28

MAHA BODHI SCHOOL
2017 SEMESTRAL ASSESSMENT 2
PRIMARY 5 SCIENCE
(BOOKLET A)

Name : _____ ( )

Class : Primary 5 _____

Date : 27 October 2017

Total Duration for Booklets A and B : 1 h 45 min

INSTRUCTIONS TO CANDIDATES:

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

This booklet consists of 21 printed pages.

BOOKLET A : [28 x 2 marks = 56 marks]

For each question from 1 to 28, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade your answer on the Optical Answer Sheet.**

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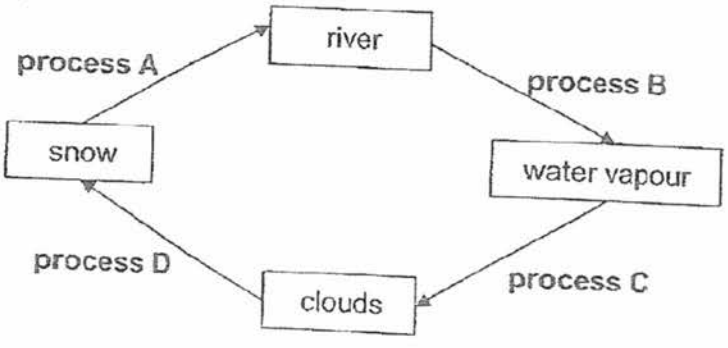
1. The diagram below shows various processes in a water cycle.



Which of the following describes what happens to the river water during process B?

	Water	Change in state
(1)	gains heat	solid to liquid
(2)	gains heat	liquid to gas
(3)	loses heat	gas to liquid
(4)	loses heat	liquid to solid

2. The melting and boiling points of different substances are shown in the table below.

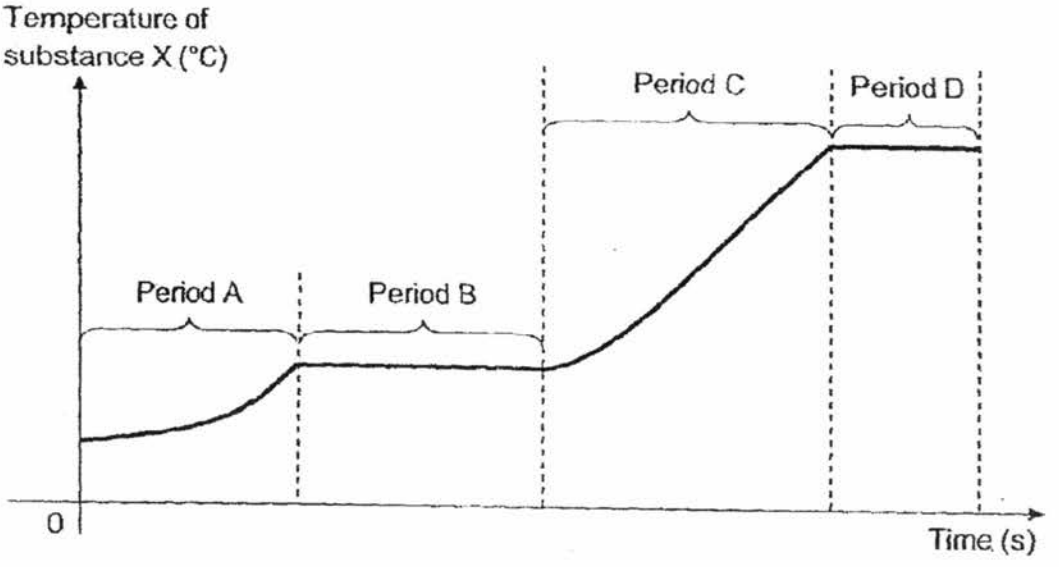
substance	melting point (°C)	boiling point (°C)
A	-5	100
B	0	35
C	65	130
D	140	410

Which of the substances stated above is in the liquid state at 125°C?

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

3. A solid substance, X, was heated in an experiment.

The graph below shows the change in the temperature of the substance over a period of time.

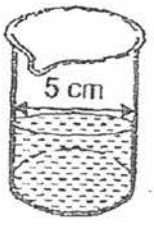


Which of the following statements is definitely correct?

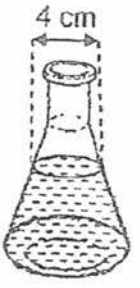
(1) Melting occurred during period D.
(2) The substance was gaining heat throughout the experiment.
(3) The substance did not gain heat during period B and period D.
(4) The state of matter of substance X during period B was liquid only.

4. Cherelle wishes to find out if the temperature of water affects its rate of evaporation. She prepares different containers using the same amount of water.

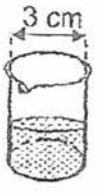
Which of the following set-ups should she use for her experiment?



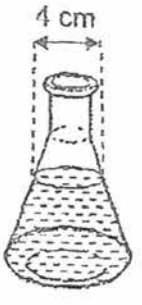
Container E
Temperature of water: 50°C



Container F
Temperature of water: 50°C



Container G
Temperature of water: 25°C



Container H
Temperature of water: 25°C

(1) Containers E and F
(2) Containers E and G
(3) Containers F and G
(4) Containers F and H

5. In the flower of a mango plant, the male reproductive cell fuses with the egg cell during fertilization. This results in the formation of the mango fruit.

Which of the following does not take place during the formation of the fruit?

(1) The flower petals and leaves start to wither.
(2) The ovary starts to swell to form the mango fruit.
(3) The ovule starts to develop into the seed of the mango.
(4) The seed develops inside the fruit and the fruit grows bigger

6. Which of the following characteristics match the method of dispersal?

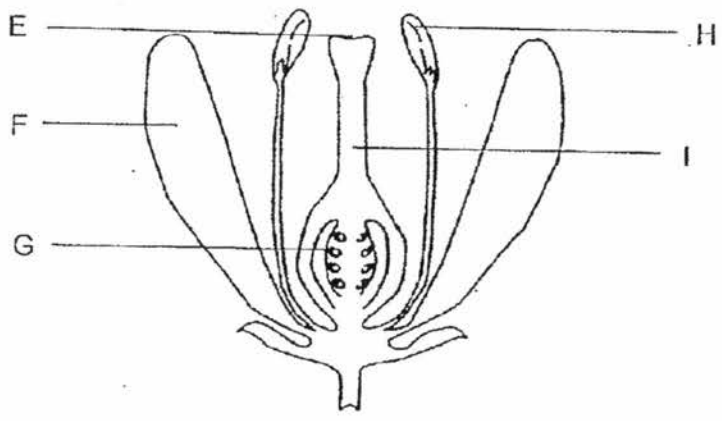
	Characteristics	Method of dispersal
A	bright and fleshy fruit	by animals
B	air spaces in the fruit	by explosive action
C	seeds with wing-like structures	by wind
D	feathery structure	by water

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

7. John wanted to find out if parts of a flower would affect the formation of a fruit.

He carried out the following steps:
- He removed some parts of Flower X.
- He transferred some pollen grains from a similar flower to the remaining parts of Flower X.

After some time, Flower X developed into a fruit.



Flower X

Which two parts did John remove?

