

CHIJ ST NICHOLAS GIRLS' SCHOOL



Primary 5
Semestral Assessment 2 – 2014
SCIENCE
BOOKLET A

30 October 2014

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

30 questions
60 marks

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

This booklet consists of 29 printed pages.

Section A (30 x 2 marks = 60 marks)

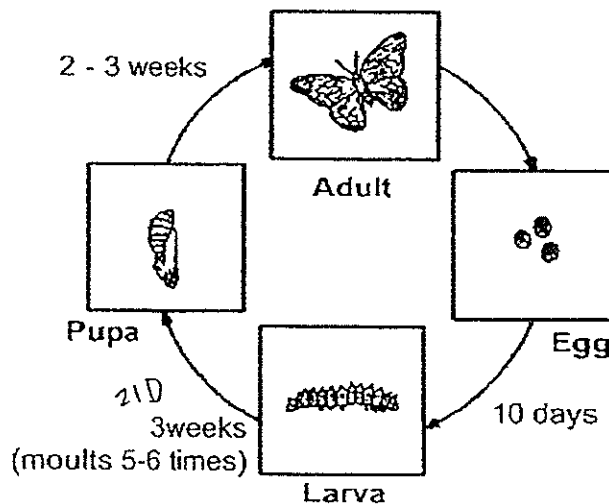
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

1. Which of the following statement(s) about the spores of a mushroom and the seeds of lady's finger are correct?

- A A seed can be seen by the naked eye but a spore cannot.
- B It takes one seed to grow into a plant but many spores to grow into a mushroom.
- C Both spores and seeds will grow into new organisms under the right conditions.

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

2. According to the life cycle given below, when does the young of a butterfly stop feeding completely?



- (1) About 10 days after the egg is laid.
- (2) About 21 days after the egg is laid.
- (3) About 31 days after the egg is laid.
- (4) About 45 days after the egg is laid.

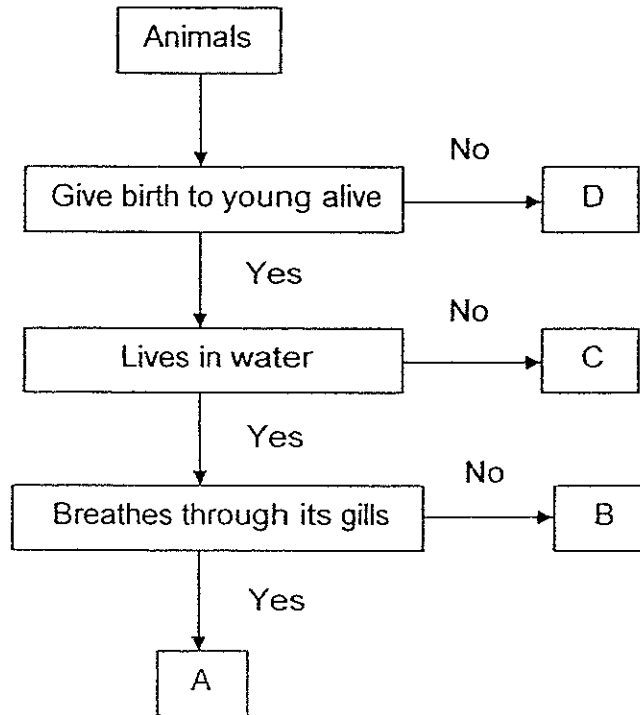
3. Three organisms, A, B and C, were observed over a period of time. Their characteristics were recorded in the table below.

Characteristics	Organisms		
	A	B	C
Able to reproduce	Yes	Yes	Yes
Able to make its own food	No	Yes	No
Able to respond to changes around them	Yes	Yes	Yes
Able to move freely from place to place	No	No	Yes

Which one of the following is the most suitable headings for each group of organisms?

	A	B	C
(1)	Plant	Fungi	Animal
(2)	Fungi	Plant	Animal
(3)	Plant	Bacteria	Fungi
(4)	Animal	Plant	Fungi

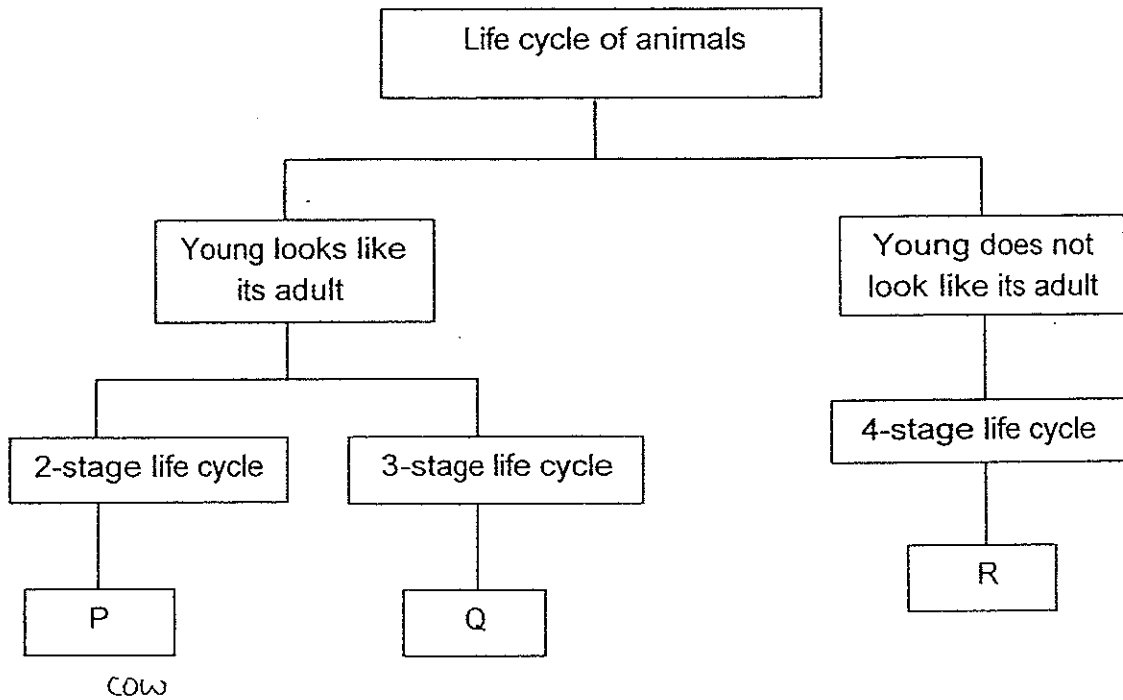
4. The flowchart below shows some characteristics of 4 animals.



Which letter, A, B, C and D, matches the whale?

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

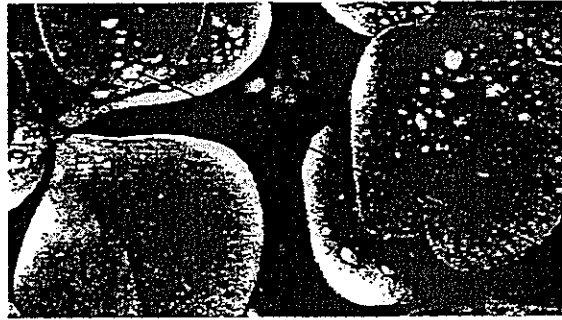
5. The classification chart below shows the life cycle of animals.



Which one of the following represents P, Q and R?

	P	Q	R
(1)	Dog	Housefly	Cockroach
(2)	Chicken	Butterfly	Dragonfly
(3)	Cow	Grasshopper	Butterfly
(4)	Duck	Cockroach	Mosquito

6. The picture below shows droplets of water on blades of leaves.

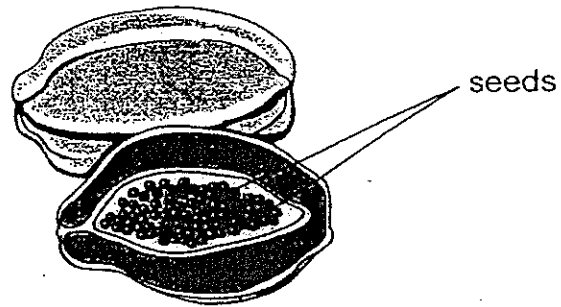


droplets of water

Which of the following could have caused the droplets of water to be found on the blade of a leaf?

- A Condensation of water vapour in the air.
 - B The temperature of the surrounding air is cool.
 - C The leaves are giving out water to cool the plant.
 - D Evaporation of water from the plant had taken place.
-
- (1) A only
 - (2) B and C only
 - (3) A and B only
 - (4) C and D only

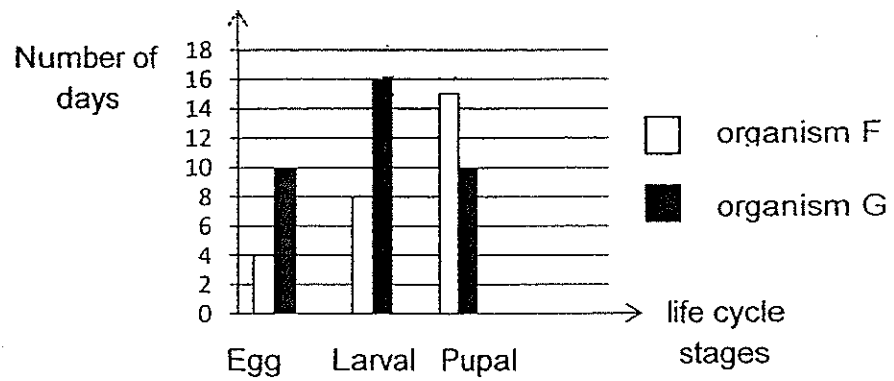
7. The diagram below shows the cross-section of a papaya fruit.



Based on the diagram above, what conclusion/s can we draw on the papaya plant?

- A The papaya flowers grow in clusters.
 - B The papaya flower has many ovaries.
 - C The papaya flower has many colourful petals.
 - D The ovary of the papaya flower contains many ovules.
-
- (1) B only
 - (2) D only
 - (3) A and D only
 - (4) B and C only

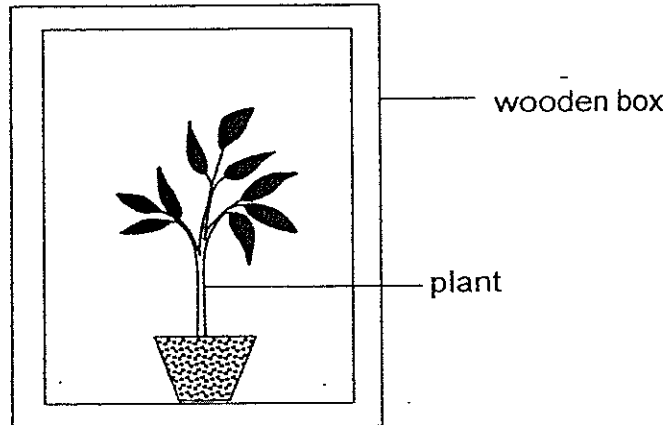
8. The graph below shows the number of days for each stage of life cycle of organisms, F and G.



