prepared the set-up as shown below and left it for two days.

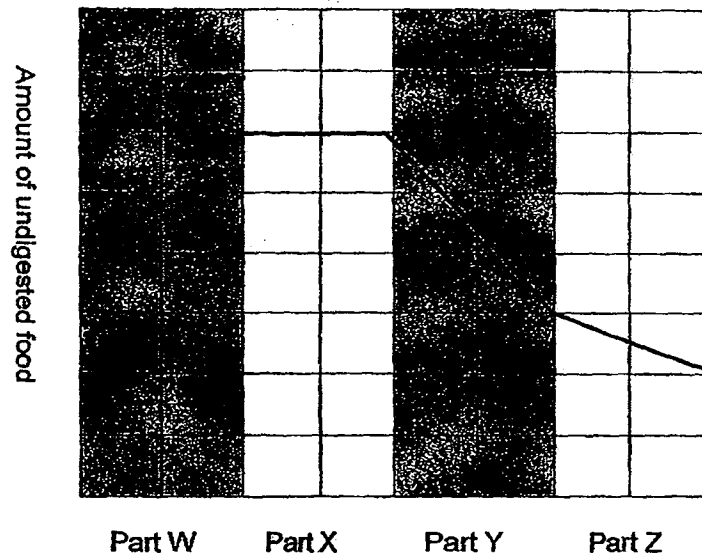


Which one of the following set-ups should Wei Ling use as a control for her experiment?



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14. The line graph shows the amount of undigested food as it passes through the different parts of the human digestive system.

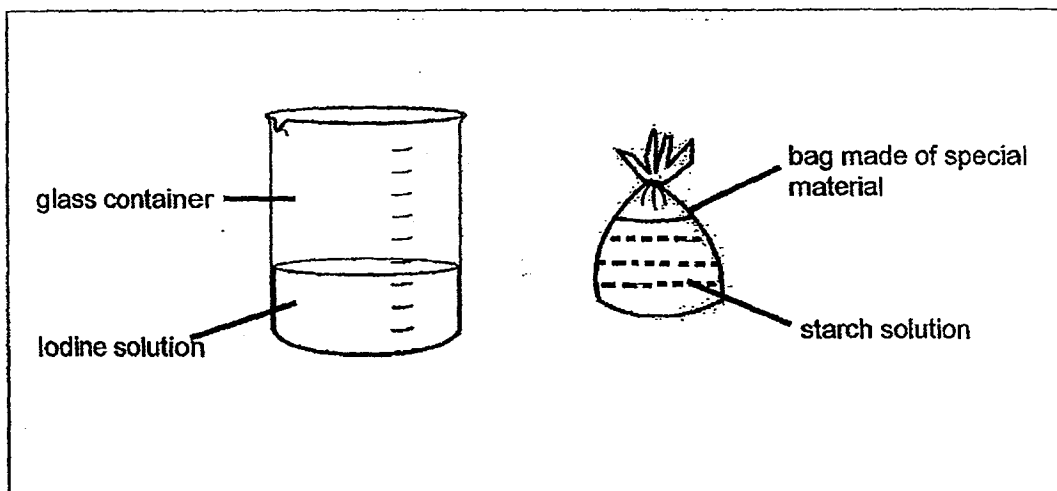


The organs represented by Part X and Part Z are \_\_\_\_\_.

- (1) Gullet and stomach
- (2) Gullet and small intestine
- (3) Stomach and large intestine
- (4) Small intestine and large intestine

(Go on to the next page)

15. Lucy 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 ~~sugar~~<sup>starch</sup> solution in the bag turned dark blue. However, the iodine solution in the glass container remained unchanged.



What caused the ~~sugar~~<sup>starch</sup> to turn dark blue?

- (1) The material of the bag interacted with the iodine solution.
- (2) The material of the bag interacted with the ~~sugar~~<sup>starch</sup> solution.
- (3) The iodine solution entered the bag and interacted with the ~~sugar~~<sup>starch</sup> solution.
- (4) The ~~sugar~~<sup>starch</sup> solution was able to exit from the bag and interacted with the iodine solution.

END OF BOOKLET A1

(Go on to the next page)

# METHODIST GIRLS' SCHOOL

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## END-OF-YEAR EXAMINATION 2014 PRIMARY 5 SCIENCE

### BOOKLET A2

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

#### INSTRUCTIONS TO CANDIDATES

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Name: \_\_\_\_\_ (    )

Class: Primary 5. \_\_\_\_\_

Date: 30 October 2014

This booklet consists of 13 printed pages including this page.

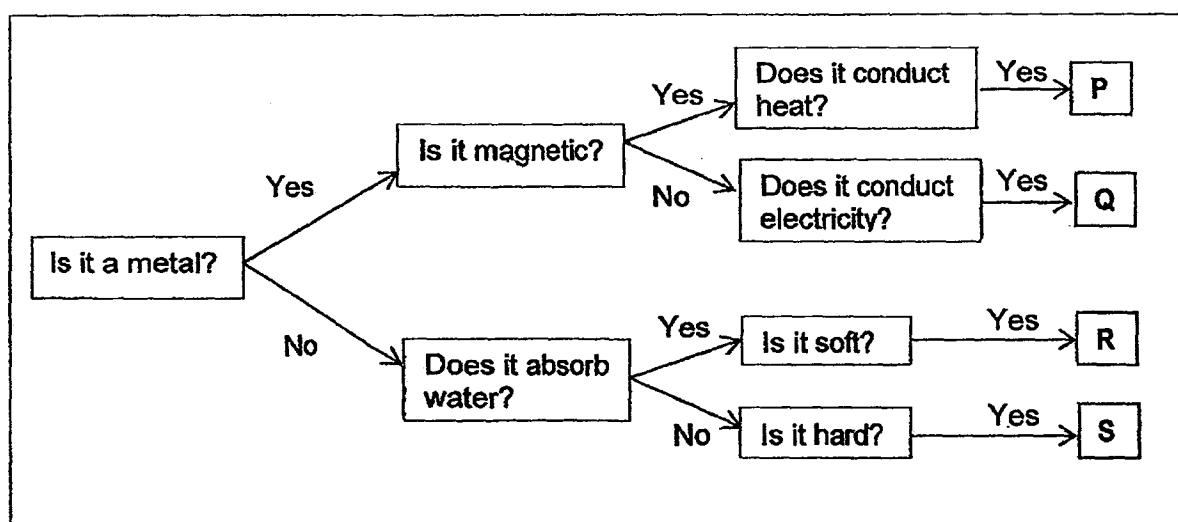
16. The table below shows the classification of materials based on their origins.

Natural materials			Man-made materials
From plants	From animals	From the ground	
Paper	Wool	Limestone	Nylon
Wood	Silk	Lead	Plastic
<b>W</b>	<b>X</b>	<b>Y</b>	<b>Z</b>

Based on the classification above, what do materials **W**, **X**, **Y** and **Z** represent?

	<b>W</b>	<b>X</b>	<b>Y</b>	<b>Z</b>
(1)	rubber	cork	ceramic	glass
(2)	rattan	leather	gold	ceramic
(3)	glass	rubber	clay	synthetic leather
(4)	cork	synthetic leather	rattan	gold

17. The diagram below shows how materials P, Q, R and S can be classified.



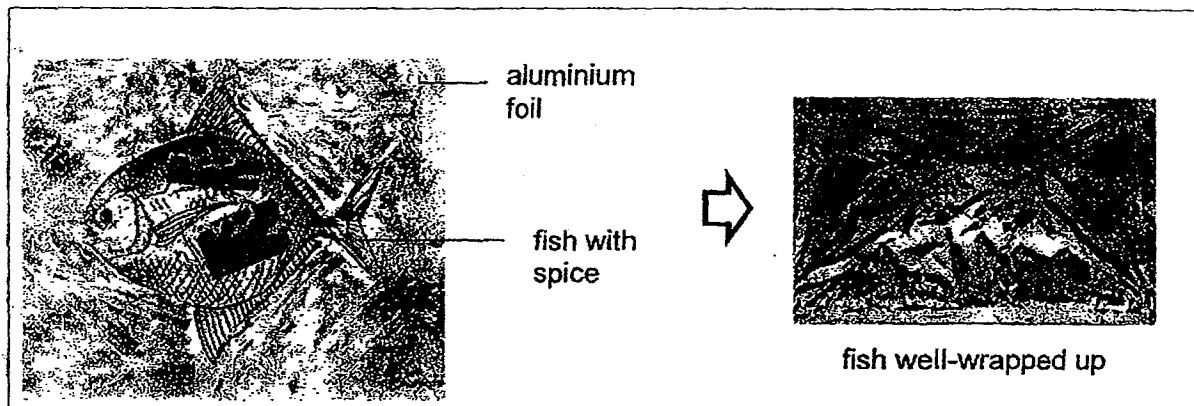
Which of the following statements is true?