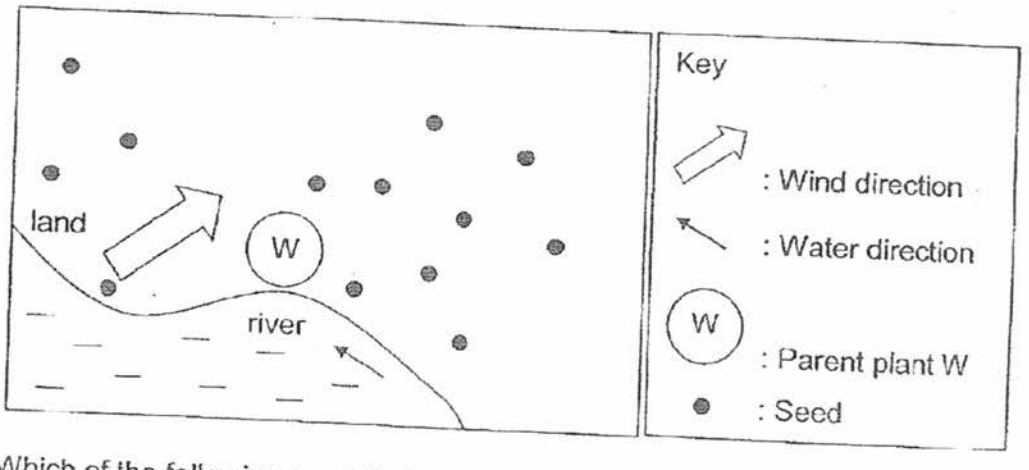
(1) E and F only
(2) E and H only
(3) F and H only
(4) G and I only

8. The diagram below shows a mother bear with her young.

Why does the young look like its mother?

(1) Information was passed down from the mother in an egg.
(2) Information was passed down from the mother in a sperm.
(3) Information was passed down from the mother through its milk.
(4) Information was passed down from the mother through its blood.

9. Study the distribution of seeds from plant W.



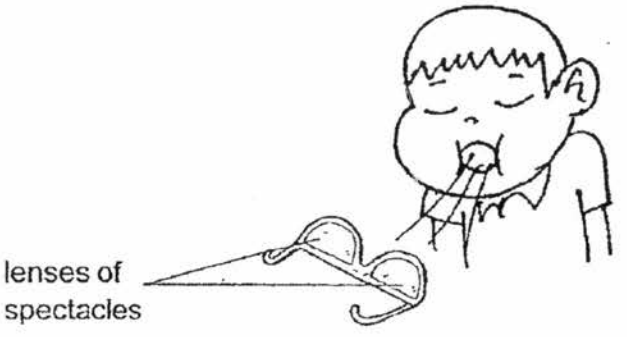
Which of the following most likely describes the fruit from plant W?

(1) The fruit has stiff hairs.
(2) The fruit has a fibrous husk.
(3) The fruit dries up and splits open.
(4) The fruit is light and has a feathery structure.

10. Which of the following is incorrect about the respiratory system of plants?

(1) Plants take in oxygen and give out carbon dioxide all the time.
(2) Water is lost as water vapour through the tiny openings on the surfaces on leaves.
(3) Air enters through the lower surfaces of leaves and exits through the upper surfaces.
(4) Leaves usually have fewer tiny openings on their upper surfaces than lower surfaces to reduce water loss.

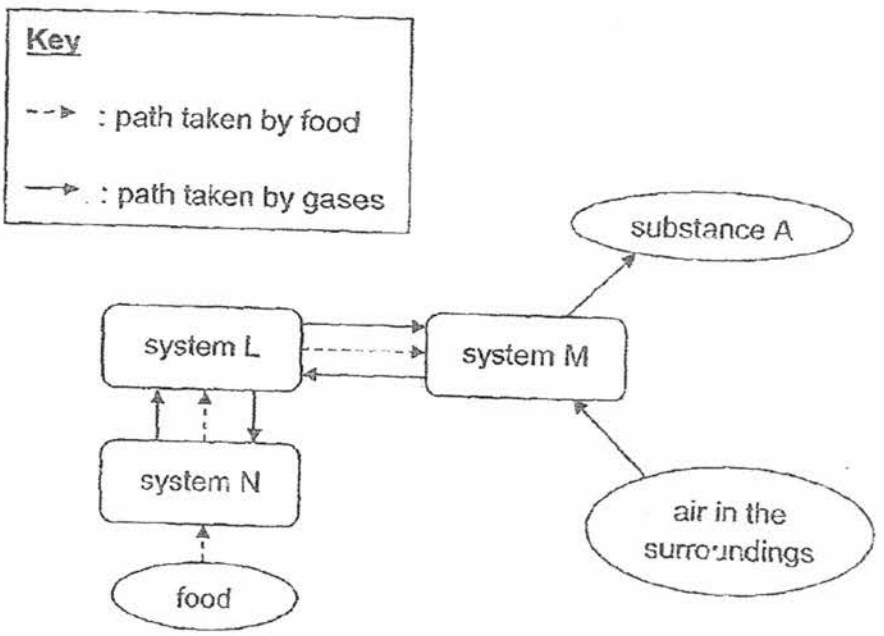
11. Timmy exhaled slowly onto the cool surface of the lenses of his spectacles. He then wore his spectacles and realized that he could not see very well. His teacher told him that condensation had occurred.



Which of the following gases had condensed?

(1) oxygen
(2) nitrogen
(3) water vapour
(4) carbon dioxide

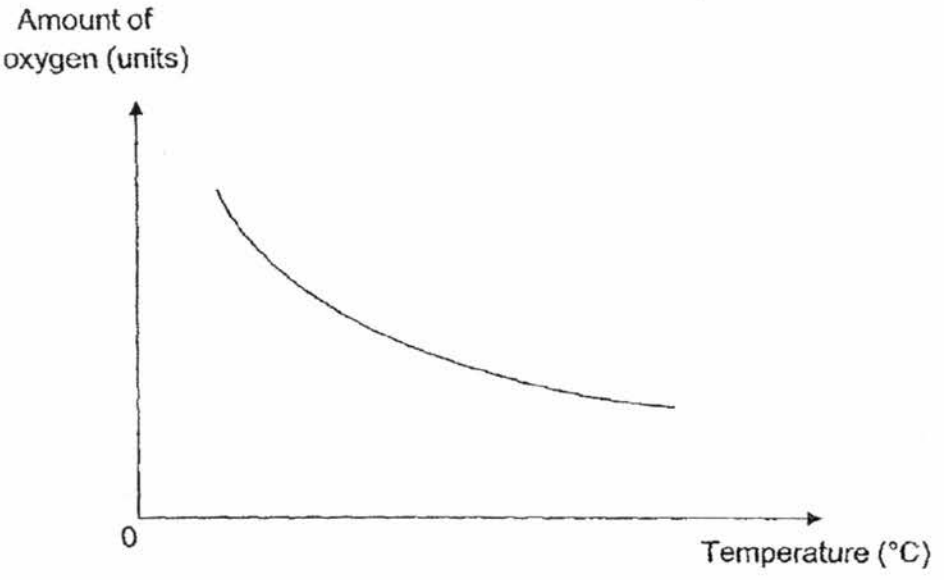
12. The transportation of food and various gases in the human body is shown below.



Which systems do L and M represent and what is substance A?

	System L	System M	Substance A
(1)	circulatory	respiratory	air
(2)	respiratory	circulatory	oxygen
(3)	circulatory	digestive	carbon dioxide
(4)	digestive	respiratory	water vapour

13. Mr Tan measured the amount of oxygen present in the pond water at different temperatures. His results are shown in the graph below.



Which of the following would be true about the fish as the temperature of the water increased?