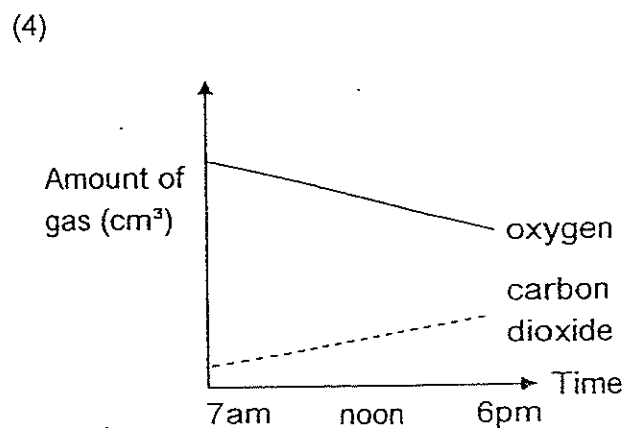
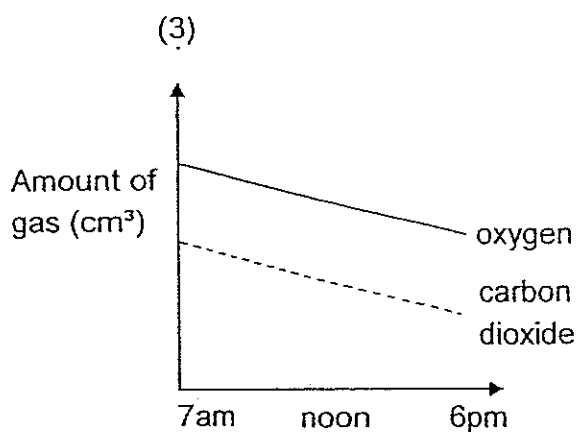
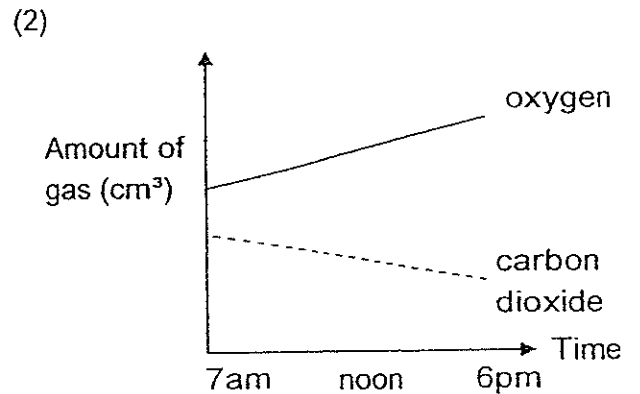
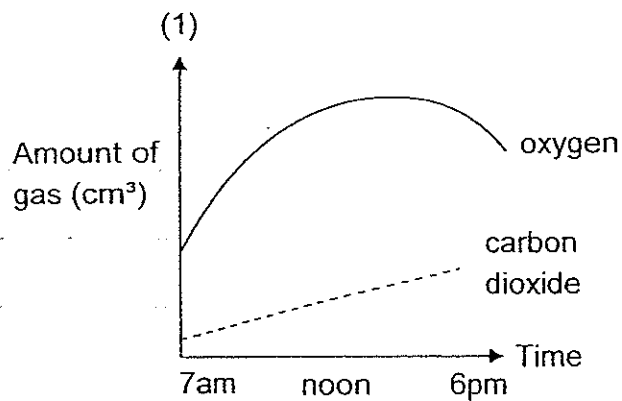
Based on the graph above, which stage would organisms, F and G, be on the 13th day after the eggs were laid?

	Organism F	Organism G
(1)	Larval	Larval
(2)	Pupal	Larval
(3)	Pupal	Pupal
(4)	Adult	Adult

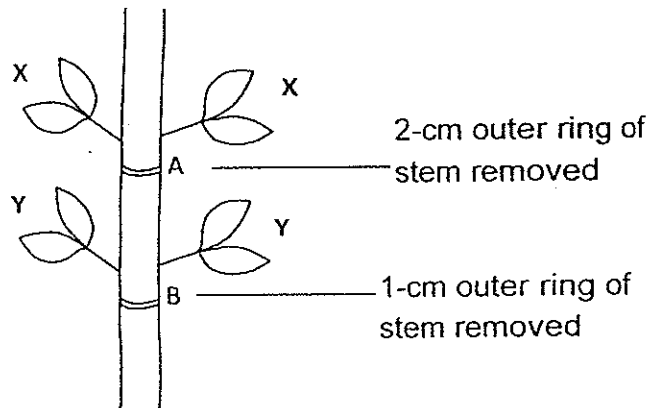
9. A potted plant with sufficient amount of water was placed in an air-tight wooden box as shown below.



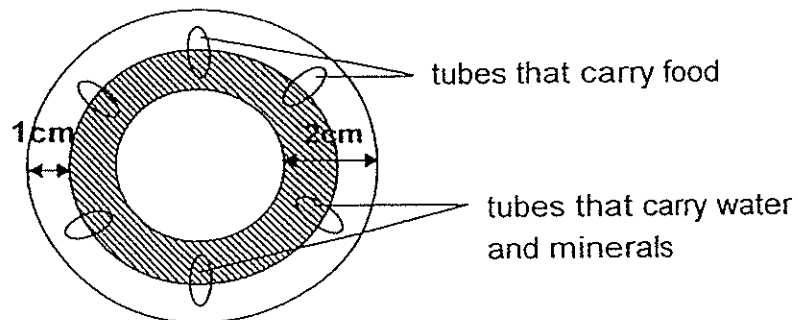
Which one of the following graphs shows the correct amount of oxygen and carbon dioxide present in the box during the day?



10. Two rings were cut at A and B on the stem of a potted plant. At A, a 2-cm outer ring of the stem was removed. At B, a 1-cm outer ring of the stem was removed.



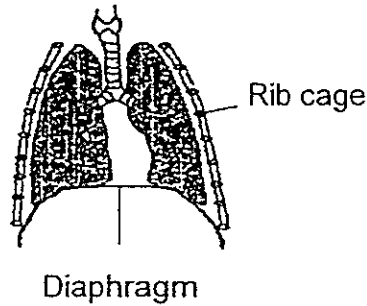
The diagram below shows the cross-section of the stem. The shaded part shows the location of the water-carrying tubes in the plant.



The plant was then watered and left under the sun for an hour. Which one of the following statements is true?

- (1) All the leaves on the plant would wither and die.
- (2) No water could be carried to the leaves at X and Y.
- (3) The leaves at Y could not carry out photosynthesis.
- (4) The leaves at X could not carry out photosynthesis.

11. The diagram below shows part of a human respiratory system.



Which one of the following shows the correct movement of the rib cage and diaphragm during inhalation and exhalation of air?

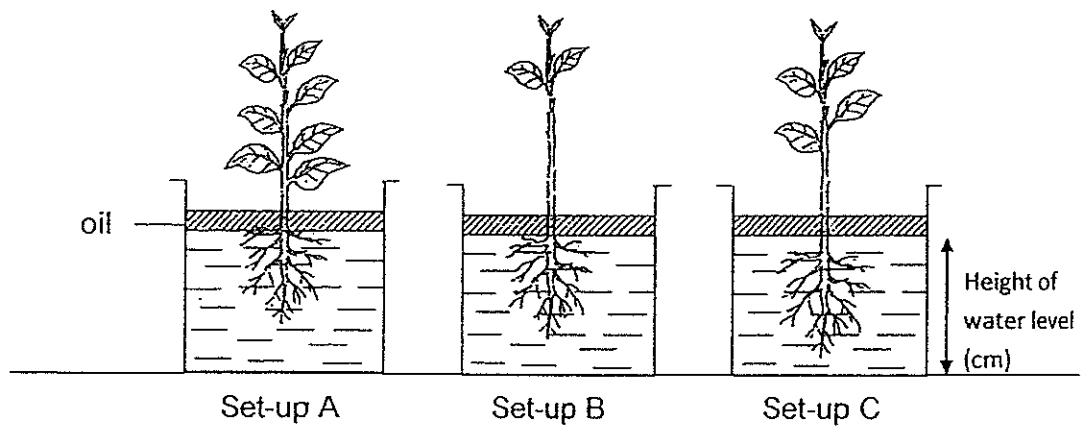
	Rib cage		Diaphragm	
	Exhalation	Inhalation	Exhalation	Inhalation
(1)	Move out and upwards	Move in and downwards	Moves upwards	Moves downwards
(2)	Move in and downwards	Move out and upwards	Moves upwards	Moves downwards
(3)	Move in and downwards	Move out and upwards	Moves downwards	Moves upwards.
(4)	Move out and upwards	Move in and downwards	Moves downwards	Moves upwards

12. Which of the following statement(s) is/are true?

- A A mother cannot pass her characteristics to her son.
- B A grandfather can pass his characteristics to his granddaughter
- C Parents can only pass down physical characteristics to their children.
- D When children become adults, they may change their traits by changing the cells in their body.

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

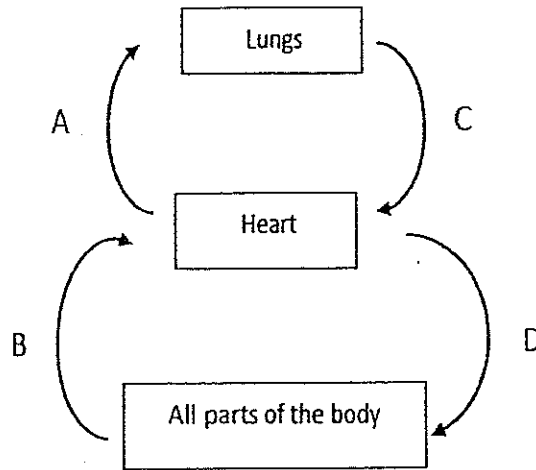
13. Robbie placed three plants of the same species in identical beakers, each containing an equal amount of water as shown in the diagram below. She then placed set-ups, A, B and C, on a table near a window for a week, away from direct sunlight.



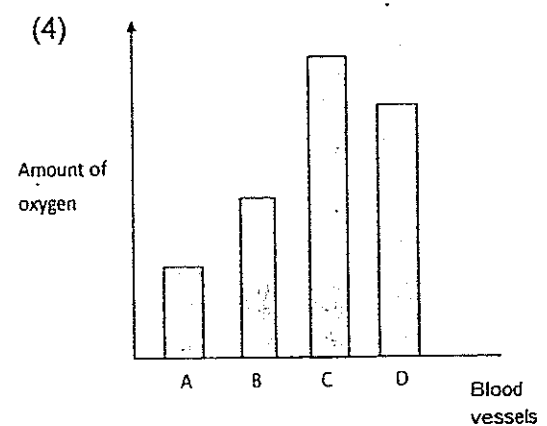
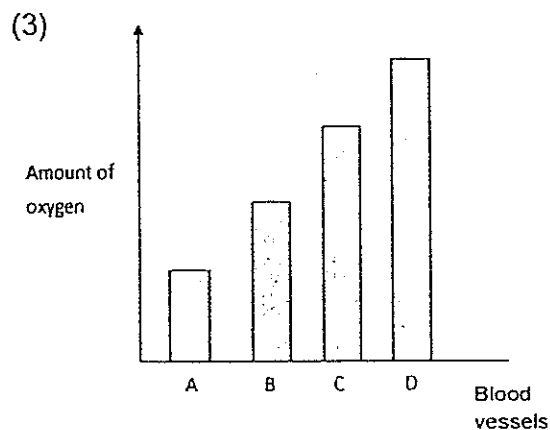
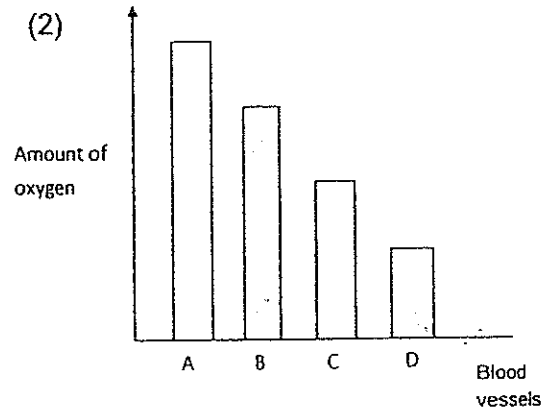
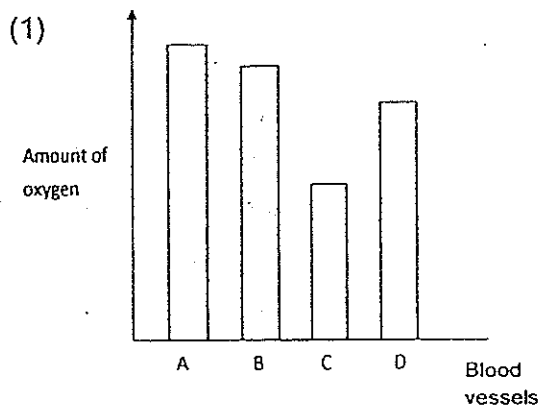
At the end of the experiment, Robbie observed the changes in the water level in the three set-ups. Which of the following would she observe?