- (1) R is a soft metal.
- (2) Q can possibly be steel.
- (3) P and Q are magnetic metals.
- (4) S is a hard, non-metallic material that is waterproof.

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18. Ranjit loves to eat spicy grilled fish. Her mother usually buys the ready-made spicy grilled fish from the supermarket. The fish, which has been marinated with spices, is wrapped with a piece of aluminium foil as shown in the diagram below.



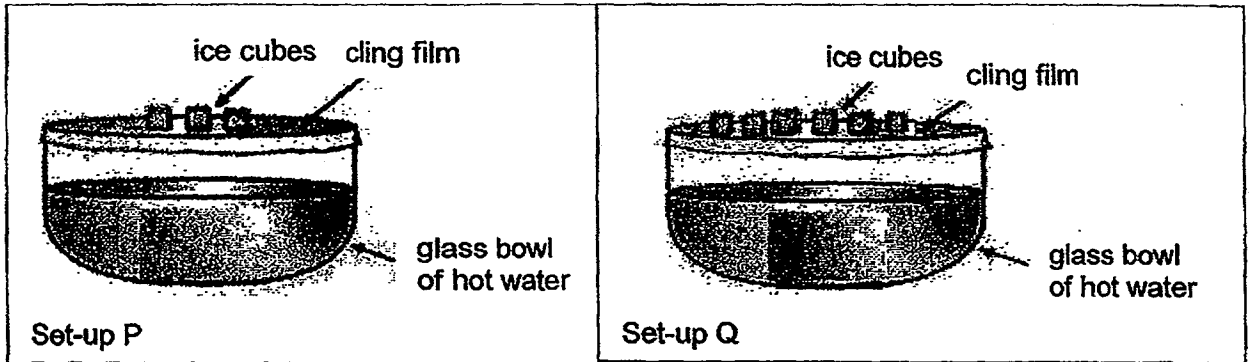
The sheet of aluminium foil is made of a reflective surface on one side and a matte surface on the other side.

How should his mother wrap the fish to put into the oven to cook it? What is the reason?

	Wrapping method	Reason
(1)	The reflective surface of the aluminium foil is on the outer side.	More heat will be trapped in the foil.
(2)	The reflective surface of the aluminium foil is on the outer side.	More heat will be absorbed by the fish.
(3)	The reflective surface of the aluminium foil is on the inner side.	More heat will be transferred out from the fish.
(4)	The reflective surface of the aluminium foil is on the inner side.	More heat in the foil will be transferred to the fish.

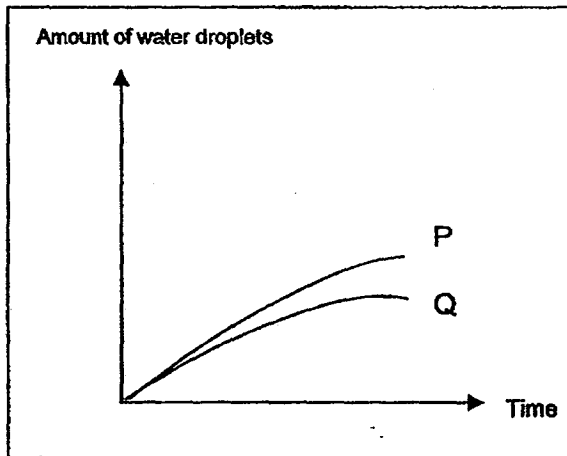
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19. May wanted to conduct an experiment to find out if adding a different number of ice cubes on a cling film would affect the amount of water droplets formed on the underside of the cling film and on the inner surface of the glass bowl. She prepared two set-ups, P and Q, as shown in the diagram below.

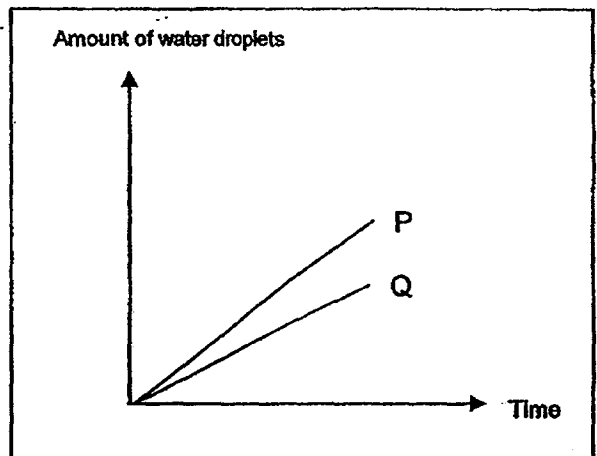


May left the two set-ups in the Science Laboratory for an hour. She then recorded the number of water droplets formed in each set-up and plotted the graph. Which one of the following graphs correctly represents the set-ups P and Q?

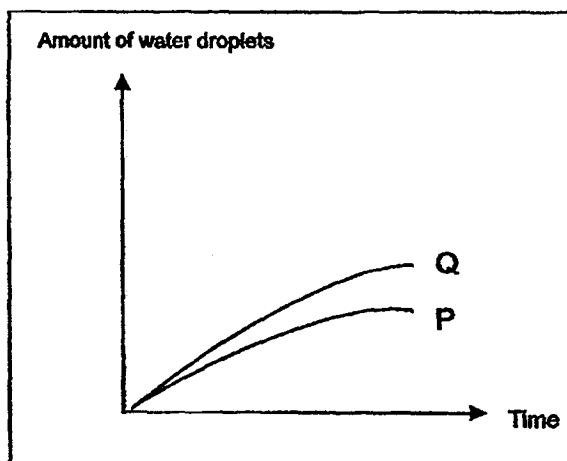
(1)



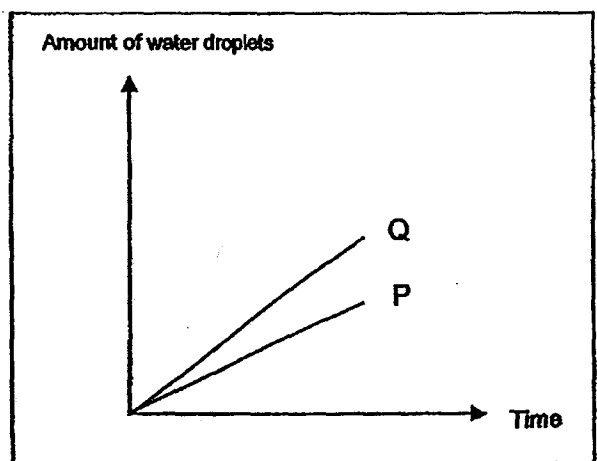
(2)



(3)

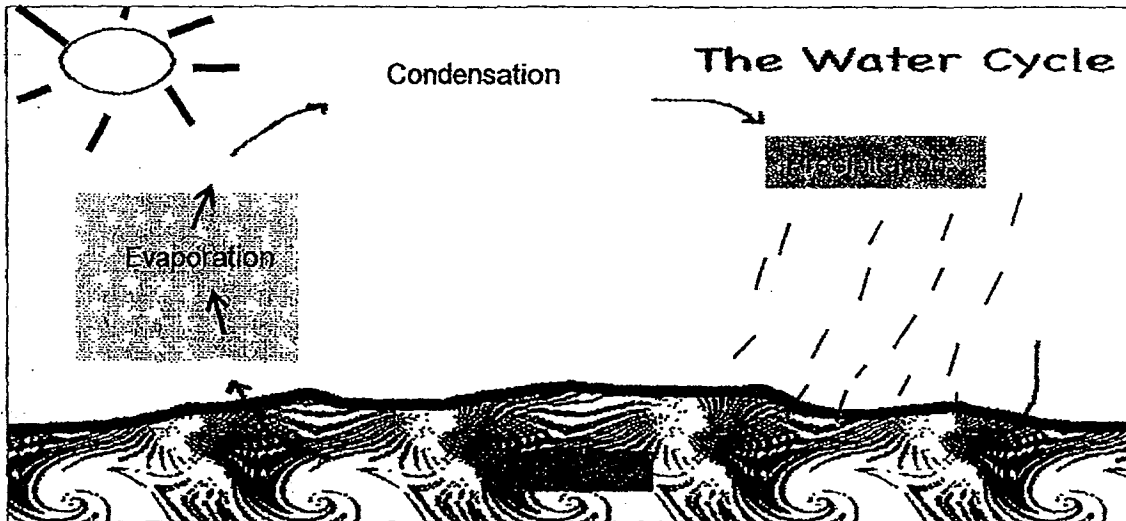


(4)



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20. Reese drew a water cycle diagram as shown below.