	Breathing rate	Heart rate	Explanation
(1)	decreased	decreased	The amount of oxygen in the pond increased. Therefore, the fish swam slower and less energy was needed.
(2)	decreased	decreased	The amount of oxygen in the pond decreased. Therefore, the fish swam slower as less energy is needed.
(3)	increased	increased	The amount of oxygen in the pond decreased. The fish needed to get the same amount of oxygen as before to stay alive.
(4)	increased	increased	The amount of oxygen in the pond increased. The fish needed to get the same amount of oxygen as before to stay alive.

14. Study diagrams 1 and 2 below carefully.

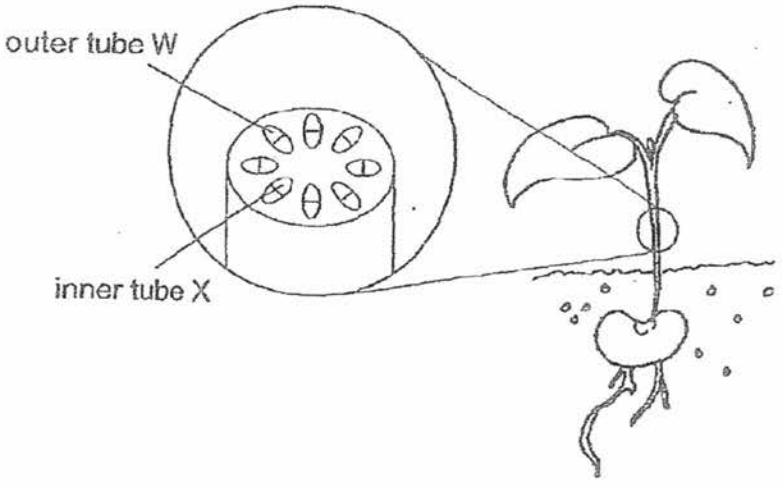


Diagram 1 (shows the tubes in the stem of a plant)

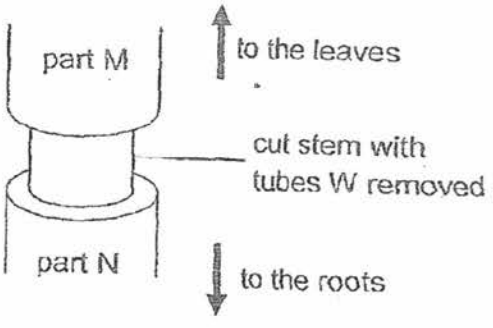


Diagram 2 (Part M became swollen after a few days)

When the outer covering of the stem of the plant was cut, part M became swollen after a few days.

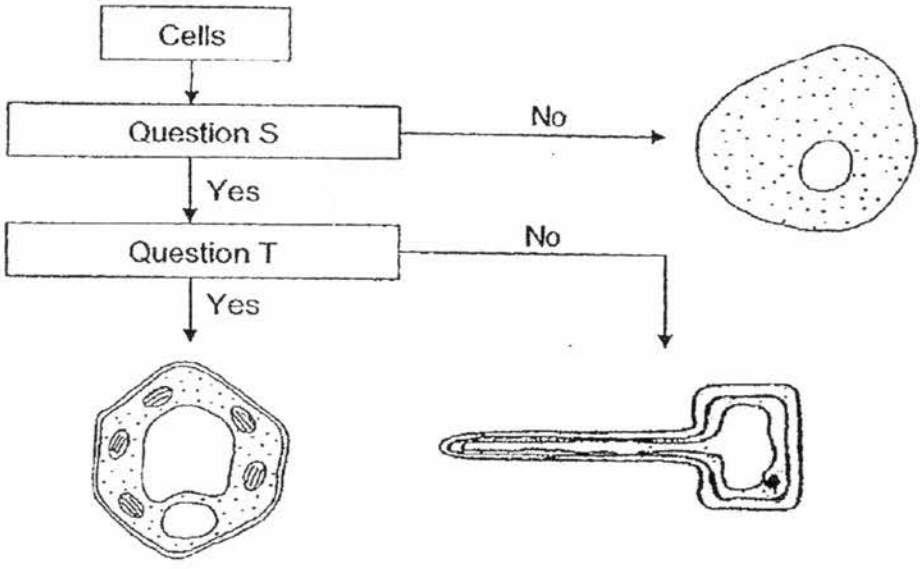
Which of the following statements explains the observation?

(1) The leaves had stopped making food.
(2) Tubes X are the food-carrying tubes of the plant.
(3) Tubes W are the food-carrying tubes of the plant.
(4) The roots were unable to absorb water for the plant.

15. Which of the following statements about cells is true?

(1) The cell wall supports and gives the plant cell its shape.
(2) The cell membrane traps sunlight to make food for the plant.
(3) The nucleus is a jelly-like substance where activities take place.
(4) Chloroplasts control the movement of substances in and out of the cell.

16. The flowchart below is used to classify three cells.

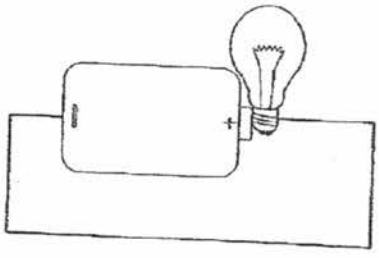


What are questions S and T?

	Question S	Question T
(1)	Does the cell have chloroplasts?	Does the cell have a cell wall?
(2)	Does the cell have a cell wall?	Does the cell have chloroplasts?
(3)	Does the cell have a nucleus?	Does the cell have cytoplasm?
(4)	Does the cell have cytoplasm?	Does the cell have a nucleus?

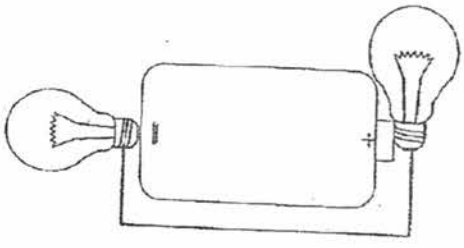
17. Which of the following circuits will allow the light bulb(s) to light up?

circuit A



circuit B

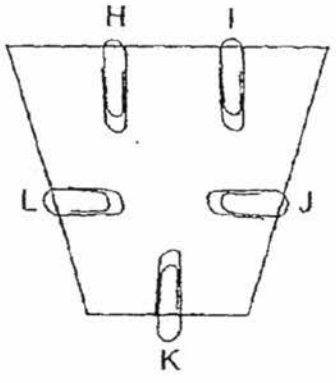
circuit C

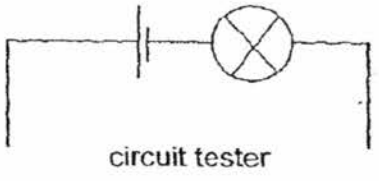


circuit D

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

18. The diagram below shows a circuit card with five steel paper clips, H, I, J, K and L attached to it. **Some** of the paper clips were connected to one another.



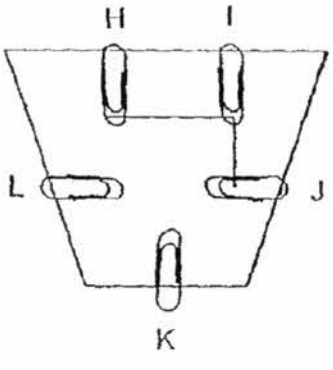


A circuit tester was used to test for the electrical connection between two points. The results of the tests are as shown below:

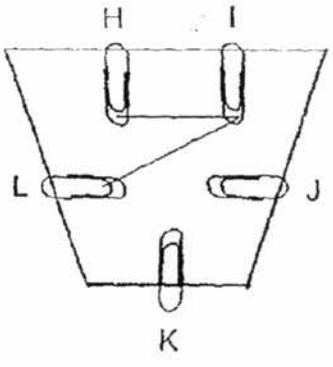
Clips that were connected	Did the bulb light up?
H and I	No
H and K	Yes
I and L	No
J and K	Yes
J and L	No

Which of the following shows the correct connection between the clips?