- A There is no change in the water level in the three set-ups.
 - B The water level in Set-up A dropped more than Set-up B and C.
 - C The water level in Set-up B dropped the least amount compared to Set-up A and C.
 - D The water level in the three set-ups decreased by the same amount.
 - E The water level in Set-up C dropped less than Set-up A.
- (1) A, B and C only
(2) A, C and D only
(3) B, C and E only
(4) B, D and E only

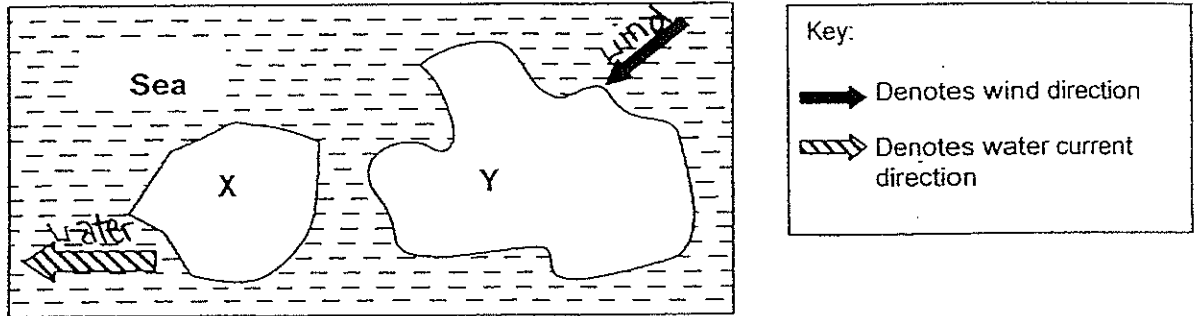
14. The diagram below shows how blood circulates in the human body. Arrows, A, B, C and D, represent the flow of blood to the various parts of the body.



Which one of the following bar graphs shows the amount of oxygen in the different blood vessels?



15. The diagram below shows two deserted islands, X and Y.



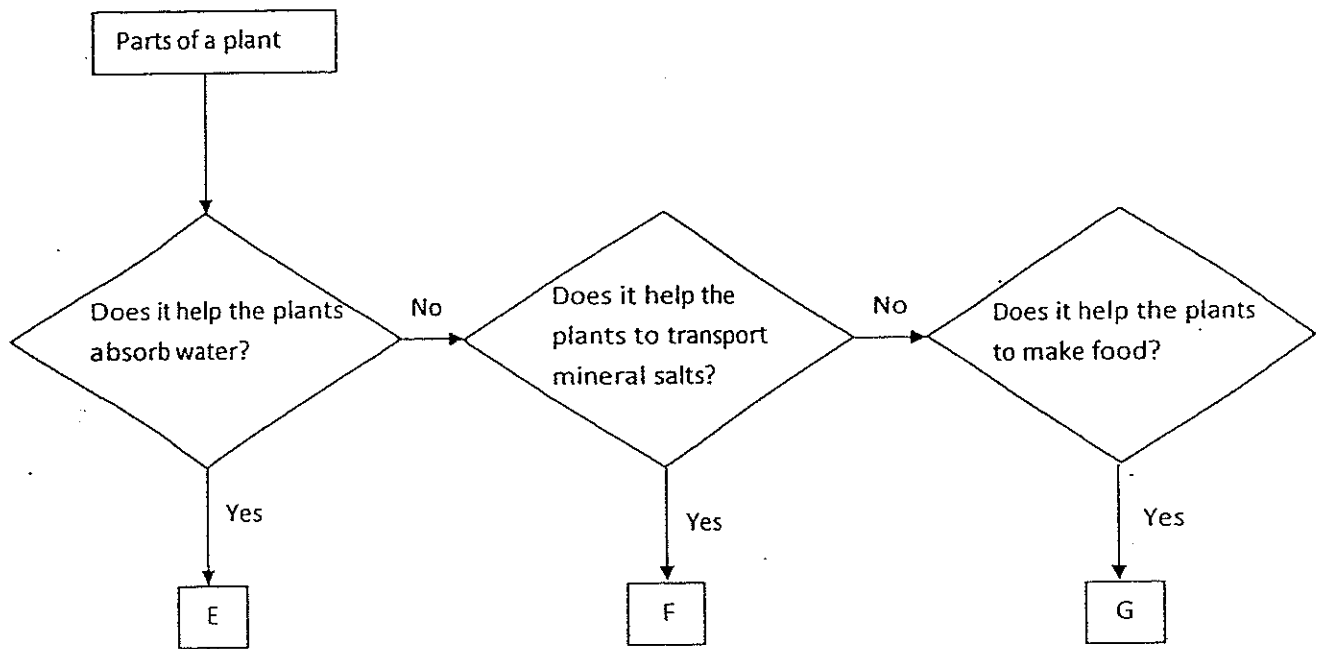
In 2012, four types of plants were found on island X but only grass was found on island Y. Some features of the four plants on island X are shown in the table below.

Plant	Features
A	Has sweet and juicy fruits with small seeds.
B	Has fruits that are waterproof and float on water
C	Has fruits with wing-like structures
D	Has fruits that split open

In 2014, new plants were found growing on island Y. They were believed to have originated from island X. Which plant(s) could this/these be?

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

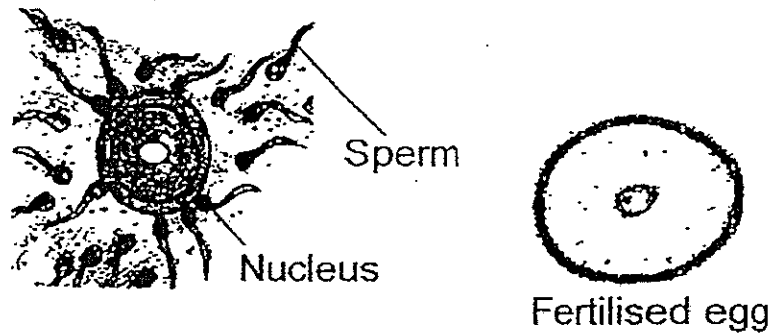
16. Study the flowchart below



Which one of the following correctly identifies E, F and G?

	E	F	G
(1)	Roots	Water-carrying tubes	Leaves
(2)	Roots	Leaves	Food-carrying tubes
(3)	Water-carrying tubes	Food-carrying tubes	Leaves
(4)	Water-carrying tubes	Roots	Food-carrying tubes

17. The diagram shows the fertilisation of a human egg.



Four statements were made on the above diagram:

- A The sperm developed in the testes of the male reproductive system.
- B The fertilised egg developed in the ovary of the female reproductive system.
- C Usually more than one sperm will enter the egg to increase the chances of fertilisation..
- D The nucleus of the fertilised egg consists of genetic materials from both the sperm and the egg.

Which of the following statements are true?

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

18. Jess wanted to find out how temperature affects the rate at which ice melts.

She placed an ice cube each in cups, A and B, which are filled with milk at different temperatures. He recorded the results in the table below.

	Cup A	Cup B
Temperature of milk (°C)	40	80
Time taken for ice cube to melt completely (minutes)	6	3

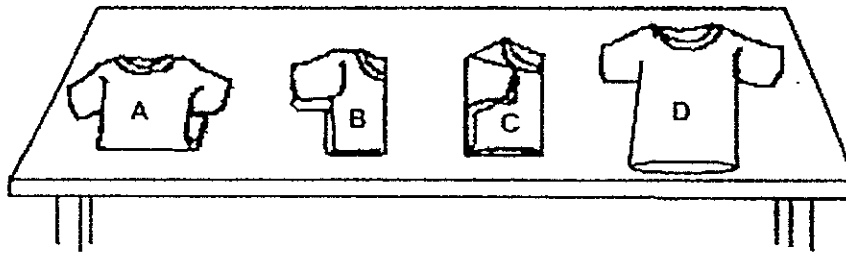
In order to conduct a fair test, which of the following variables should Jess keep the same?

- A Volume of milk
- B Temperature of milk
- C Volume of ice cubes
- D Material of the cups

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

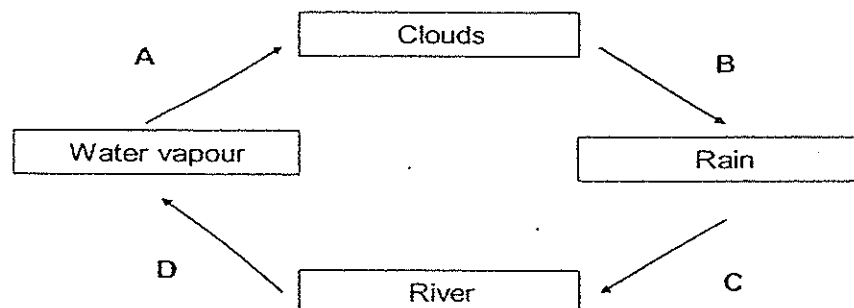
19. Thomas carried out an experiment with 4 similar T-shirts, A, B, C and D. Each T-shirt was soaked with an equal amount of water.

He then arranged the T-shirts as shown in the diagram below.



What measurement should he take in order to find out how the size of the exposed surface area affects the rate of evaporation of water?

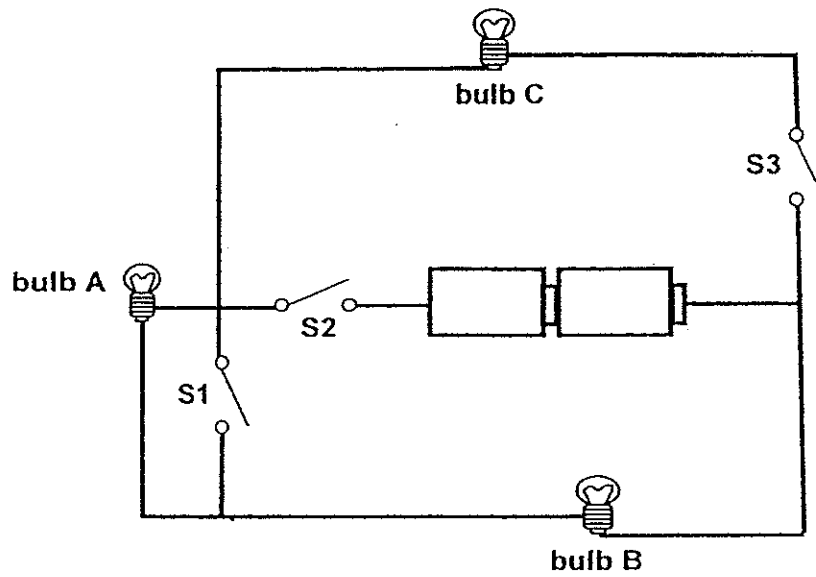
- (1) Temperature of the surrounding air.
 - (2) Temperature of each T-shirt after 6 hours.
 - (3) Difference in mass of the T-shirts after 6 hours.
 - (4) Difference in the size of the exposed surface area of the T-shirts.
20. The diagram below shows the water cycle.