She then posed the following question to her classmates:

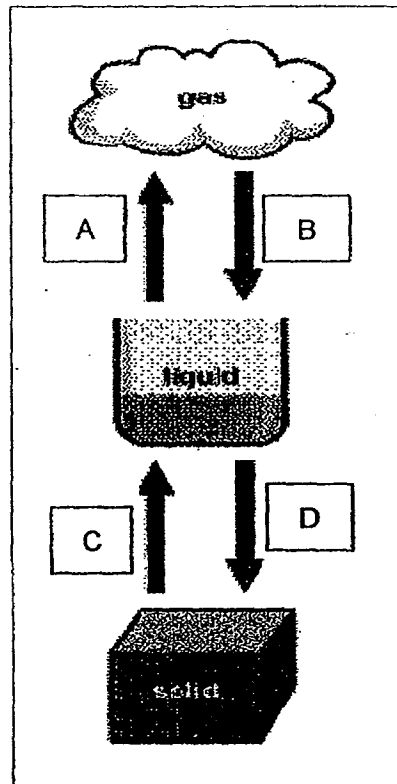
"What will happen to the water cycle when the earth's temperature increases?"

Which one of the following classmates gave her the correct answer?

	Classmate	Answer
(1)	Lisa	There will be less rain and the water cycle will slow down.
(2)	Raju	The water cycle is not affected by the earth's temperature.
(3)	Huipin	The rate of evaporation will increase and the water cycle will speed up.
(4)	Nassim	The rate of condensation will decrease and the water cycle will slow down.

(Go on to the next page)

21. The diagram below shows the changes in the states of water.



Which one of the following correctly describes the heat transfer involved in processes A, B, C and D?

	Heat gain	Heat loss
(1)	A and C	B and D
(2)	A and B	C and D
(3)	B and C	A and D
(4)	B and D	A and C

(Go on to the next page)

Four identical handkerchiefs, A, B, C and D, were soaked in water and left to dry in the sun. The masses of the wet handkerchiefs were measured at the beginning and at every hour interval, and recorded in the table as shown below.

Time	Handkerchief A	Handkerchief B	Handkerchief C	Handkerchief D
11:00am	2.5kg	2.5kg	2.5kg	2.5kg
12:00noon	2.0kg	1.6kg	1.4kg	1.8kg
1:00pm	1.5kg	1.2kg	0.8kg	1.4kg
2:00pm	1.2kg	1.0kg	0.8kg	1.2kg

Use the information in the table given above to answer questions 22 and 23.

22. What was the mass of the handkerchief when it was completely dry?

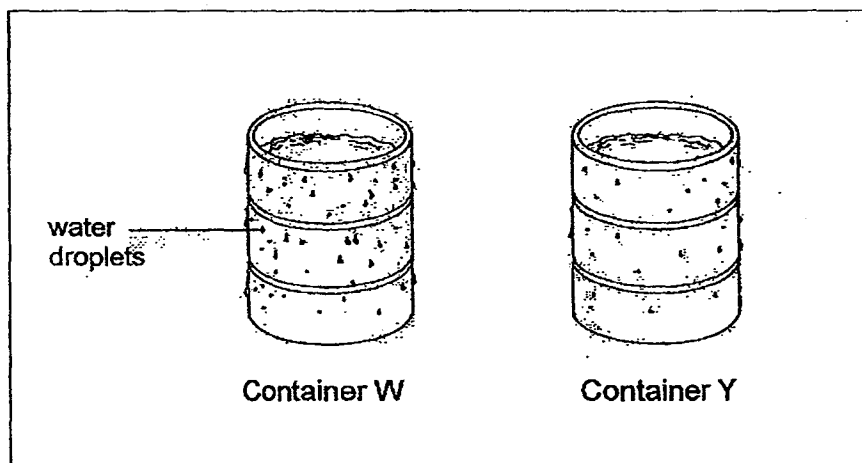
- (1) 2.5kg
- (2) 1.2kg
- (3) 1.0kg
- (4) 0.8kg

23. Each handkerchief was either folded into 1, 2, 3 or 4 folds. Which of the following shows the correct order of the amount of exposed surface area each handkerchief had, beginning with the largest?

	largest exposed surface area $\longrightarrow$ smallest exposed surface area
(1)	A $\longrightarrow$ B $\longrightarrow$ C $\longrightarrow$ D
(2)	B $\longrightarrow$ A $\longrightarrow$ D $\longrightarrow$ C
(3)	C $\longrightarrow$ B $\longrightarrow$ D $\longrightarrow$ A
(4)	D $\longrightarrow$ A $\longrightarrow$ B $\longrightarrow$ C

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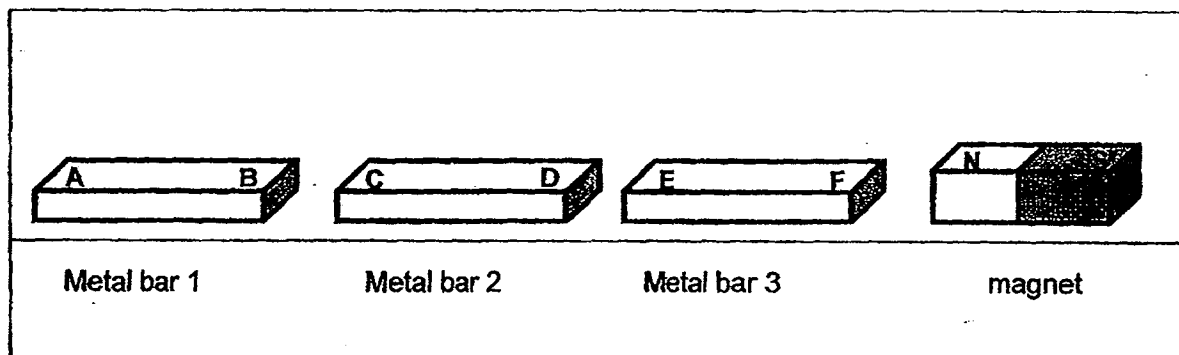
24. Two similar containers, W and Y, were filled with an equal amount of water. They were left on the table next to each other for an hour. The diagram below shows what happened to the two containers of water after one hour.



Which one of the following statements best explains why Container W has more water droplets formed on its outer surface compared to Container Y?

- (1) The water in Container W condensed faster than the water in Container Y.
- (2) The water in Container W evaporated at a slower rate than the water in Container Y.
- (3) The air surrounding Container W is more humid compared to the air surrounding Container Y.
- (4) The temperature of water in Container W was lower than the temperature of water in Container Y.

25. A magnet and 3 metal bars were placed side by side on the table. Their ends were labelled as shown in the diagram.



The ends of the magnet and the 3 metal bars were then placed close to one another to test whether they would attract or repel. The observations were recorded in the table below.

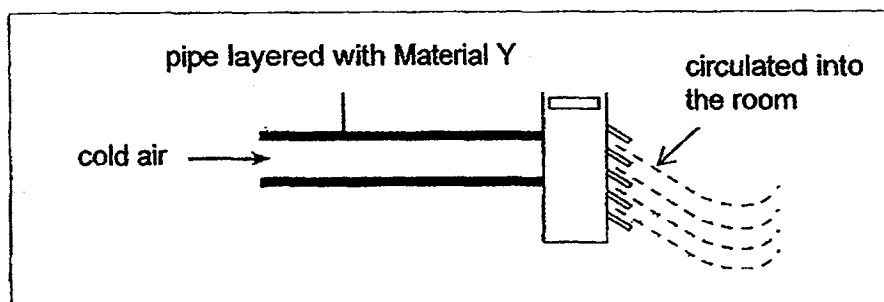
	End of bar	Metal bar 1		Magnet	
		A	B	N	S
Metal bar 2	C	attract	attract	repel	attract
	D	attract	attract	attract	repel
Metal bar 3	E	attract	attract	attract	repel
	F	attract	attract	repel	attract

Based on the information in the table, which of the following is a correct conclusion?

- (1) End C of Metal bar 2 is a South-seeking pole.
- (2) There are altogether two magnets on the table.
- (3) There are altogether three magnets on the table.
- (4) End D of Metal bar 2 will attract end E of Metal bar 3.