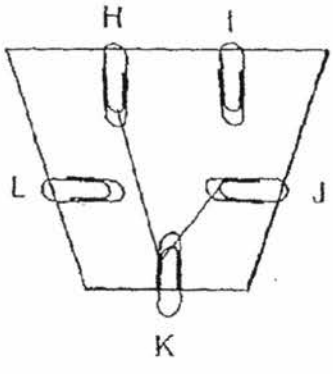
(1)



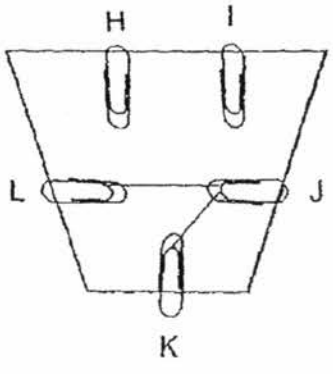
(2)



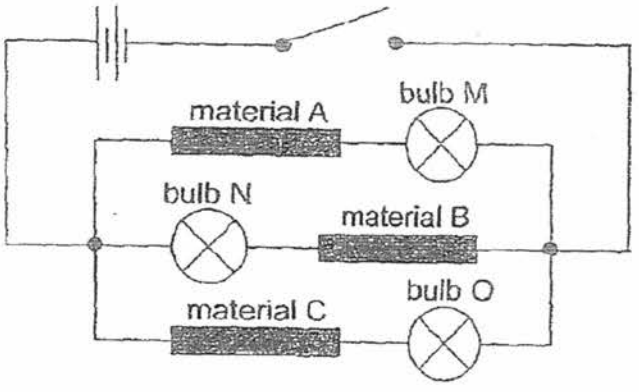
(3)



(4)

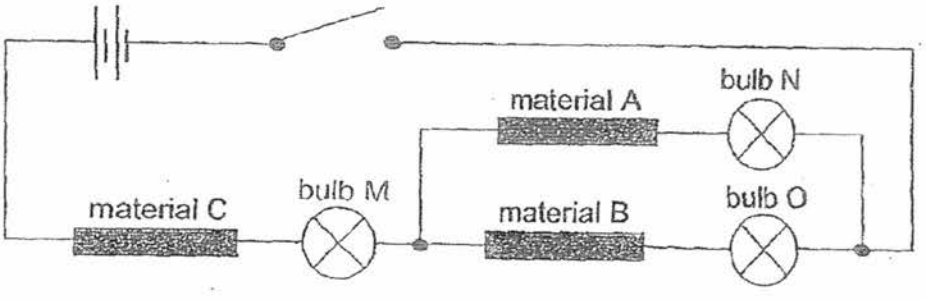


19. Study the electric circuit below carefully.



When the switch was closed, only bulb N and bulb O lighted up.

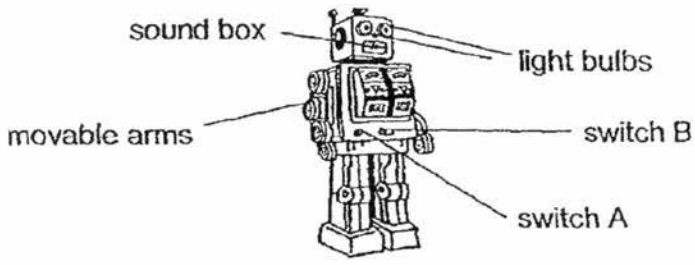
The circuit was rearranged as shown below.



When the switch was closed, which of the following observations was true?

	Light bulb M	Light bulb N	Light bulb O
(1)	did not light up	did not light up	did not light up
(2)	lighted up	did not light up	lighted up
(3)	lighted up	lighted up	did not light up
(4)	lighted up	lighted up	lighted up

20. Brandon has a toy robot as shown below.

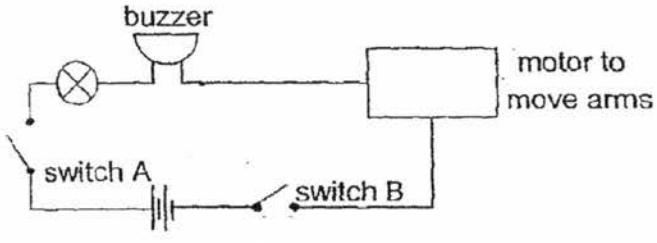


The toy robot has two switches, A and B, which control its different functions.

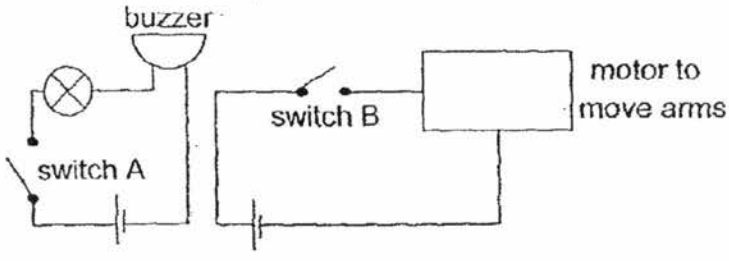
Switch turned **on**	Arms moved	Bulbs lighted up	Sound produced
A and B	Yes	Yes	Yes
A only	Yes	No	No
B only	No	Yes	Yes

Which one of the circuits is possible?

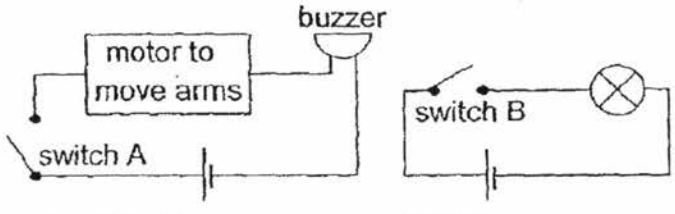
(1)



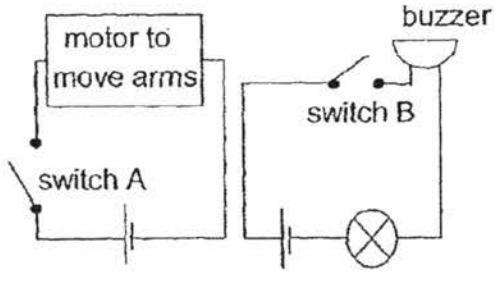
(2)



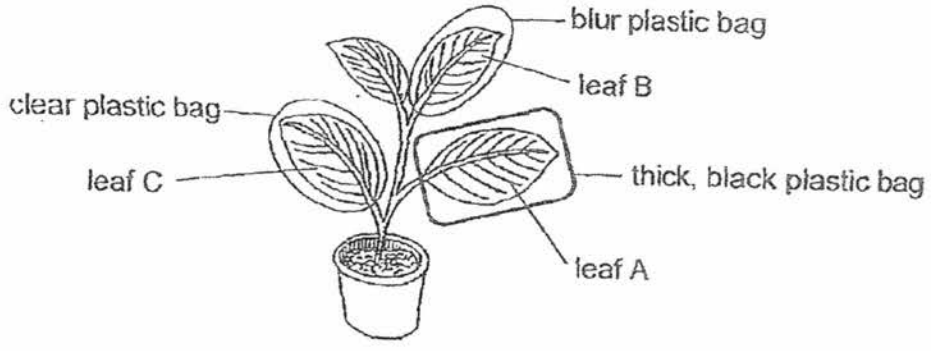
(3)



(4)



21. Raju placed a plant in a dark room for a couple of days. He then wrapped some leaves in different plastic bags as shown in the diagram below before placing the plant under the sun.