A, B, C and D represent the processes in the water cycle. Which processes, A, B, C or D involve a change in the state of water?

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

21. Bulbs A, B and C, and switches, S1, S2 and S3, are connected in a circuit as shown below. All switches and bulbs are working properly.

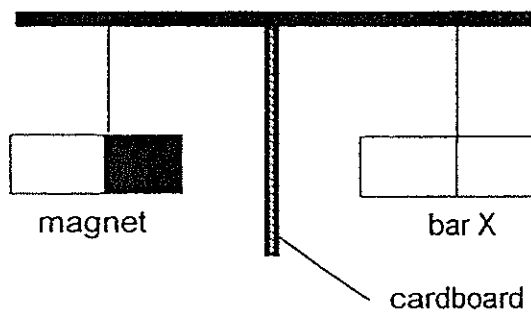


Which one of the following is correct?

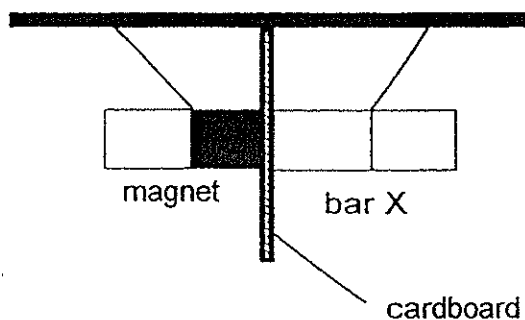
	Switches			Does the bulb light up?		
	S1	S2	S3	Bulb A	Bulb B	Bulb C
(1)	Closed	Open	Closed	No	No	Yes
(2)	Open	Closed	Open	Yes	No	No
(3)	Closed	Closed	Open	No	Yes	Yes
(4)	Open	Closed	Open	Yes	Yes	No

22. When a magnet and Bar X were released to hang freely, they moved towards each other as shown in the diagram below.

Before



After



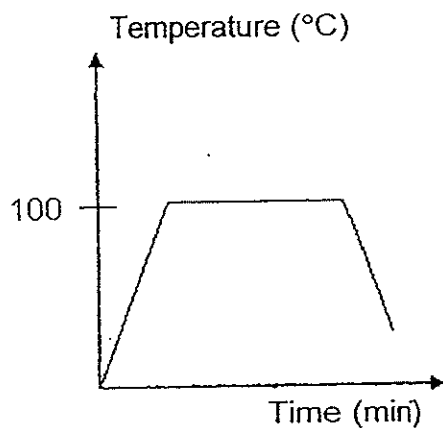
Which of the following conclusions can be made from the above experiment?

- A Magnetic force can pass through the cardboard.
- B Bar X is a magnet.
- C Bar X is made of a magnetic material.
- D Cardboard is a magnetic material.

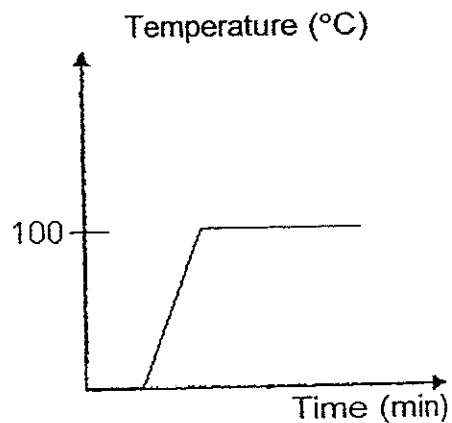
- (1) A and D only
- (2) A and C only
- (3) B and C only
- (4) B and D only

23. Emma heat a beaker of ice cube until it changed from solid state to gaseous state. Which one of the following graphs shows the change in temperature of the ice cube as it changes its state over time correctly?

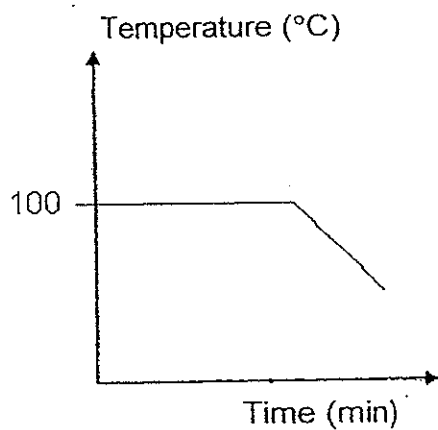
(1)



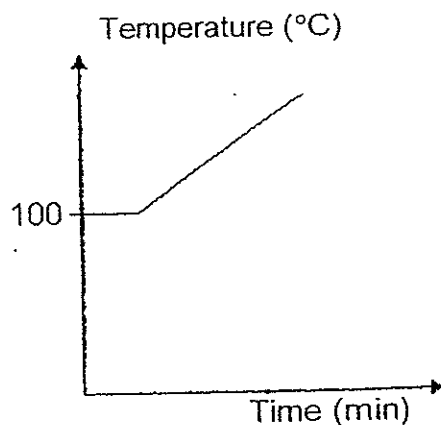
(2)



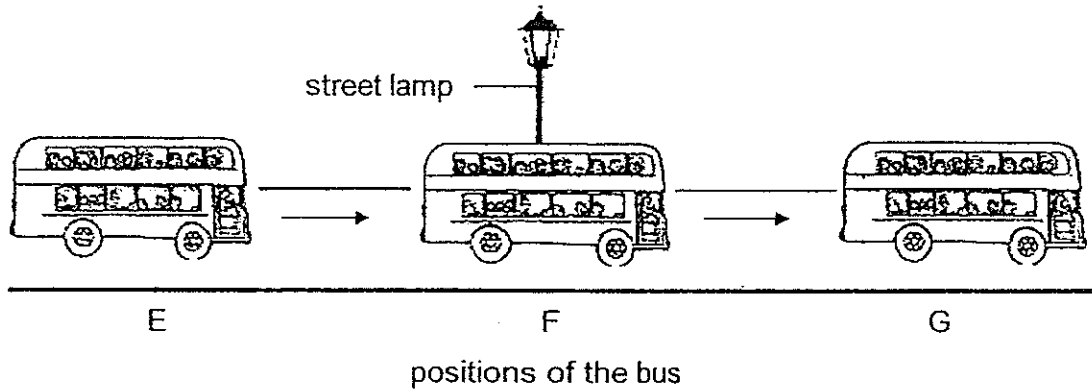
(3)



(4)

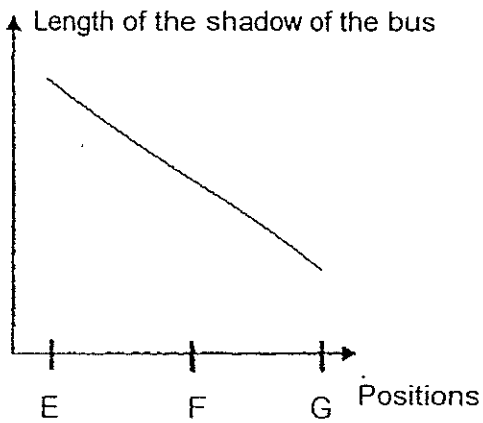


24. A bus was travelling past a street lamp from point E, F and G as shown below.

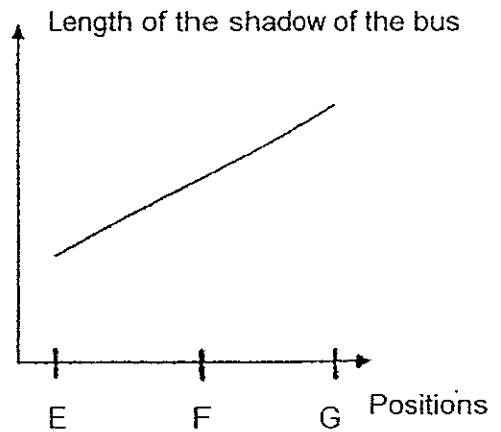


Which one of the graphs below represents the length of the shadow of the bus correctly as it passes the street lamp from position E to G?

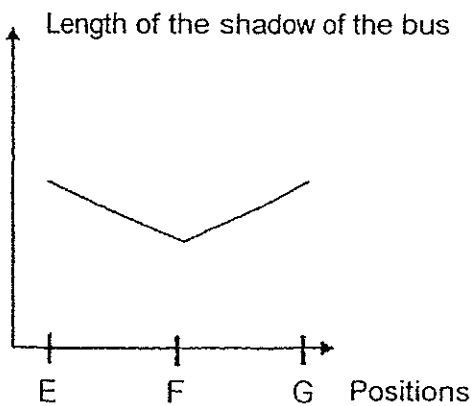
(1)



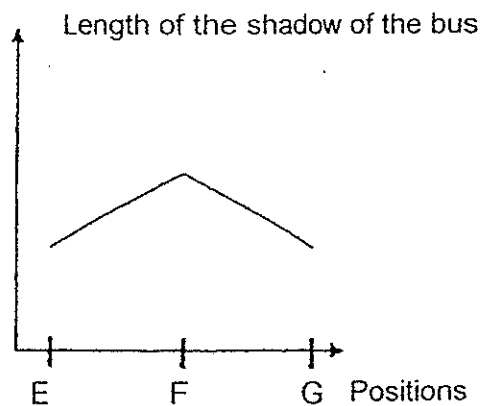
(2)



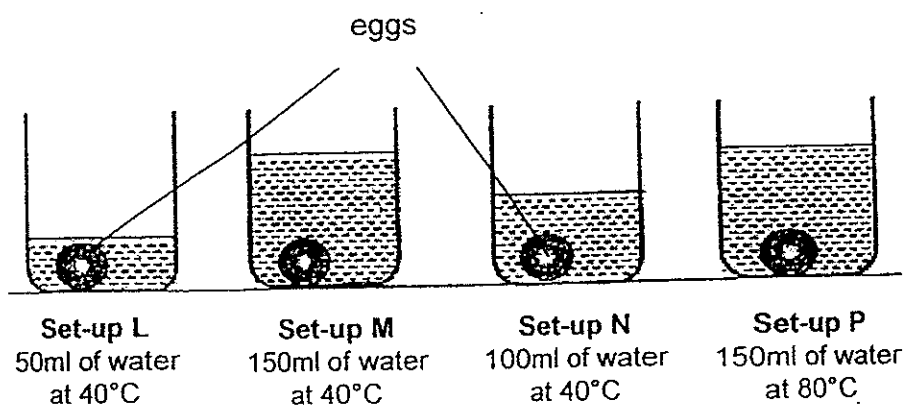
(3)



(4)