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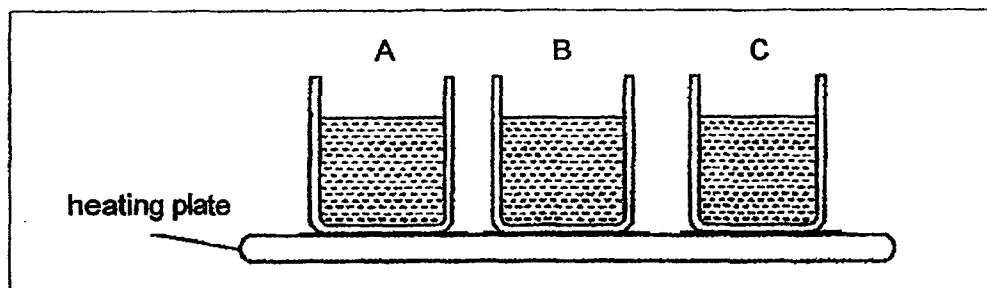
26. The picture shows a part of an air conditioner. Cold air passes through the pipe before it is circulated into the room. The pipe is layered with Material Y.



What property should Material Y have to cover the pipe of the air conditioner?  
Material Y should be a \_\_\_\_\_.

- (1) poor conductor of heat
- (2) good conductor of heat
- (3) poor conductor of electricity
- (4) good conductor of electricity

27. Three containers made of different materials were filled with the same amount of water. They were placed on a heating plate at the same time for five minutes.



The table below shows the temperature of the water in each container after they were heated.

Container	Temperature of water before heating (°C)	Temperature of water after 5 minutes of heating (°C)
A	20	40
B	20	30
C	20	25

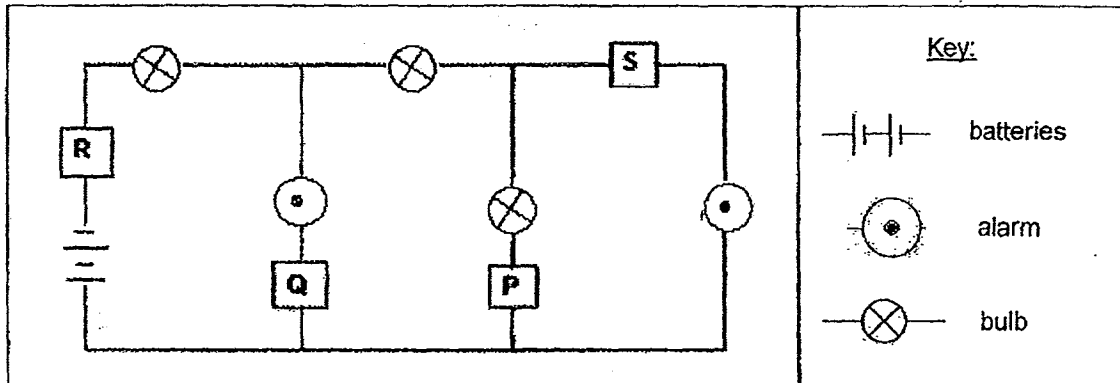
Which one of the following statements is not true?

- (1) Container A gained the least amount of heat.
- (2) Container C gained the most amount of heat.
- (3) Container B is a better heat conductor than Container C.
- (4) Container C is a better heat conductor than Container A.

(Go on to the next page)



28. The diagram below shows an electrical system which has batteries, switches, bulbs and alarms.



Which two switches, P, Q, R or S should be opened while the others are closed so that the three bulbs could light up without triggering the alarms?

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

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29. The diagrams below show 4 different types of circuit arrangements.

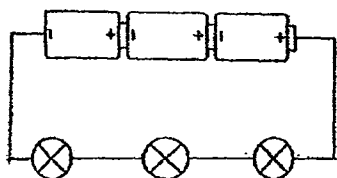


Diagram 1

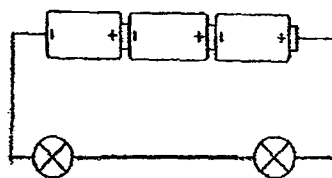


Diagram 2

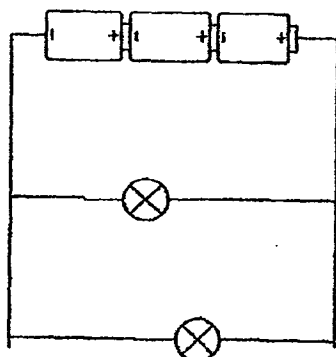


Diagram 3

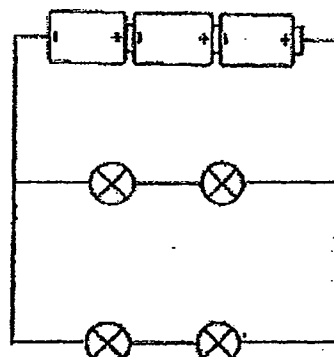


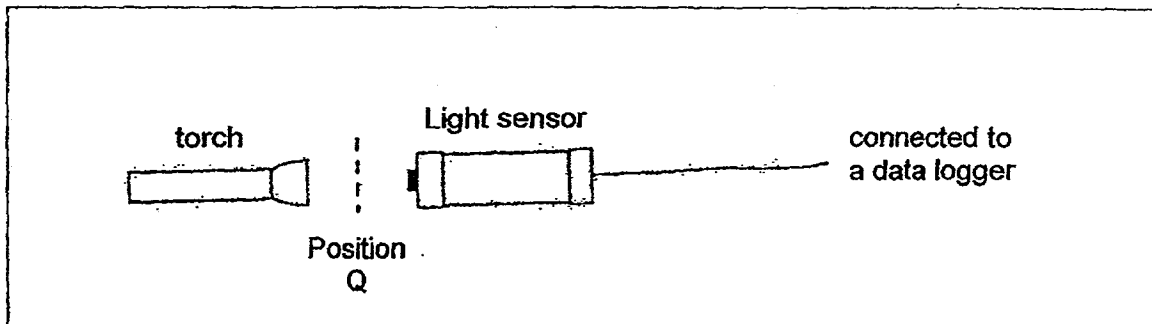
Diagram 4

In which diagram would the bulbs light up the brightest?

- (1) 1
- (2) 2
- (3) 3
- (4) 4

(Go on to the next page)

30. Miss Edison set up an experiment as shown below to test the amount of light that can pass through different materials when they are placed at Position Q.



She recorded the amount of light detected when each material was placed at position Q in the table below.

Material	Amount of light (units)
W	80
X	32
Y	57
Z	0

Which one of the following options most likely represents the above materials?

	Material W	Material X	Material Y	Material Z
(1)	clear glass	frosted glass	tracing paper	wood
(2)	wood	tracing paper	clear plastic	frosted glass
(3)	clear glass	frosted glass	wood	tracing paper
(4)	frosted glass	tracing paper	wood	clear glass

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## END-OF-YEAR EXAMINATION 2014 PRIMARY 5 SCIENCE

### BOOKLET B1

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

### INSTRUCTIONS TO CANDIDATES

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

Name: \_\_\_\_\_ (    )

Class: Primary 5. \_\_\_\_\_

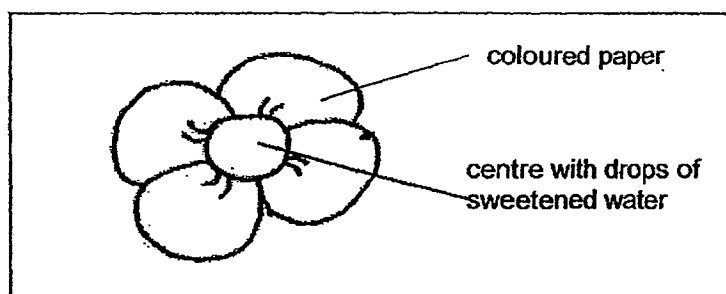
Date: 30 October 2014

Booklet A	/ 60
Booklet B1	/ 20
Booklet B2	/ 20
TOTAL	/ 100

This booklet consists of 8 printed pages including this page.

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. [20marks]

31. Daisy wanted to find which colour of flowers butterflies prefer. She cut paper flowers of the same size but of different colours. She dropped 10 drops of the same sweetened water in the centre of the paper flower. She then left the flowers in her garden for three hours.



Daisy then counted the number of butterflies that visited the paper flowers over three hours. She recorded the results in the table below.

Colour of flower	Number of butterflies visiting the flower		
	8-9 am	9-10am	10-11am
red	8	5	1
yellow	15	11	7
white	7	5	2

- (a) Based on Daisy's results, which colour did the butterflies prefer? [1]

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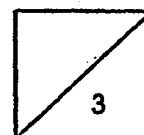
Her friend, Jane, on the other hand wanted to find out the relationship between the size of the flowers and the number of butterflies visiting the flowers.