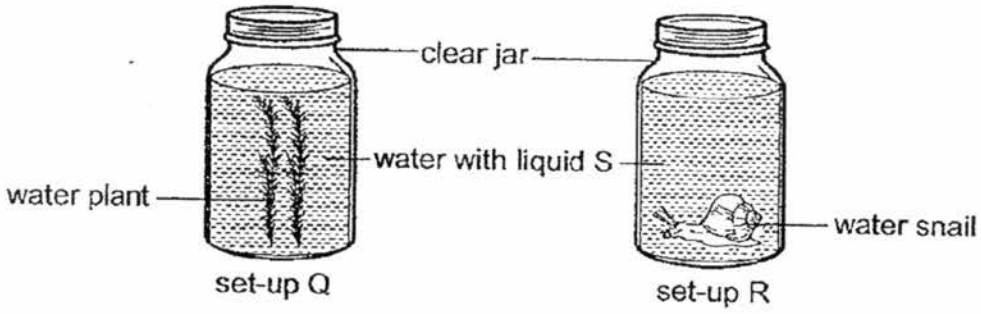


potted plant under the sun

He arranged the leaves based on the ascending amount of starch present in the leaves. Which of the following below shows the correct order?

	least amount of starch ⟶		greatest amount of starch
(1)	A	B	C
(2)	A	C	B
(3)	B	A	C
(4)	C	B	A

22. Paul wanted to find out how living things would affect the amount of carbon dioxide in the water at different times of the day and under different conditions. He prepared the set-ups as shown below.



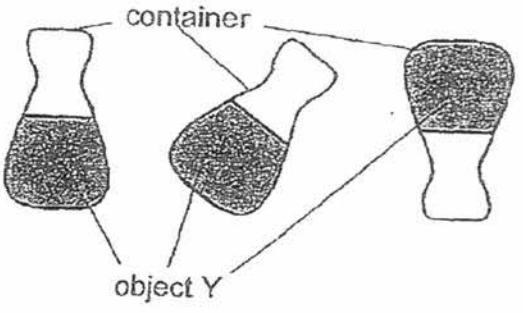
He placed the set-ups next to a window and added liquid S to the water. Liquid S would change colour depending on the amount of carbon dioxide present in the water as shown below.

Amount of carbon dioxide in water	less than normal	normal	higher than normal
Colour of water with liquid S	purple	red	yellow

What colour would the water with liquid S be in the afternoon and at midnight for both set-ups?

	Set-up Q		**Set-up R**	
	afternoon	**midnight**	**afternoon**	**midnight**
(1)	red	red	red	yellow
(2)	purple	yellow	yellow	yellow
(3)	yellow	red	purple	red
(4)	purple	red	red	purple

23. The diagrams below show an unknown object Y in a container when it was tilted differently. During this time, the state of the object did not change.

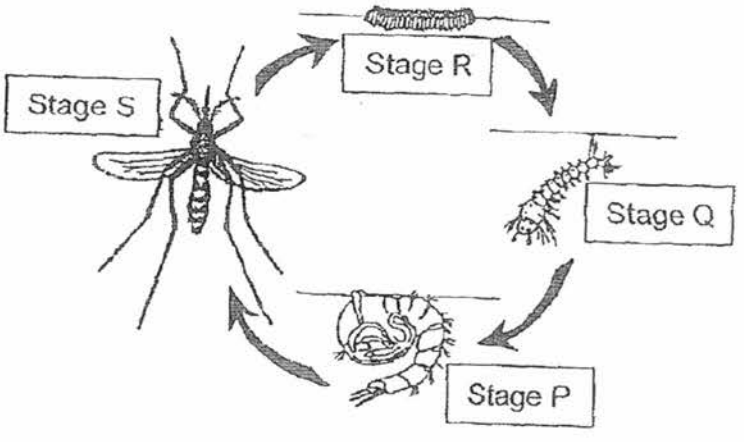


Based on the diagrams, which of the following describe(s) object Y correctly?

A. Object Y has a fixed shape.
B. Object Y does not have a fixed volume.
C. Object Y is able to flow from one place to another.

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

24. Study the life cycle of the mosquito below.



Which of the following statements is true about the life cycle of the mosquito?

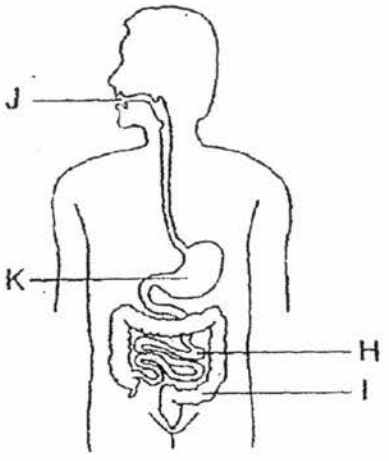
(1) The mosquito eats a lot at Stage P.
(2) Stage Q is the larva of the mosquito.
(3) The young of the mosquito looks like the adult.
(4) The mosquito can reproduce at stages S and P.

25. Study the table below.

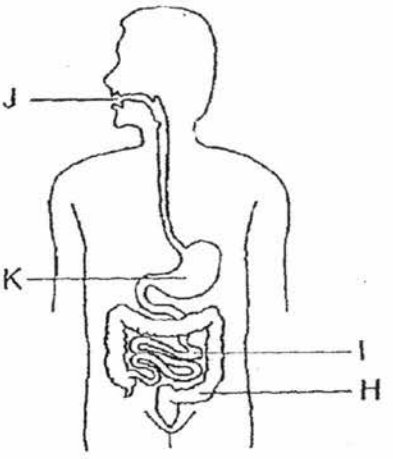
	Parts of the digestive system			
	H	I	J	K
Produces digestive juice		✓	✓	✓
Removes water from food	✓			
Passes food into the bloodstream		✓		

Which of the following correctly shows the parts labelled H, I, J and K?