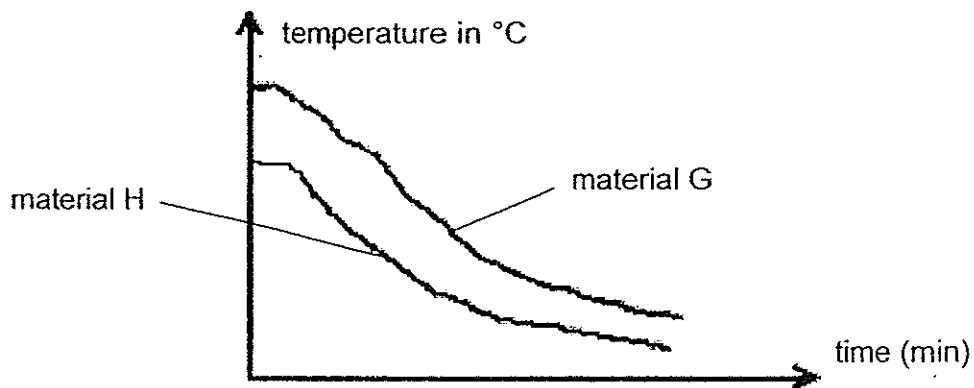
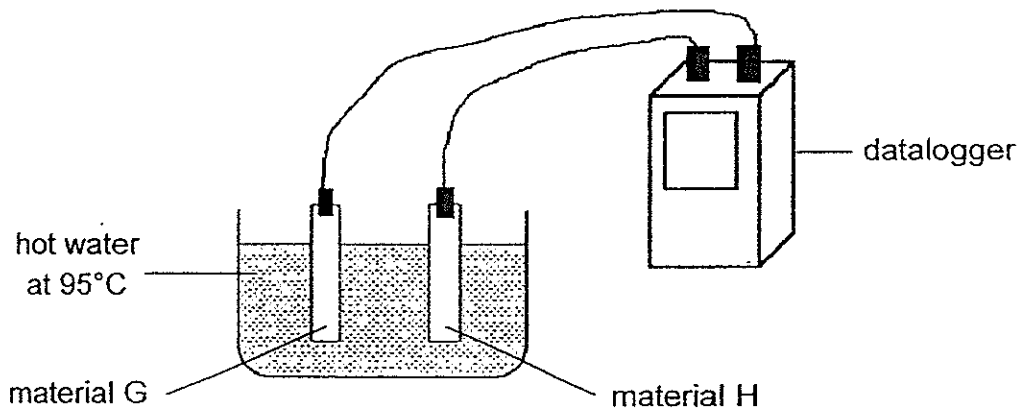
25. The 4 beakers in the set-ups below were filled with different amounts of water at different temperatures as shown in the diagram below. 4 identical eggs were each gently put into each of the beakers. They were left in the beakers for 5 minutes. After 5 minutes, the eggs were taken out and cracked to see how cooked each of the eggs was.



Arrange the set-ups above according to the set-up with the egg that was most cooked to the set-up with the egg that was least cooked. Which one of the following shows the correct arrangement?

- (1) P, N, M, L
- (2) L, N, M, P
- (3) L, M, N, P
- (4) P, M, N, L

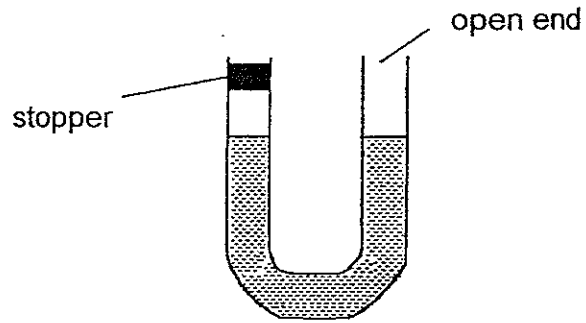
26. Ana conducted an experiment using the set-up below. She measured the temperature of materials, G and H, over a period of time with a datalogger. The results are recorded as shown in the graph below.



Ana wanted to use two containers for two different purposes. One container is to help to cool her porridge quickly. The other container was to keep her cold orange juice cold for a longer period of time. Which material(s) would be more suitable for making the two containers?

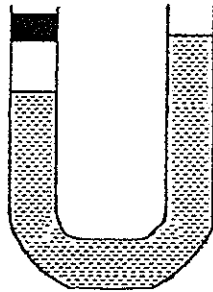
Material for containers	
To keep her cold juice cold for a longer time	To cool her porridge quickly
(1) G	G
(2) H	H
(3) G	H
(4) H	G

27. The diagram below shows a U-shaped tube with a stopper at one end. The tube is filled with some water.

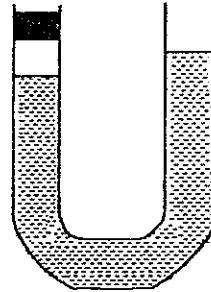


Which of the following shows the correct water level in the tube after more water is added to the tube from the open end?

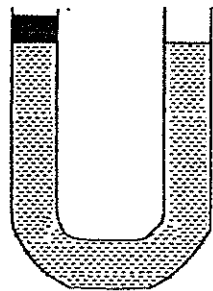
(1)



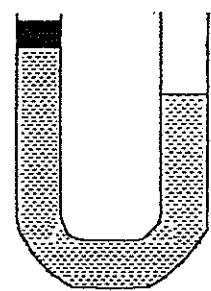
(2)



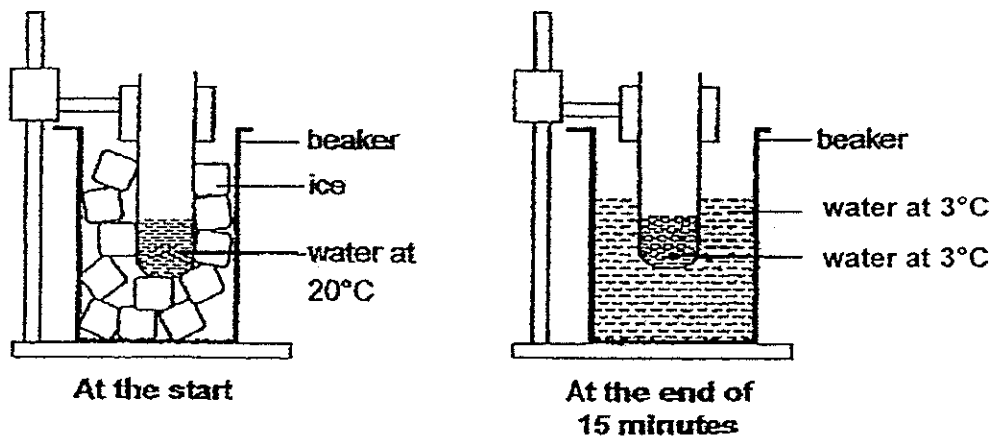
(3)



(4)



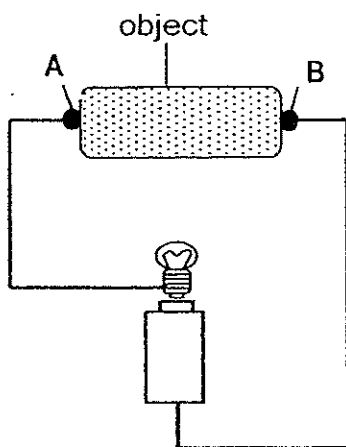
- 28: Amanda carried out an experiment as shown below. A test tube containing some water at 20°C was placed in the centre of a beaker with some ice. The beaker was then left in the science laboratory with a constant room temperature at 30°C for 15 minutes.



Which of the following statement(s) is/are most likely to be correct based on the experiment above?

- A The test tube lost heat to the ice and become cooler.
 - B The beaker lost heat to the surroundings and become cooler.
 - C The ice gained heat from the water in the test tube and melted.
 - D The water in the test tube lost heat to the ice and became cooler.
- (1) A only
- (2) B and D only
- (3) C and D only
- (4) A, C and D only

29. Jeremy set up an electric circuit as shown in the diagram below. He connected three different objects, P, Q and R, each made from a different material but of the same size. The objects were connected, one at a time, at the points, A and B, and left in the circuit for 30 minutes each.



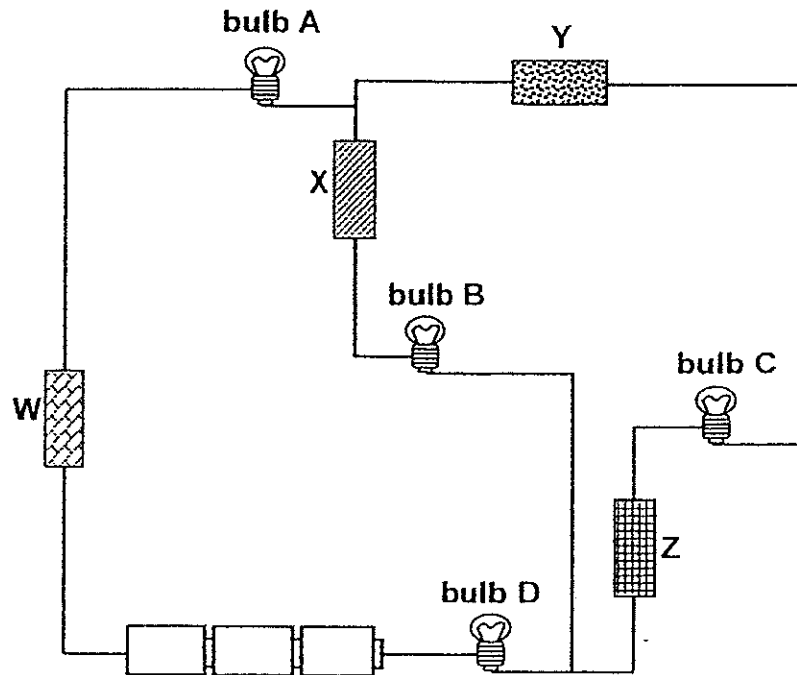
The table below shows the observations he made.

	Object		
	P	Q	R
Did the bulb light up?	Yes	No	Yes
Was the object hot?	Yes	No	No

Based on the observations made, which one of the following statement is correct?

- (1) Object P gives off less heat than Object R.
- (2) Object Q is a conductor of electricity.
- (3) Object R is an insulator of electricity.
- (4) Objects P and R are conductors of electricity.

30. Mica set up the circuit shown below



She observed that only bulbs, A, C and D, lit up. What materials could rods, W, X, Y and Z, be made of?

	W	X	Y	Z
(1)	iron	aluminium	steel	copper
(2)	copper	iron	aluminium	plastic
(3)	steel	wood	iron	copper
(4)	iron	plastic	copper	wood

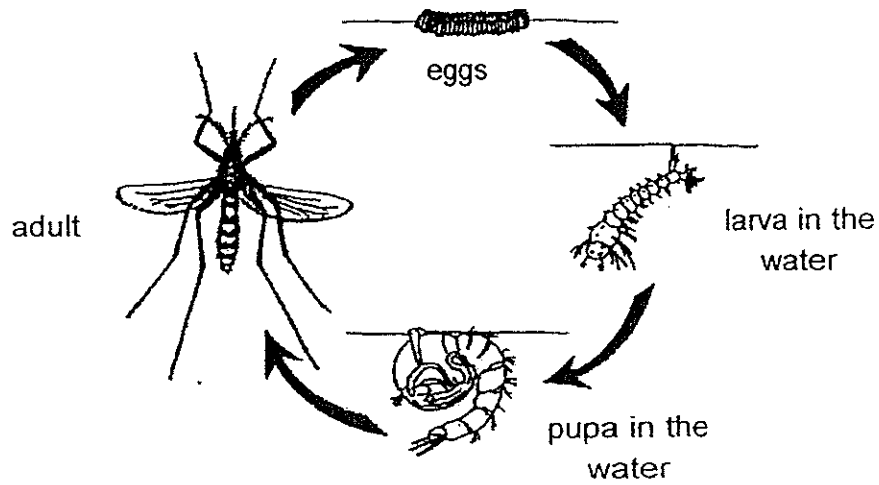
End of paper

Section B (40 marks)

For questions 31 to 44, write your answers in this booklet.