- (b) What changes to Daisy's experiment must Jane make? [2]

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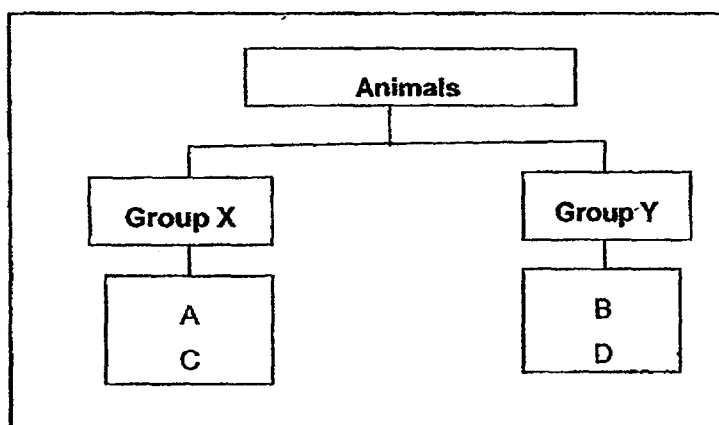


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32. The characteristics of four animals, A, B, C and D are given in the table below.

Characteristics	Animal A	Animal B	Animal C	Animal D
Number of wings	two wings	two wings	two wings	no wings
Number of legs	two legs	two legs	two legs	four legs
Outer covering	feathers	hair	feathers	hair
Ability to fly	can fly	can fly	cannot fly	cannot fly

The animals are then classified into 2 different groups, X and Y, as shown in the diagram below.

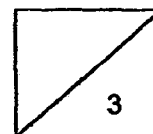


- (a) Which group of animals is represented by X and Y? [1]
- (i) Group X : \_\_\_\_\_
- (ii) Group Y : \_\_\_\_\_
- (b) What are the differences between Animal D and the rest of the animals? [2]

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33. Mr Tan collected 5 identical rubber fruits, A, B, C, D and E. He subjected each fruit to different temperatures to find out if the temperature of the surrounding has an effect on the splitting of the rubber fruit and the distance the seeds were scattered from the parent tree.

He recorded his observations as shown in the table below.

Rubber fruit	Temperature of surrounding (°C)	Effect	Distance of scattered seed from parent plant (m)
A	20	Does not split	-
B	25	Splits after 1 day	1.0
C	30	Splits after 3 hours	1.5
D	35	Splits after 2 hours	2.5
E	40	Splits after 30 minutes	4.0

- (a) From the results of Mr Tan's experiment, what is the relationship between the temperature of the surrounding and the time taken for the fruit to split? [1]

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- (b) Which rubber fruit splits with the greatest force? Explain your answer. [1]

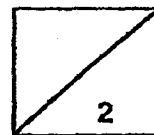
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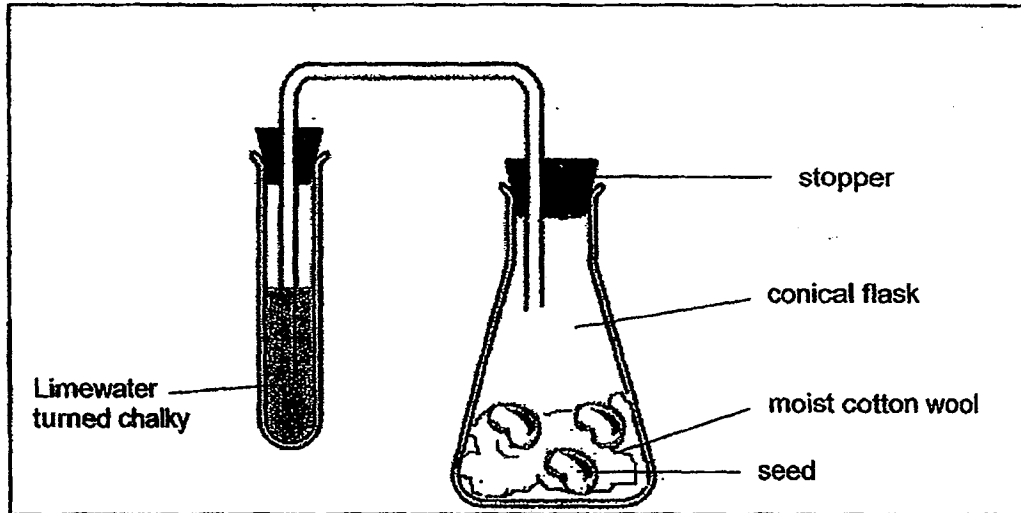


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34. Bala set up an experiment as shown in the diagram below. He placed moist cotton wool with a few germinating seeds in a conical flask.



After a few hours, he observed that the limewater in the test tube had turned chalky.

- (a) What had caused the limewater to turn chalky? [1]

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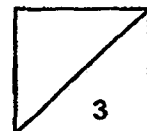
Mary also set up a similar experiment. However, she replaced the germinating seeds with some seedlings which had green leaves. A few hours later, the limewater in the test tube remained clear.

- (b) Explain why Mary's observation was different from Bala's. [2]

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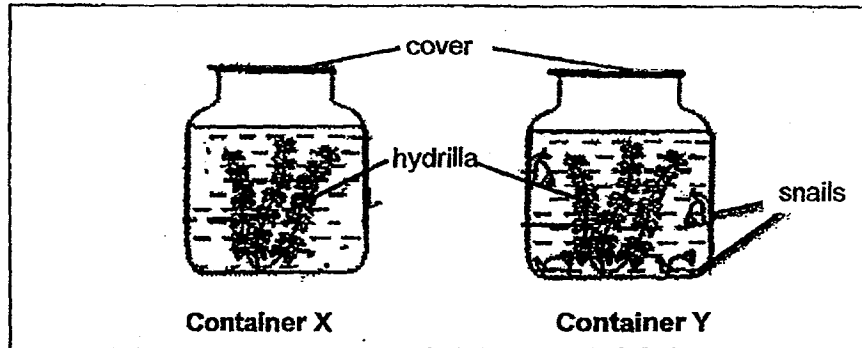
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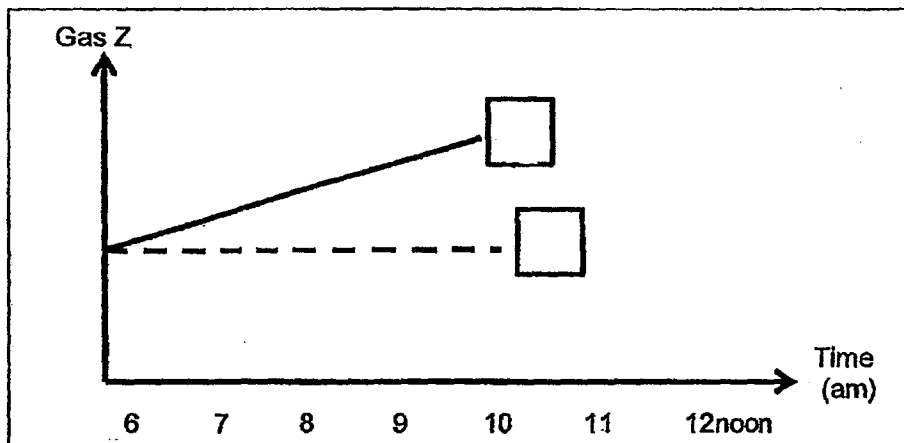
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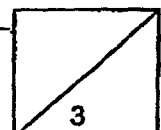
35. Samy put the same amount of hydrilla and water into two identical covered containers, X and Y. Snails are placed into Container Y. He then placed the two containers by the window from 6a.m to 12 noon. He measured the amount of Gas Z produced by the hydrilla in both containers. He tested Gas Z and found it did not turn lime water chalky.



The graph below shows the level of Gas Z in each container over a given period of time.