(1)



(2)



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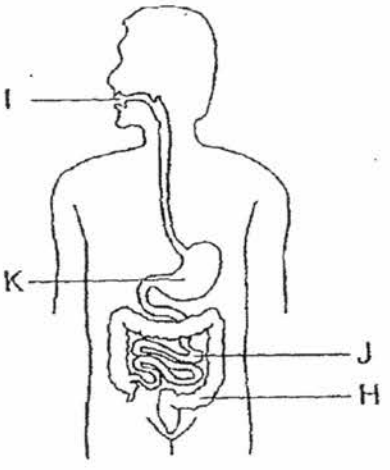

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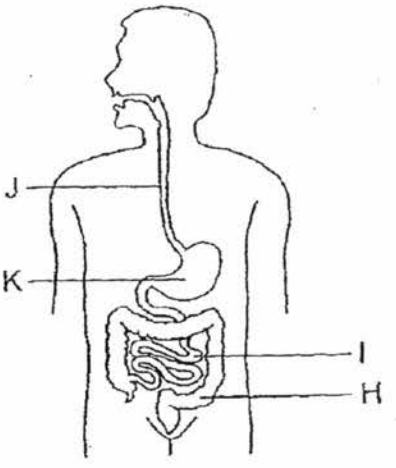
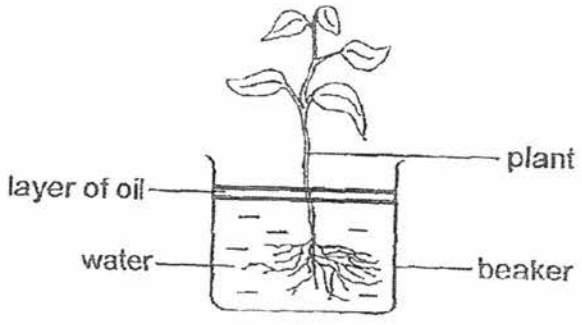
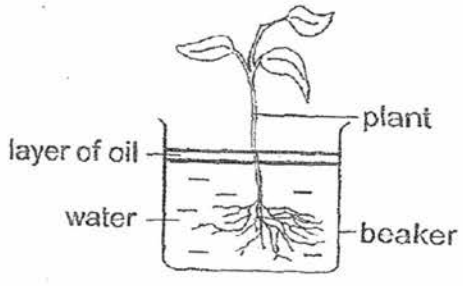


26. Gregory wanted to investigate whether the amount of water taken in by a plant would be affected by the amount of roots it had. He prepared a set-up as shown below.

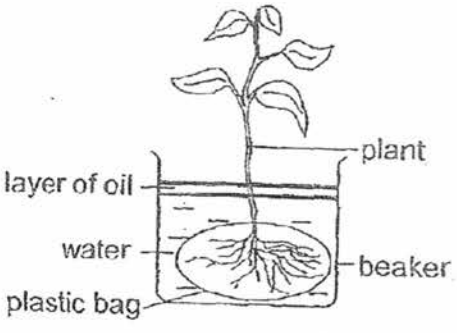


Which one of the following set-ups should Gregory also prepare to confirm the results of his investigation?

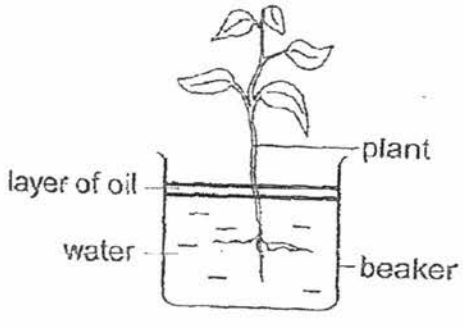
(1)



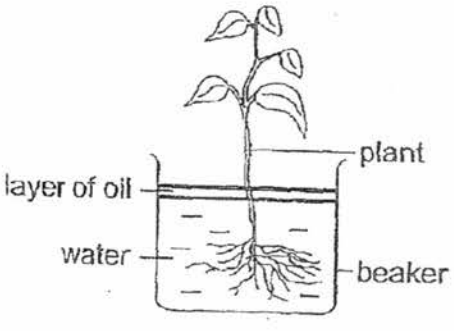
(2)



(3)



(4)



27. The diagram shows a wolf hunting a rabbit in the day.

sun

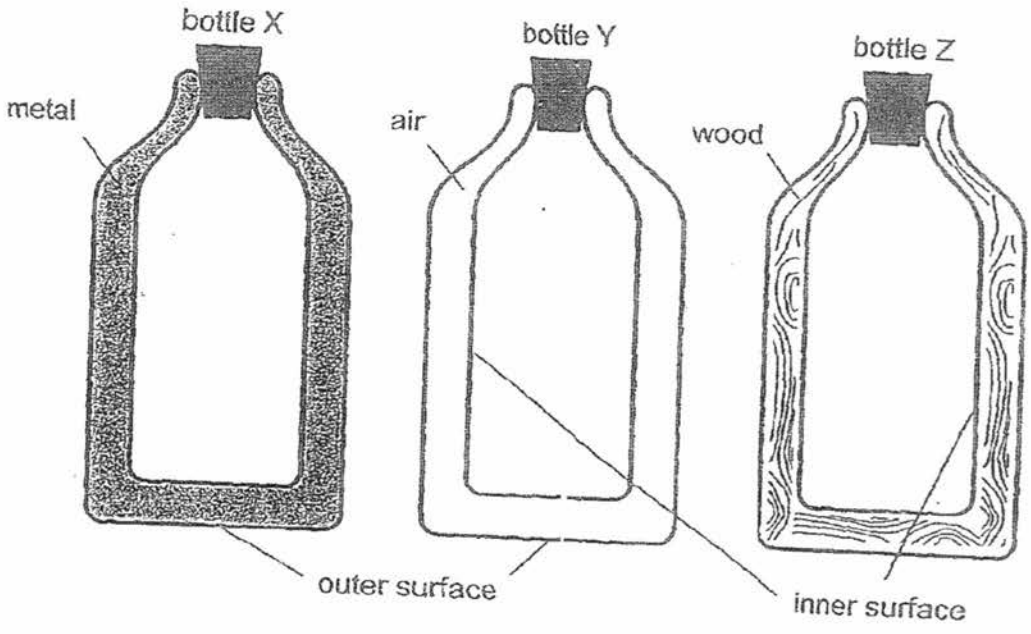
wolf

rabbit

Which of the following explains how the wolf was able to see the rabbit?

(1) Light given out by the rabbit reached the wolf's eyes.
(2) Light from the wolf's eyes reached the rabbit, allowing it to see.
(3) Light from the rabbit was reflected by the sun into the wolf's eyes.
(4) Light from the sun shining on the rabbit was reflected into the wolf's eyes.

28. Jeffrey has three bottles as shown below.



The outer and inner surfaces of the all bottles are made of metal.
Jeffrey wants to pour hot tea into a bottle and keep the drink warm for as long as possible in an air-conditioned room.

Which of the following shows the correct choice of bottle(s) and the reason?

	Choice of bottle(s)	Reason
(1)	X	Metal is the best conductor of heat and the tea in the bottle will gain the most amount of heat from the surroundings.
(2)	Y	Air is the poorest conductor of heat and the tea in the bottle will lose the least amount of heat to the surroundings.
(3)	Z	Wood is a poorest conductor of heat and the tea in the bottle will gain the most amount of heat from the surroundings.
(4)	Y and Z	Air and wood are poor conductors of heat and the tea in the bottle will not lose any heat to the surroundings.

END OF BOOKLET A

GO ON TO BOOKLET B

MAHA BODHI SCHOOL
2017 SEMESTRAL ASSESSMENT 2
PRIMARY 5 SCIENCE
(BOOKLET B)

Name : _____ _____ ( )

Class : Primary 5 _____

Date : 27 October 2017

Total Duration for Booklets A and B : 1 h 45 min

INSTRUCTIONS TO CANDIDATES:

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

Booklet	Marks Obtained	Max Marks
A		56
B		44
Total		**100**

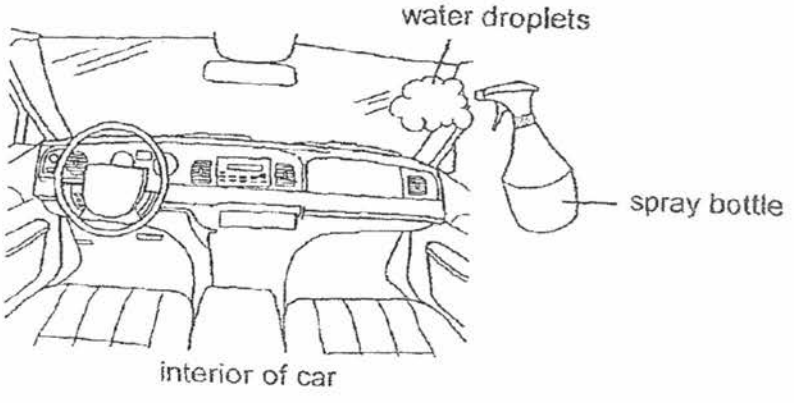
Parent's Signature : _____

This booklet consists of **16** printed pages.