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

31. The lifecycle of a mosquito is shown below.

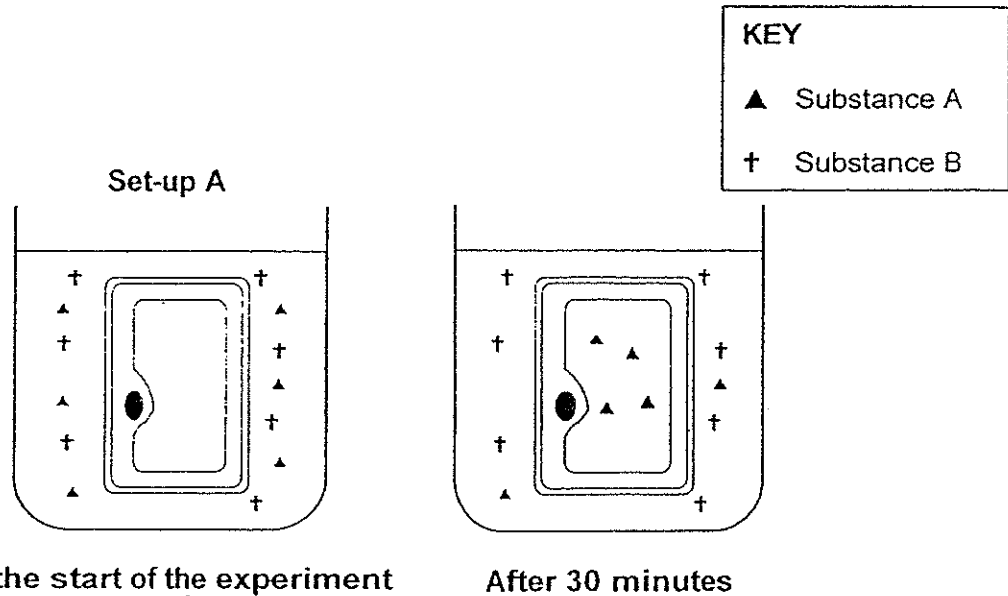


(a) At which stage of the life cycle is the mosquito most difficult to get rid of. Give your reason [1]

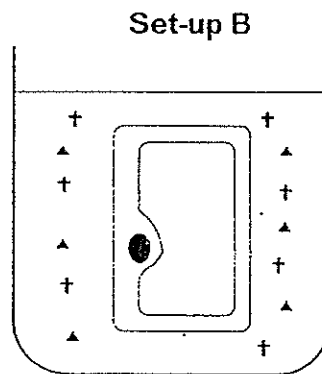
(b) Oil can be used to reduce mosquito breeding. Explain how it works. [1]



32. A cell was placed in a container filled with solution that contained dissolved substances, A and B, as shown in the diagram below. After 30 minutes, it was observed that only some traces of substance A can be found in the cell.

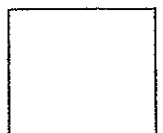


The experiment was repeated on another one of the same cell with one part of the cell being removed as shown in set-up B.

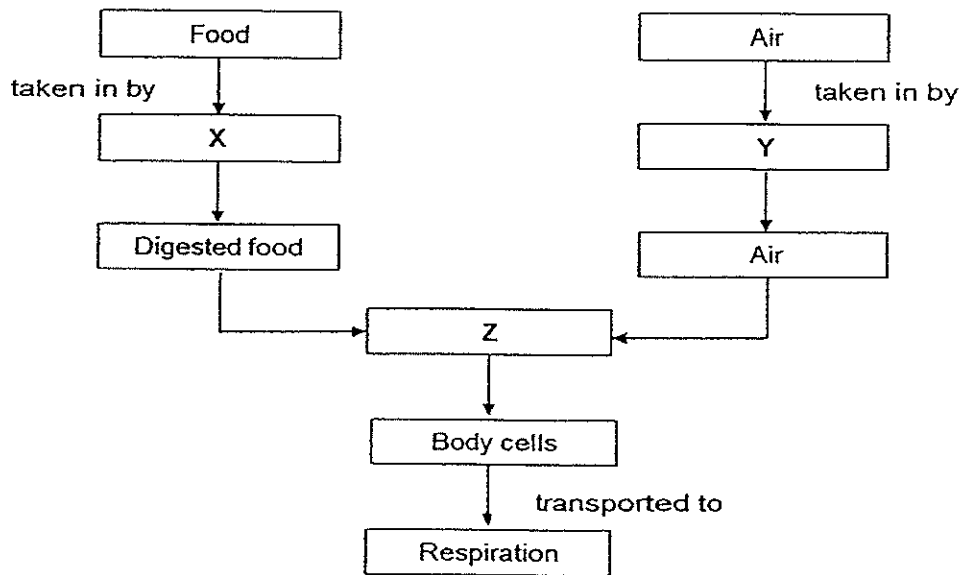


- (a) What do you think could be observed in the cell after 30 minutes? [1]

- (b) What is the aim of the experiment?



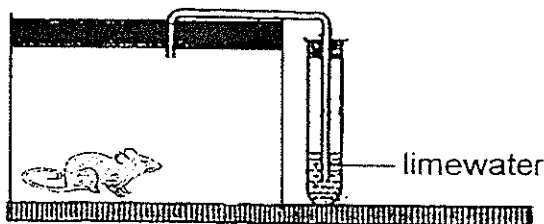
33. The chart below shows how three of our body systems work together to allow respiration to be carried out.



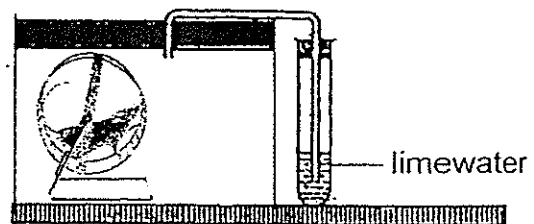
- (a) In the given table below, write down the missing systems that represents X, Y and Z. [1]

	System
X	
Y	
Z	

Perry placed two healthy mice separately in clear, plastic tanks. Each tank contained a test-tube of limewater. He added an exercise wheel in the tank for set-up B.



Set-up A

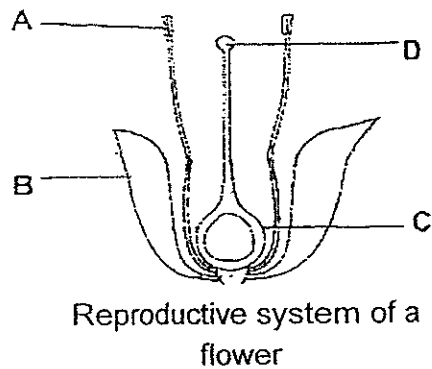
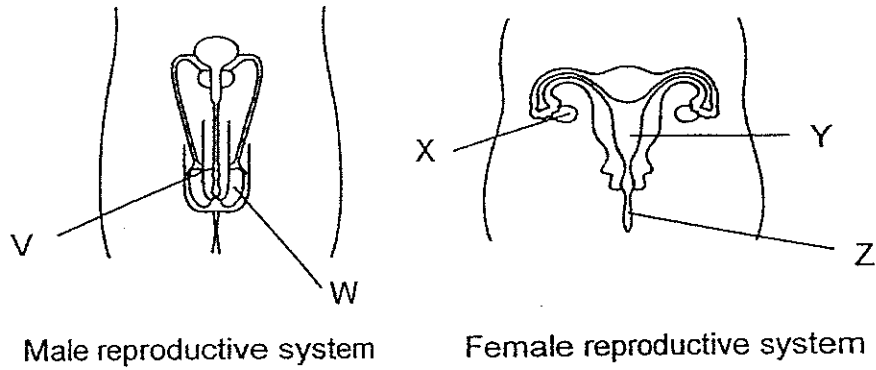


Set-up B

- (b) Perry observed that the limewater in set-up B turned chalky faster than set-up A. Explain why the limewater in set-up B took a shorter time to turn chalky than set-up A. [2]



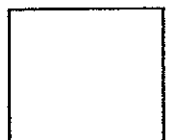
34. The diagram below shows the reproductive systems of a human and a flower.



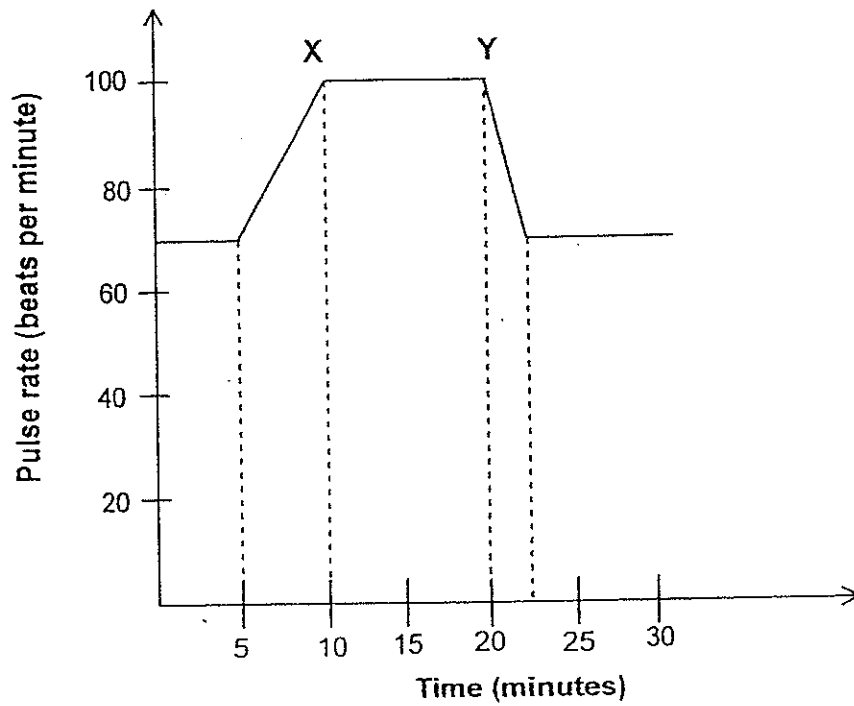
- (a) Write the letters that represent the organs that produce the male and female sex cells from both the systems in the table below. [2]

	Human	Flower
Male sex cell		
Female sex cell		

- (b) What is the function of Y in the female reproductive system? [1]



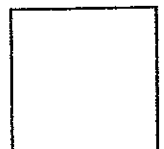
35. The graph below shows Duncan's pulse rate over a period of one hour.



(a) What is Duncan's pulse rate when he is at rest? [½]

(b) For how long was Duncan running at his maximum speed? [½]

(c) Duncan's pulse rate is at a constant high between X and Y. Explain why his pulse rate need to remain high during this time? [2]



36. Squirrels consume large quantities of seeds and nuts. They often gather seeds and nuts and bury them at different places. When they need food, they will locate these places to retrieve the seeds and nuts.