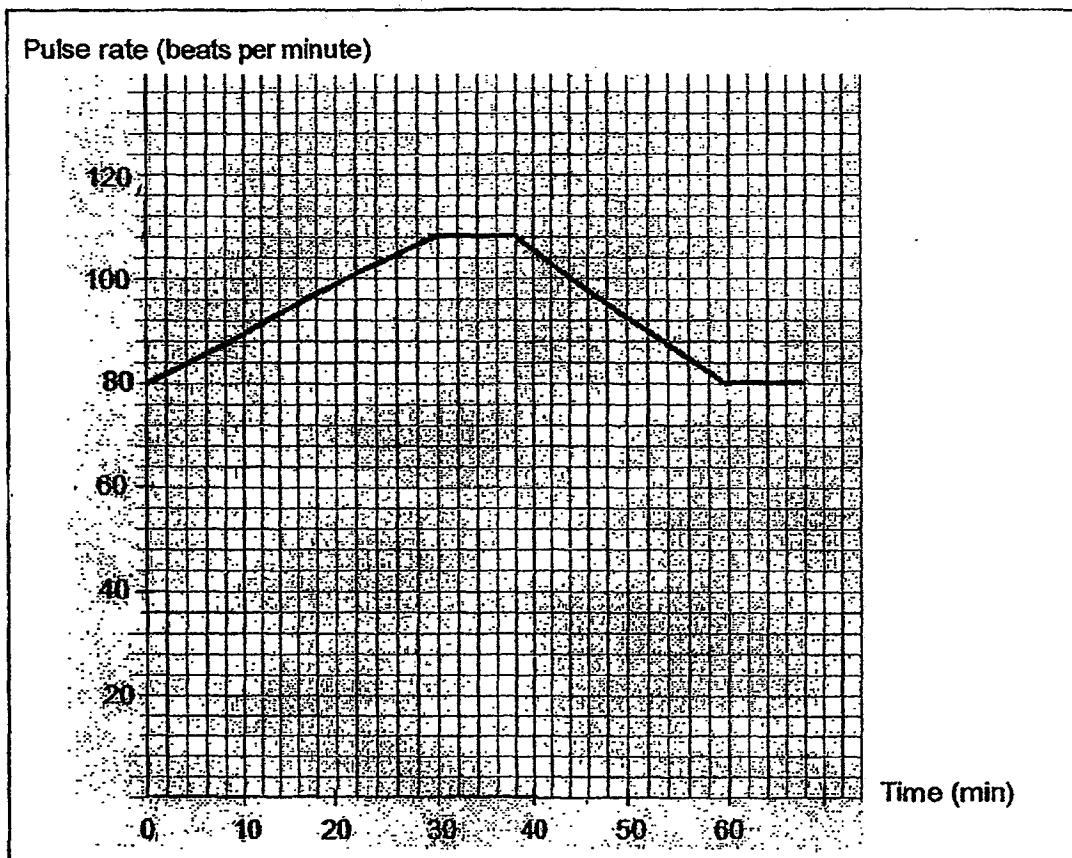


- (a) In the graph above, write "X" or "Y" in the appropriate boxes to indicate the correct containers. [1]
- (b) To obtain the above results, what must be the property of the material used to make the containers? [1]
- (c) Explain why the dotted line remain constant over the period of 6 hours? [1]



(Go on to the next page)

36. Mr Lim started from rest and jogged for 30 minutes before he decided to stop. The graph shows Mr Lim's pulse rate over a period of more than one hour.



- (a) What is Mr Lim's pulse rate when he is at rest? [1]

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- (b) Why does Mr Lim's pulse rate increase during his jog? [2]

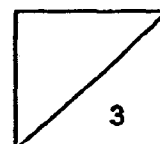
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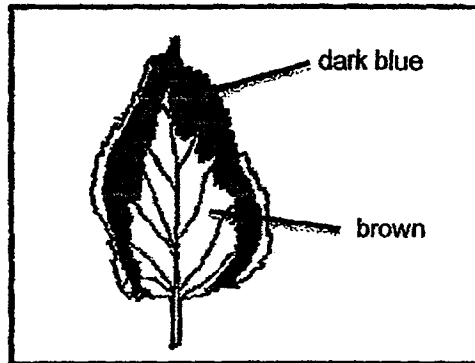


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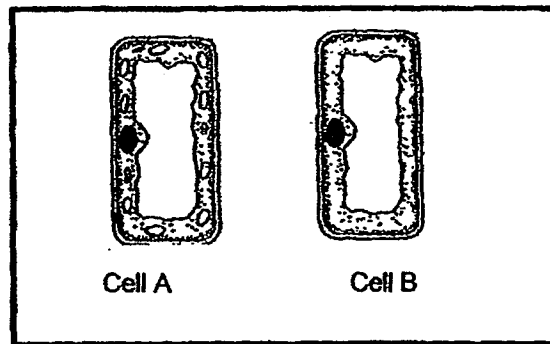


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37. The diagram below shows the colours observed on a variegated leaf after it was tested for starch using iodine solution.



The diagram below shows two cells taken from the leaf and observed under a microscope. The cells are labelled A and B.



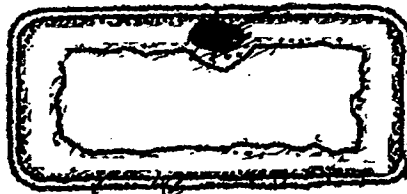
- (a) Which cell is taken from the part of the leaf that turned dark blue? Give a reason for your choice. [1]

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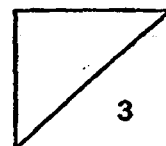


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- (b) In the diagram below, shade the cytoplasm and label the nucleus. [2]



END OF BOOKLET B1



(Go on to the next page)

# METHODIST GIRLS' SCHOOL

Founded in 1887



## END-OF-YEAR EXAMINATION 2014 PRIMARY 5 SCIENCE

### BOOKLET B2

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

### INSTRUCTIONS TO CANDIDATES

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

Name: \_\_\_\_\_ (   )

Class: Primary 5. \_\_\_\_\_

Date: 30 October 2014

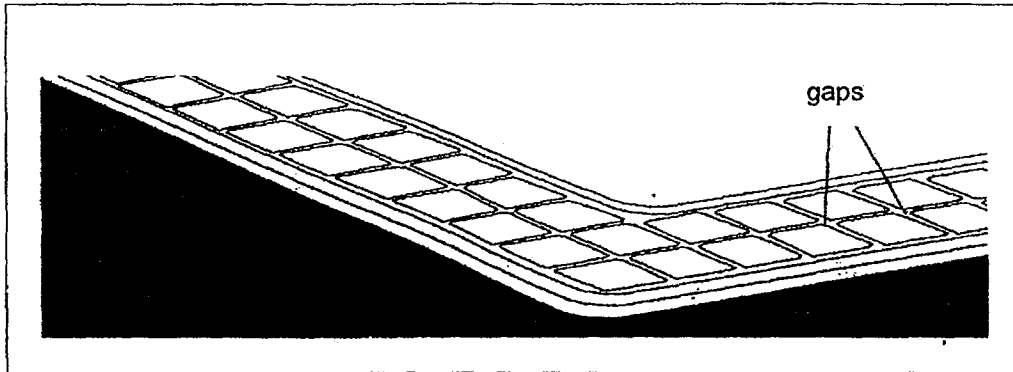
Booklet B2	/ 20
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This booklet consists of 10 printed pages including this page.

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. When Jonas was walking along the school pavement, he noticed small gaps between the tiles in the pavement as shown in the diagram below.



- (a) What will happen to the gaps when the weather becomes hotter? [1]

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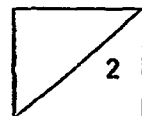
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- (b) What is the purpose of having gaps in between the tiles? [1]

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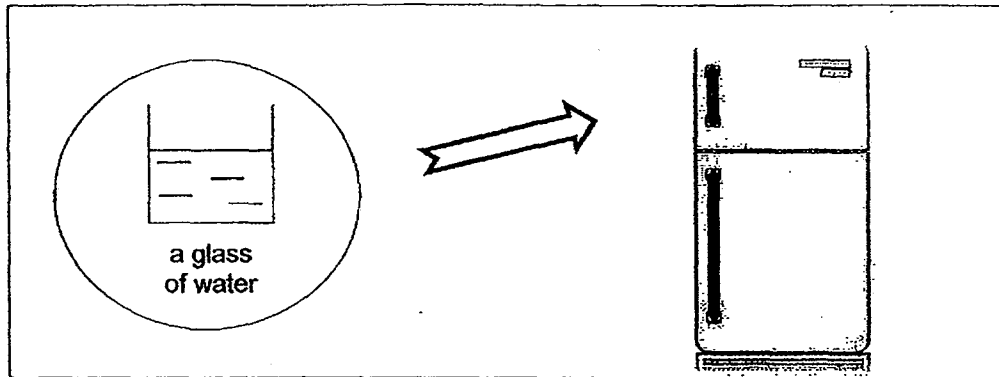
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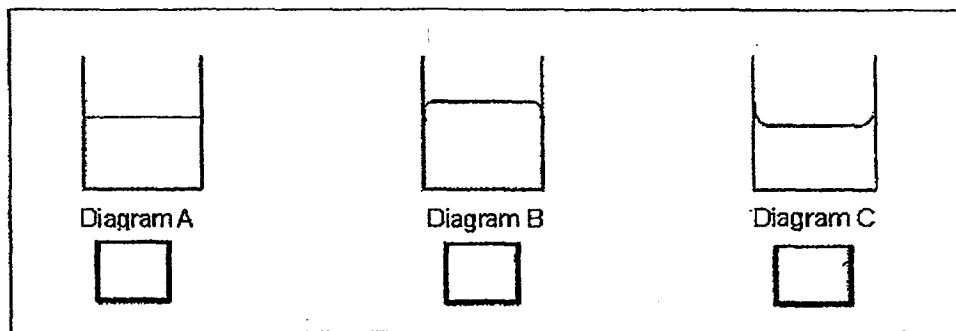


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39. Rahim was taught that when water freezes, there would be a physical change. To prove this, he poured some water into a glass and placed it in the freezer overnight.