BOOKLET B : [44 marks]
For questions 29 to 41, 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.

29. During the day, the trapped air inside a car can reach a very high temperature. One way to decrease the temperature of the trapped air is to spray water droplets into the interior of the car.



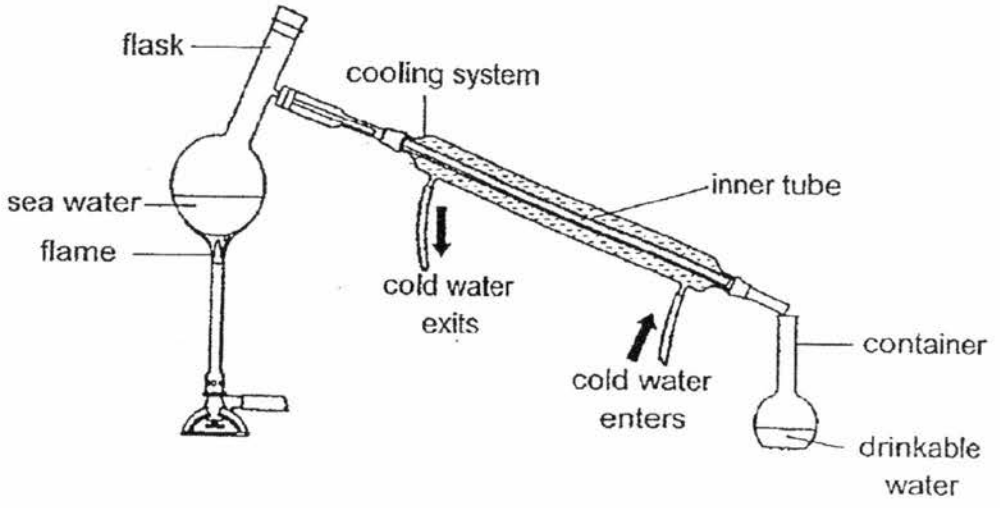
(a) It is observed that the water droplets "disappear" within a short period of time after they are sprayed from the bottle.

State what has happened to the water droplets. [1]

(b) Explain how the process stated in (a) helps to lower the temperature of the trapped air in the car. [2]

Marks : / 3

30. The diagram below shows a set-up to obtain drinkable water from sea water.



The sea water in the flask is heated. The cooling system uses cold water to cool down the inner tube. Drinkable water is collected in the container.

(a) Explain how drinkable water is collected in the container from the sea water. [2]

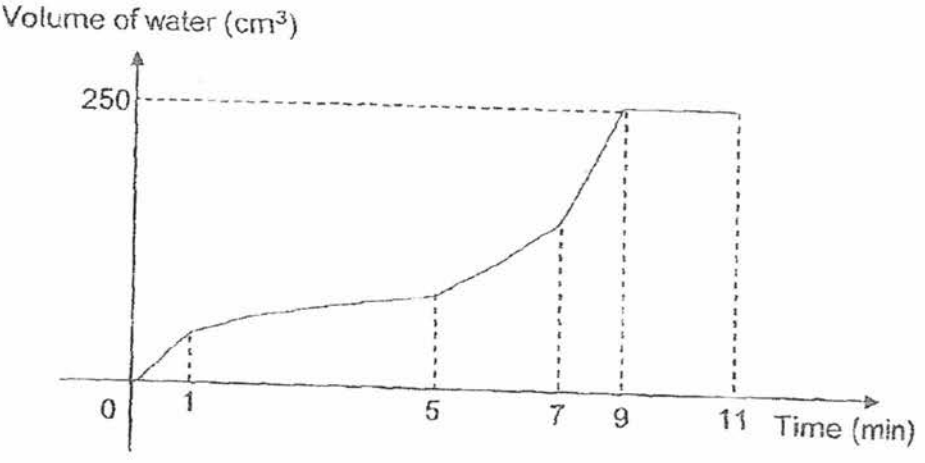
_____

_____

_____

Marks : / 2

The volume of water collected in the container over a period of time is shown in the graph below.

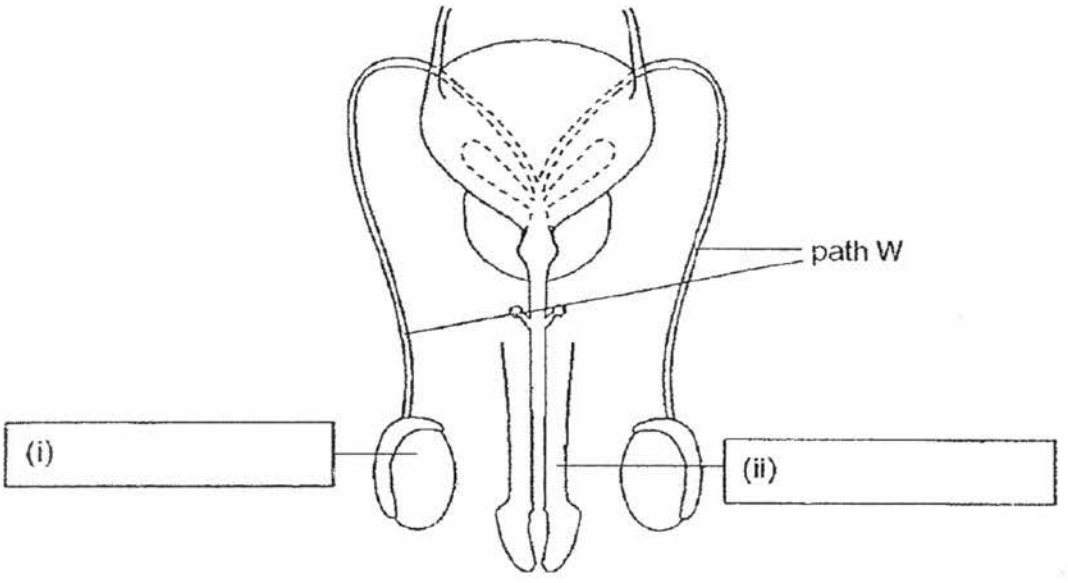


(b) The total amount of drinkable water collected was 250cm³. How long did it take for the collection of drinkable water to be completed? [1]

(c) Other than increasing the amount of heat provided to the sea water, suggest another way to collect 250 cm³ of water faster in the container. Explain your answer. [2]