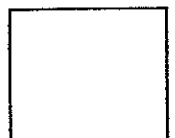


- (a) State one benefit for the squirrel when it buries its food in many places. [1]

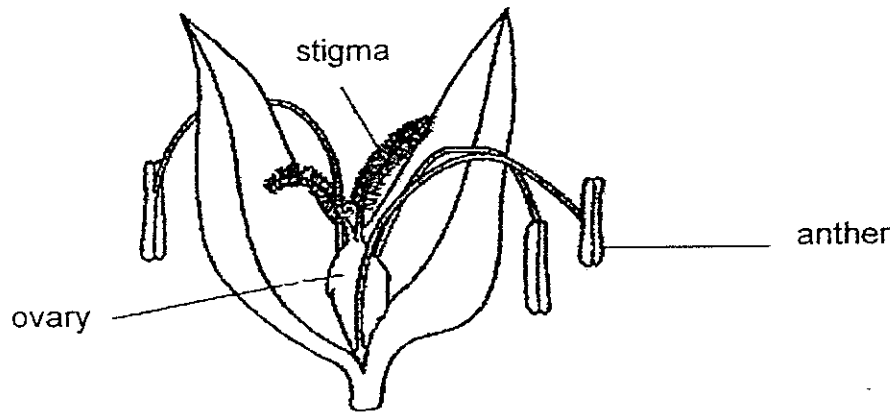
- (b) Write down 2 benefits for the plants of the seeds/nuts that are being buried by the squirrel at different places. [2]

Benefit 1: _____

Benefit 2: _____

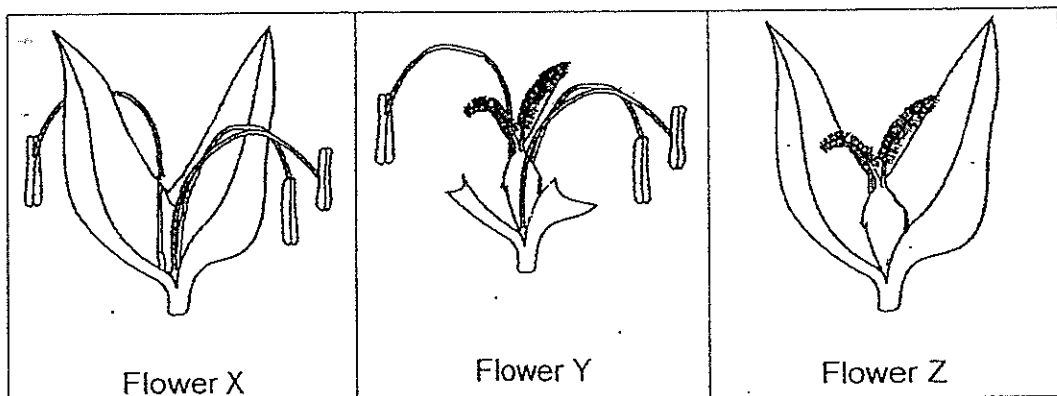


37. The diagram below shows the flower of a plant. The plant has both male and female parts on each flower.



- (a) State one characteristic of the flower that help it to be wind pollinated [1]

- (b) Ai Ling wanted to find out if a fruit could still be produced even when certain parts of the flower were removed. She labelled 3 flowers, X, Y and Z, from the same plant. She cut a certain part from the three flowers as shown below.

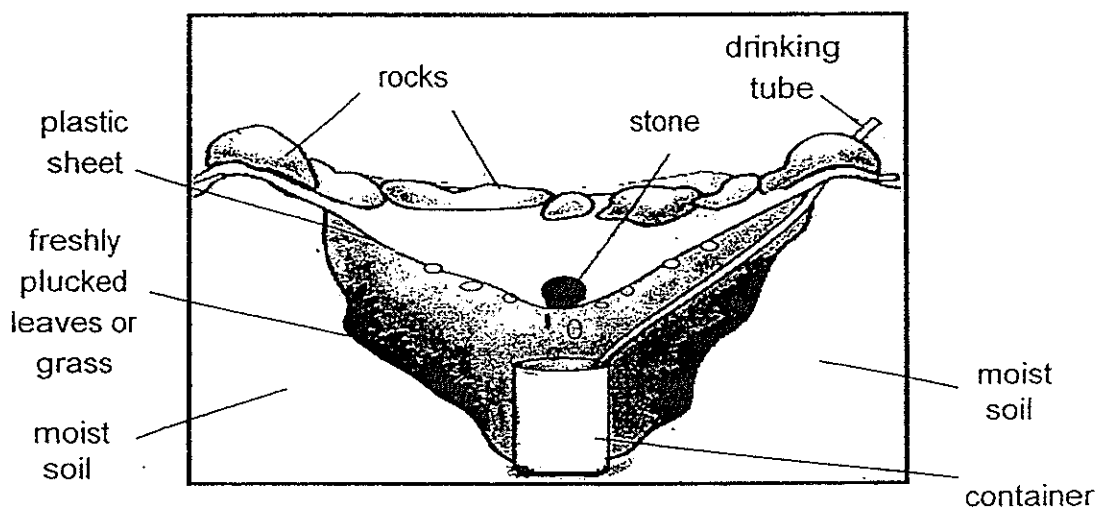


After a few weeks, which flower(s) did not turn into fruit(s). Explain your answer. [1]



38. One of the survival skills of climbers and trekkers (people who like outdoor adventure activities) is to be able to obtain fresh water in the wild. The diagram below shows how a 'Solar Still' is constructed to help these climbers and trekkers to obtain fresh water.

A hole is dug about 50cm in the ground and a container is placed in the centre. Freshly plucked leaves and grass are placed around the container. A piece of clear plastic sheet is placed over the hole and a stone is put in the centre to form a cone. Water can then be obtained by drinking from the drinking tube after about 48 hours.



Solar still – cross-section view

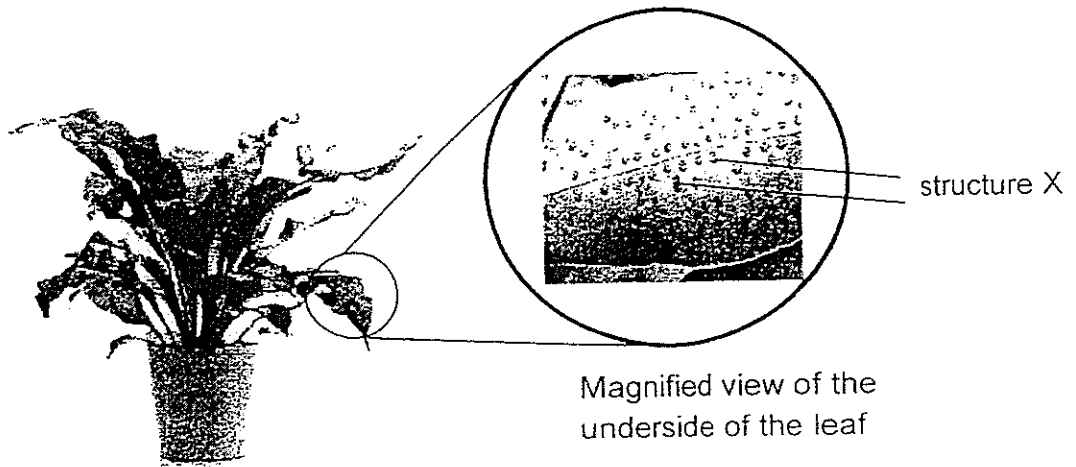
- (a) Explain how fresh water is collected in the container after about 48 hours.

[2]

- (b) Is the stone important in the whole process? Explain your answer. [1]



39. Peter observed the plant shown below at his school's Eco-garden.



He noticed that the plant has structure X under each leaf. This structure felt powdery when he touched it. It also left a brown stain on his fingers.

(a) What could structure X be? [1]

(b) Would the plant be able to produce fruits and seeds? Explain your answer.

[1]

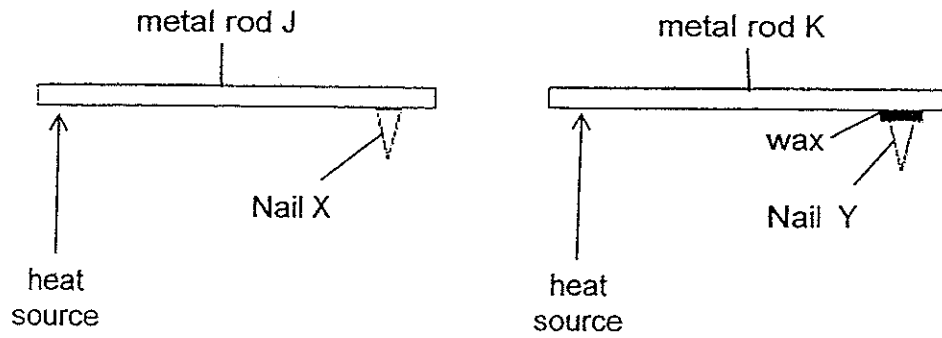
Peter observed some flowers in the Eco-garden as shown below.



(c) He concluded that these flowers are pollinated by insects or animals. Do you agree with Peter? Explain your answer. [1]



40. In an experiment, two similar ^{nails} paperclips X and Y were each attached to one end of metal rods, J and K, in two different ways. Heat was applied to the other ends of the two rods as shown in the diagram below.



- (a) Based on the diagram above, explain why Nail X can be attached to the metal rod J without using any wax. [1]

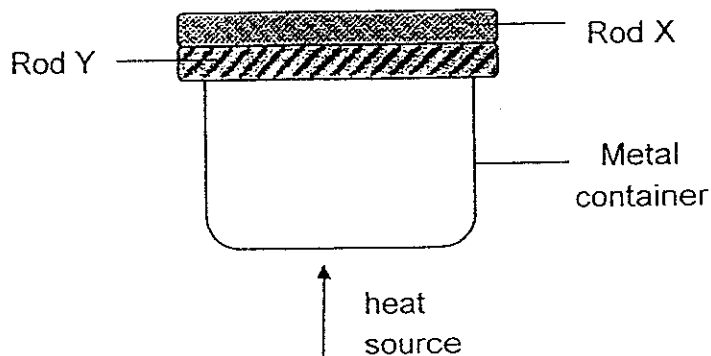
- (b) From the diagram above, describe what will happen to both nails, X and Y, after heating for 20 minutes. Explain your answer. [2]

Nail Paperclip X : _____

Nail Paperclip Y : _____

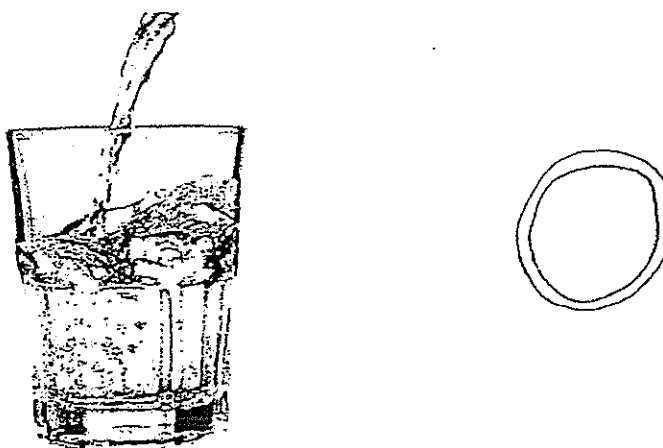


41. An experiment was conducted with the set-up shown below. Rods, X and Y, were made of the same material. They were placed on top of a metal container. The container was heated for 15 minutes. It was observed that Rod Y was longer than Rod X immediately after the experiment.