- (a) Which of the diagrams below would Rahim observe when he removed the glass from the freezer? Tick (✓) the correct box. [1]



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

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- (c) If the mass of the water in the glass is 200g before freezing, what would the mass of the ice in the glass be when it was taken out from the freezer? Explain your answer. [1]

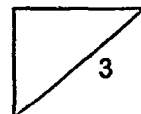
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40. Water is precious and very important to life processes. However, many human activities can cause harm to our water sources.

(a) Deforestation is the cutting down of large amount of trees. Explain how deforestation harms our water sources. [1]

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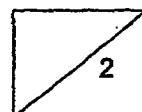
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(b) Using water carefully and not wasting it is known as water conservation and there are many ways to conserve water. Name one way to conserve water at home. [1]

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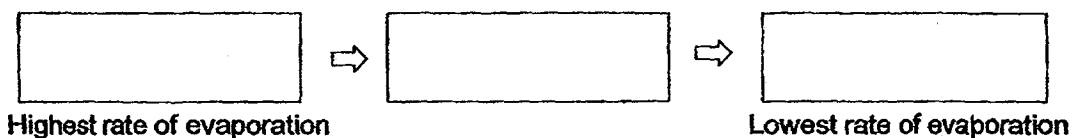


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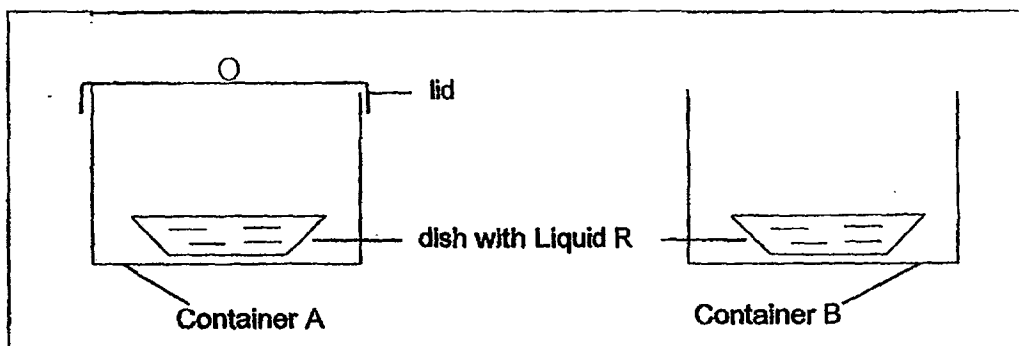
41. Haimin carried out an experiment to find out the rate of evaporation of three types of liquid, R, S and T. He recorded his observations in the table as shown below.

	Liquid R (g)	Liquid S (g)	Liquid T (g)
Weight of dish	50	50	50
Weight of (dish + liquid) before evaporation	60	57	55
Weight of (dish + liquid) after evaporation	58	53.9	53.5

- (a) Based on the table above, arrange the liquids in the correct order beginning with the liquid which has the highest rate of evaporation. [1]



Haimin tried out another experiment with the 2 set-ups as shown below. Two similar dishes with the same amount of Liquid R were heated up to 30°C. He placed the dishes into two similar containers, one with a lid and one without.



- (b) Which container will have a slower rate of evaporation? Explain why. [2]

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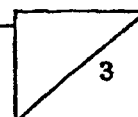
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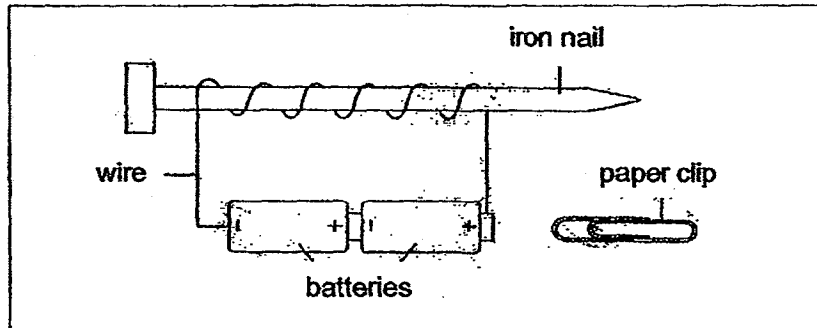
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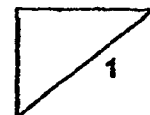
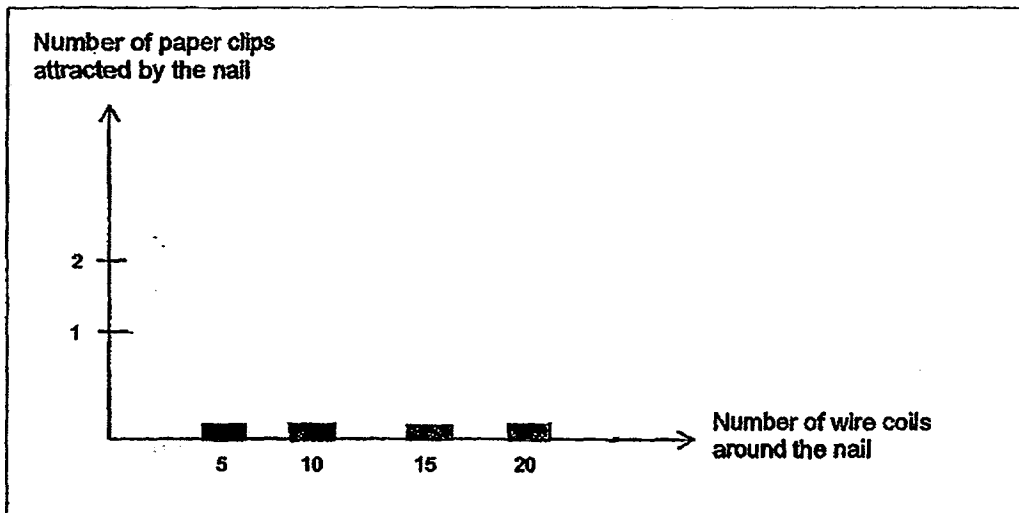
42. Therisa made an electromagnet using two batteries, an iron nail and a wire as shown in the diagram below.



She wanted to find out whether the number of wire coils around the nail affects the strength of the magnet. She carried out a few tests and recorded the results in the table as shown below.

Number of wire coils around the nail	5	10	15	20	?
Number of paper clips attracted by the nail	1	1	2	2	3

- (a) Based on the data given above, complete the graph below by drawing the bars to represent the results. [1]



(Go on to the next page)

- (b) What is the minimum number of wire coils needed around the nail to attract 3 paper clips? [1]

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- (c) After experimenting for about an hour, Therisa noticed that her electromagnet could no longer attract any paper clips although she had 30 wire coils around the nail. What could possibly be the reason? [1]

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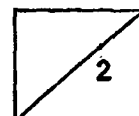
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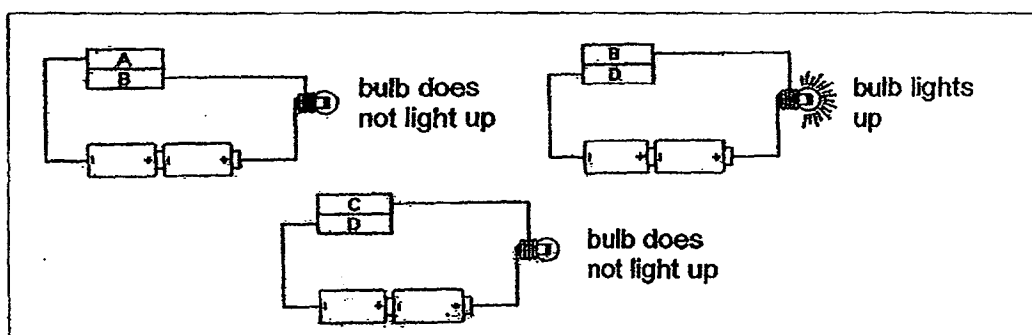
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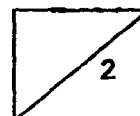
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43. The diagram below shows three circuits with different arrangements of identical batteries, identical bulbs and rods A, B, C and D.



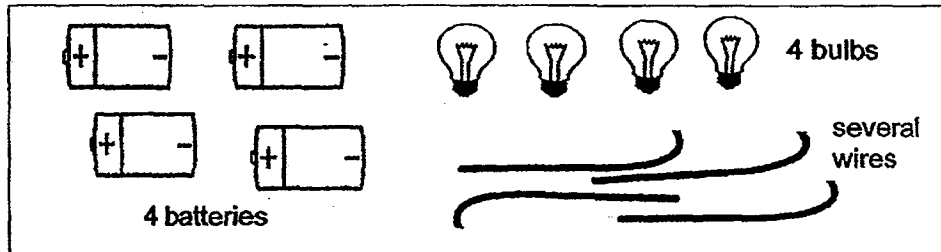
- (a) Based on the diagram above, classify the rods, A, B, C and D into conductors or insulators of electricity. [2]

Conductors of electricity	Insulators of electricity
(i) Rod _____	(ii) Rod _____
(iii) Rod _____	(iv) Rod _____

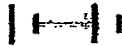


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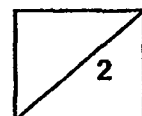
- (b) Using the materials given below, complete 2 different circuits in the boxes below to show how the arrangement of bulbs can affect the brightness of the bulbs.  
(Use standard electrical symbols.) [2]



Circuit 1 (2 batteries and 2 bulbs)



Circuit 2 (2 batteries and 2 bulbs)

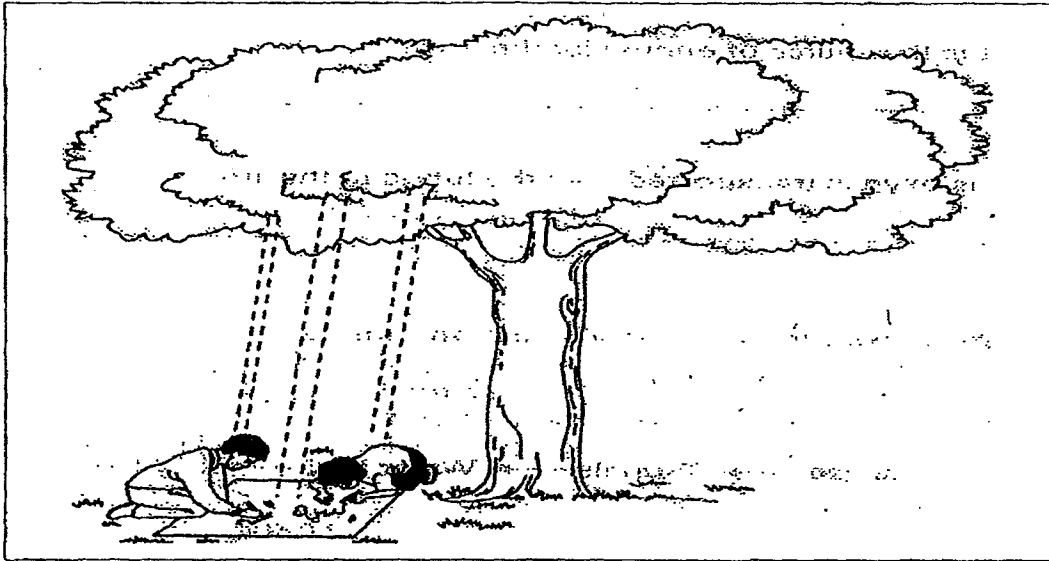


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44. Thomas and his friend were told to carry out an experiment to find out the amount of shade some trees in the school field would provide. They have to follow the instructions given below.

Instructions:

1. Choose a big tree in the field
2. Place a large piece of paper under the tree
3. Use a pencil to trace the patches of light on the paper
4. Choose a second tree and repeat the first 3 steps
5. Cut out the patches of light from both papers



- (a) How are shades formed under the tree?

[1]

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- (b) They were also given a weighing machine. Explain how Thomas and his friend could find out which tree provides more shade?

[2]

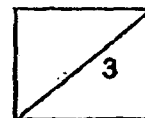
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**EXAM PAPER 2014****SCHOOL : MGS****PRIMARY : P5****SUBJECT : SCIENCE****TERM : SA2**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
3	4	3	2	1	2	4	3	3	4	4	3	3	2	3	2	4

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	3	3	1	4	3	4	3	1	3	4	3	1

**31)a)Yellow.****b)Jane must keep the colour of the flowers the same and change the size of the flowers.****32)a)i)Birds. ii)Mammals.****b)Animal D has no wings and has four legs while the rest of the animals has wings and two legs.****33)a)The higher the temperature, the faster the fruit will spilt.****b)Rubber fruit E as the distance of the scattered seed has the greatest distance away from the parent plant.****34)a)The carbon dioxide turns chalky.****b)The seedlings has green leaves which could photosynthesize by taking in the carbon dioxide.**

35)a)X Y

b)Transparent.

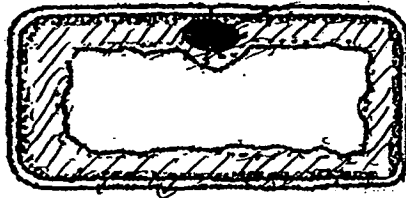
c)Container Y has snails in it which takes in oxygen. The plant gives out oxygen which the snail would take in Container X does not have any snails in it. Therefore, container X would remain constant.

36)a)80.

b)As he jogs, his heart needs to beat faster to supply more oxygen and digested food/blood for the cells to generate more energy and remove carbon dioxide at a faster rate.

37)a)Cell A. Cell A might have been taken from the part of the leaf that turned dark blue as it has chloroplast which means that it is part of the food the leaves makes which contains starch.

b)



38)a)They will become smaller.

b)During hotten weather, the tires will expand, the gaps provide space for the tires to expand without being damaged.

39)a)Diagram B.

b)When water freezes, its volume increases, unlike most matter.

c)The mass of ice in the glass will remain in the same because the change of state does not affect the mass.

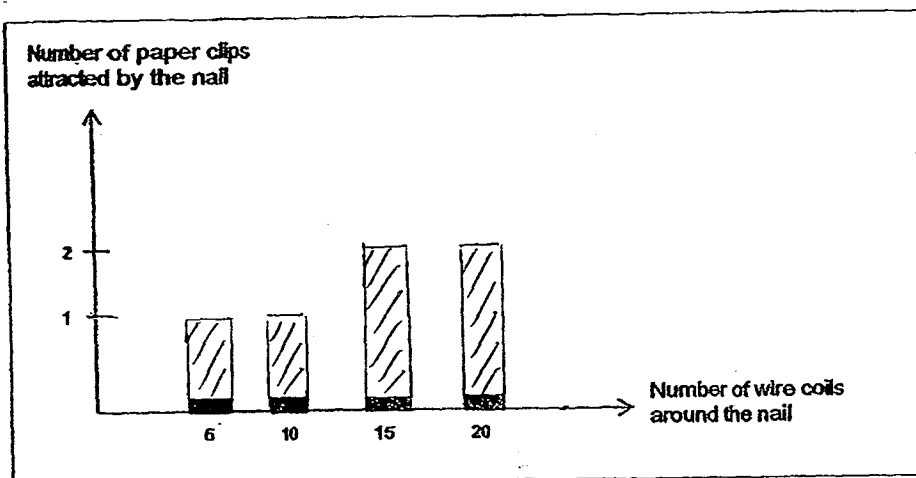
40)a)Soil erosion occurs soil to be exposed to rain and wind. Without the roots of the trees to hold on to the soil, soil is loosened and are easily washed into nearly water sorces.

b)Water plants with the water used to wash rice.

41)a)Liquid S→Liquid R→Liquid T

b)Container A as the presence of wind speed up the rate of evaporation. In container B, whereas there is no wind within the enclosed container A.

42)a)

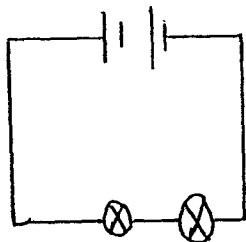


b)25.

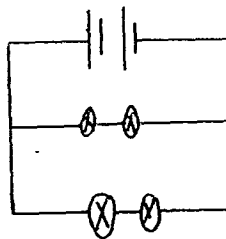
c)The batteries no longer worked.

43)a)i)B ii)A iii)D iv)C

b)Circuit 1



Circuit 2



44)a)The trees block light from passing through them as they are opaque.

b)They could have weighed the patches of light they had cut out. After cutting out the patches of light, they could weight the remaining paper, they could weight the remaining paper. The tree with the remaining paper that weight heavier provides more shade.