- (a) Why was Rod Y longer than Rod X at the end of the experiment? [1]

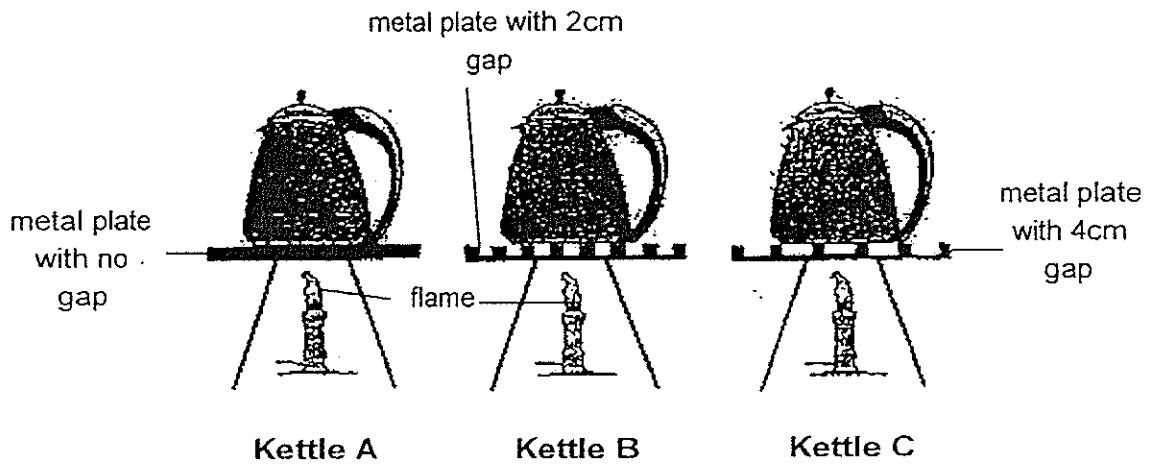
The picture below shows a glass with thick glass walls. When hot boiling water is being poured into the glass quickly, it cracked.



- (b) Why did the glass crack when hot boiling water is poured into it? [2]



42. Paul placed three identical kettles, A, B and C, on three metal plates of the same material with different surfaces. The kettles contained the same amount of water at room temperature. The metal plates were then heated with the same amount of heat from below as shown in the diagram.



He then recorded the time taken for the water in each kettle to boil at 100°C in the table below.

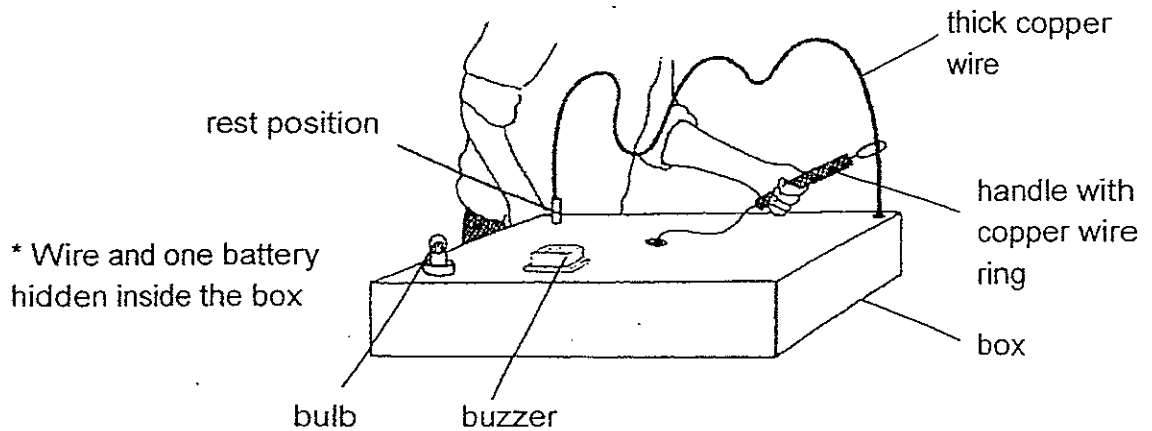
Kettle	A	B	C
Time taken for the water to boil (min)	10	15	20

- (a) Based on the results shown, Kettle A took the shortest time to boil the water. Explain why. [2]

- (b) Paul repeated the experiment with another identical Kettle D on a metal plate with 3 cm gap. Predict the time taken for the water in Kettle D to boil at 100°C . [1]

_____ mins

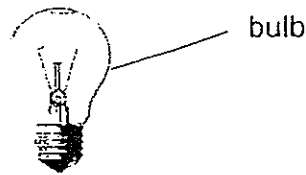
44. Matthew made a game using an electric circuit as shown below.



In his game, he has to move a metal ring along a thick wire until it reaches the rest position. When he is moving the metal ring, it must not touch the wire. If it touches the wire, the bulb will light up and the buzzer will make a noise.

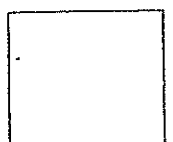
- (a) At first, the bulb could not light up even when the metal ring touched the wire. Mathew's friend told him that he had connected the wires to the bulb incorrectly.

Draw 2 wires to show how the bulb should be connected with the wires so that it will be able to light up. [1]

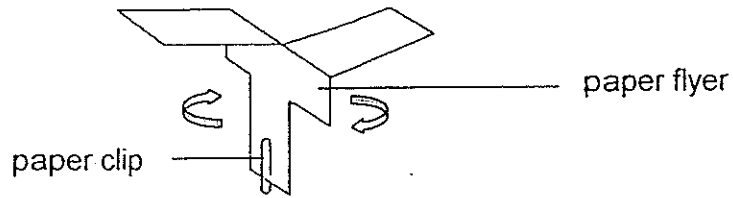


- (b) Explain why the bulb will light up and the buzzer will sound when the copper wire ring touches the wire. [1]

- (c) If Matthew wants to make the bulb brighter when the game is played, how can he change his circuit so that the same bulb becomes brighter? [1]



43. Soo Ching made a paper flyer using a strip of paper and a paper clip as shown below.



She wanted to find out if the number of paper clips on the paper flyer would affect the time it takes for the paper flyer to fall to the ground. Soo Ching recorded her results in the table below.

Number of paper clips on paper flyer	Time taken to fall to the ground (s)	Put a cross (X)
1	10	
2	8	
3	2	X
4	4	

Based on the information above, answer the following questions.

- (a) Soo Ching made one mistake in the data collection shown above. Put **ONE** cross (X) in the box to indicate the mistake she had made. [1]

- (b) Suggest what Soo Ching could do to ensure that her results were reliable to enable her to arrive at a logical conclusion. [1]

- (c) Name two variables that Soo Ching should keep the same to ensure that she conducted a fair test. [1]

Variable 1 : _____

Variable 2 : _____

- (d) What could Soo Ching conclude from the results of her ~~experiment~~? [1]



Exam Paper 2014 Answer Sheet

School: CHIJ ST NICHOLAS GIRLS' SCHOOL

Subject: PRIMARY 5 SCIENCE

Term: SA2

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

31. (a) At the adult stage. When the mosquito is at the adult stage, it has wings to fly so the mosquito is most difficult to get rid at the adult stage.

(b) Oil is less dense than water so it floats, when it floats, it blocks the breathing tubes of the larva and pupa so the young of the mosquito cannot breathe and will die, reducing mosquito breeding.

32. (a) Only substance A could be found in the cell after 30 minutes.

(b) It is to find if the presence of the cell wall affects the type of substance to enter the cell.

33. (a) X: Digestive system

Y: Respiratory system

Z: Circulatory system

(b) When there is an exercise wheel, the mouse in set-up B will exercise. When the mouse exercises, it breathes faster for its cells to respire and when it breathes faster, it gives out carbon dioxide faster than the mouse in set-up A which was not exercising. Hence, the limewater in set-up B turned chalky faster than set-up A.

34. (a) W; A

X; C

(b) If an egg is fertilized, the fertilized egg will develop at part y.

35. (a) 70 beats per minute.

(b) 10 minutes.

(c) Duncan is at his maximum speed. The heart pumps more oxygen rich blood and digested food to the muscle cells, greater respiration to produce more energy.

36. (a) The squirrel can find food easily, other animals will not find its food.

(b) 1: The squirrel helps to disperse the seeds over a greater distance to increase the chance of germination.

2: To prevent overcrowding.

37. (a) The anther of the flower is hanging outside the flower so the wind can carry the pollen grains and land on the stigma of the flower or another flower of the same type for fertilization to occur.

1987

1987

Year	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
...

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(b) Flower X did not turn into a fruit after a few weeks. Flower X does not have female reproductive parts for fertilization to take place and develop into a fruit, so flower X did not turn into a fruit.

38. (a) Water vapour given out by the freshly plucked leaves or grass and water in the moist soil which will evaporated, comes into contact with cooler inner surface of the plastic sheet, lost heat and condenses into water droplets which will be collected in the centre and drip into the container to collect fresh water.

(b) The stone is important in the whole process. The stone creates a gradient which allows the water droplets on the inner surface of the plastic sheet to be collected in the centre and drip into the container more quickly.

39. (a) Spore bags.

(b) The plant would not be able to produce fruits and seeds. As the plant produces spores, it is a non-flowering plant and does not reproduce by seeds, so the plant would not be able to produce fruits and seeds.

(c) The anthers and stigmas are hidden in the flowers.

40. (a) Nail X could be magnetized by a magnet to become temporary magnet and metal rod J is a magnetic material, so nail X can be attached to the metal rod J without using any wax.

(b) Nail X: It will drop off when heated. When heated, it will lose its magnetism and will not attract the metal rod J and hence it will drop off after 20 minutes.

Nail Y: It will drop off. When the wax is melted, it will not stick to metal rod K anymore and nail Y will also drop off after 20 minutes.

41. (a) Rod Y expanded more than rod X as it receives more heat than rod X, so rod Y was longer than rod X at the end of the experiment.

(b) Inner glass gain heat and expanded more than the outer glass.

42. (a) Surface contact area between kettle A and the hot metal plate is the greatest as more heat is transferred to A faster.

(b) 18

43. (a) Cross at number 3.

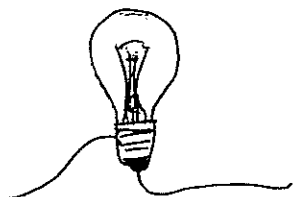
(b) She should repeat the experiment 3 more times and calculate the average results.

(c) 1: The type of paper clips used.

2: The height where the paper flyer is dropped.

(d) The lesser the number of paper clips on the paper flyer, the longer the time taken for the paper flyer to fall to the ground.

44. (a)



(b) When the copper wire rind touches the wire, it becomes a closed circuit and electricity can flow so the bulb will light up and the buzzer will sound.

(c) Add in more batteries in series to the circuit.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It highlights the need for consistent and reliable data collection processes to ensure the validity of the findings. The document also discusses the importance of data security and privacy in handling sensitive information.

3. The third part of the document provides a detailed overview of the data analysis techniques employed. It includes a discussion on statistical methods, regression analysis, and other advanced data processing techniques. The document also addresses the challenges associated with data analysis and offers practical solutions to overcome them.

4. The fourth part of the document presents the results of the data analysis. It includes a series of tables and graphs that illustrate the key findings of the study. The document also provides a clear and concise summary of the results, highlighting the most significant trends and patterns observed in the data.

5. The fifth part of the document discusses the implications of the findings and offers recommendations for future research and practice. It emphasizes the need for continued monitoring and evaluation of the organization's performance to ensure long-term success. The document also provides a list of references and a glossary of key terms used throughout the report.

6. The sixth part of the document provides a detailed overview of the data analysis techniques employed. It includes a discussion on statistical methods, regression analysis, and other advanced data processing techniques. The document also addresses the challenges associated with data analysis and offers practical solutions to overcome them.

7. The seventh part of the document presents the results of the data analysis. It includes a series of tables and graphs that illustrate the key findings of the study. The document also provides a clear and concise summary of the results, highlighting the most significant trends and patterns observed in the data.