Marks : / 3

31. Study the diagram of the male reproductive system below.

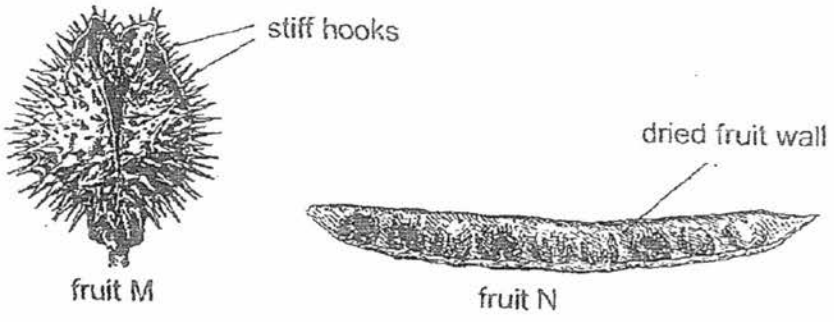


(a) Name the parts of the male reproductive system by filling in the boxes (i) and (ii) in the diagram above. [1]

(b) If path W was completely blocked, would sexual reproduction be able to take place? Explain your answer. [2]

Marks : / 3

32. The diagram below shows two fruits, M and N.



(a) Based on your observation of the fruits, state the method of dispersal for the two fruits. [1]

Fruit M: _____

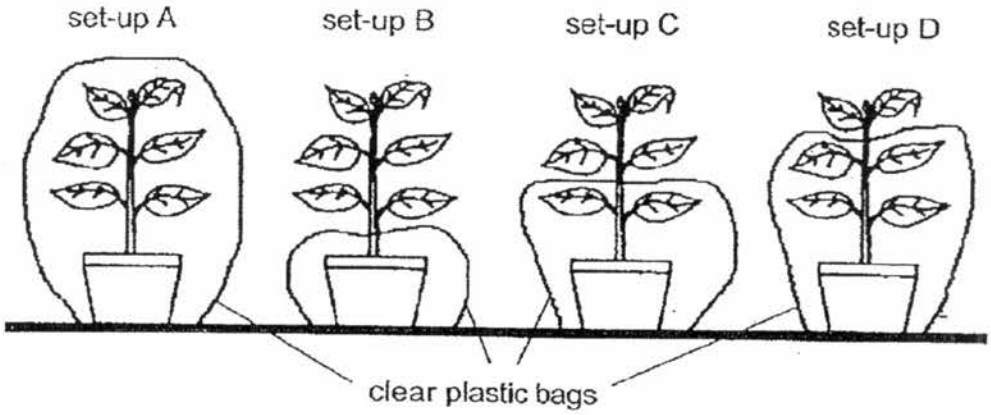
Fruit N: _____

(b) Jane claims that fruit M is dispersed by water. What are two different actions she can take and the respective observations she must make to confirm her claim? [2]

	Actions	Observations
(i)		
(ii)		

Marks : / 3

33. Jacob prepared the set-ups A, B, C and D in the morning and placed them on a table top near a window as shown below. The plants were all watered with the same amount of water.



Two days later, Jacob measured the mass of each of the set-ups and recorded the results in the table below.

Set-up	Mass of each set-up (g)	
	At the start	After two days
A	4000	4000
	4000	3990
	4000	3980
	4000	3970

(a) In the above table, write the letters "B", "C" and "D", in the correct boxes under the column "Set-up". [1]

(b) Explain why there was no change in the mass of set-up A at the start and after two days of the experiment. [1]

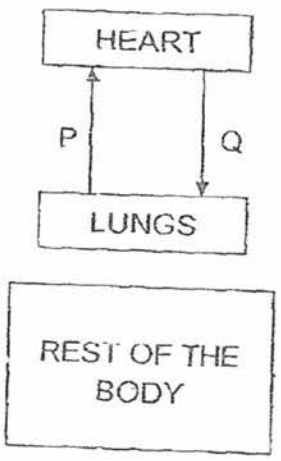
_____

_____

_____

Marks : / 2

34. Jonathan wants to create a diagram to show the blood flow in the human body. His diagram, as shown below, is incomplete.



(a) Complete the above diagram by drawing two arrows to show the blood flow between the different parts of the human body. [1]

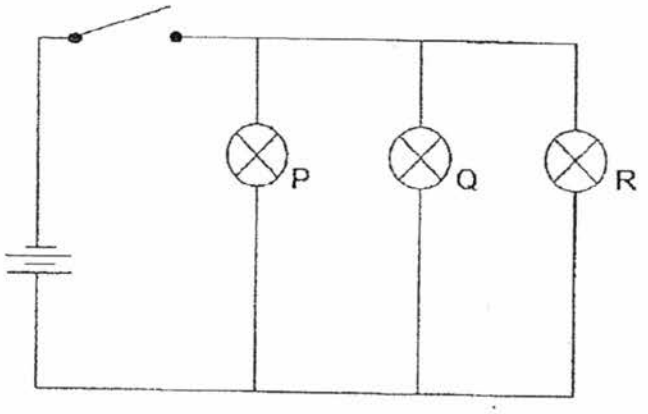
(b) The blood at P contains a greater amount oxygen than at Q and the blood at Q contains a greater amount of carbon dioxide than at P. Explain why. [2]

(c) A patient, lying on his bed, in a hospital suffers from lung failure. This prevents oxygen in his lungs from passing easily into the blood.

The breathing rate of the patient increases to enable him to move and sit upright. Explain why the patient's breathing rate increases. [1]

Marks : / 4

35. When the switch is turned on, all the light bulbs in the electric circuit shown below light up.



(a) State what will happen to the other light bulbs if light bulb P is blown. [1]

_____

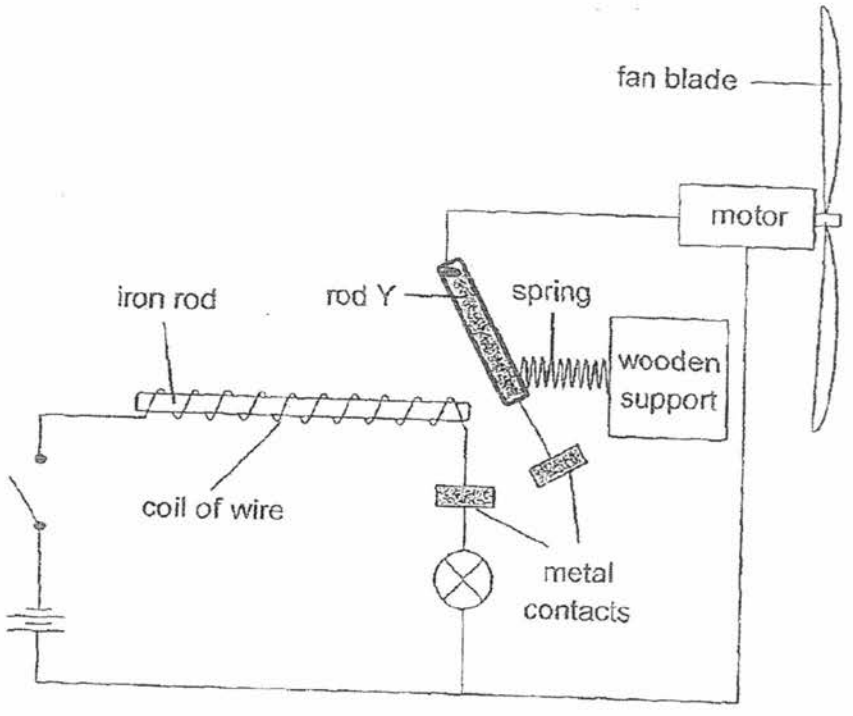
(b) Explain your answer in (a). [1]

_____

_____

Marks : / 2

36. Gary has made an electrical system for a school project. The circuit is as shown below.



When the switch is turned on, the motor turns the fan blades.

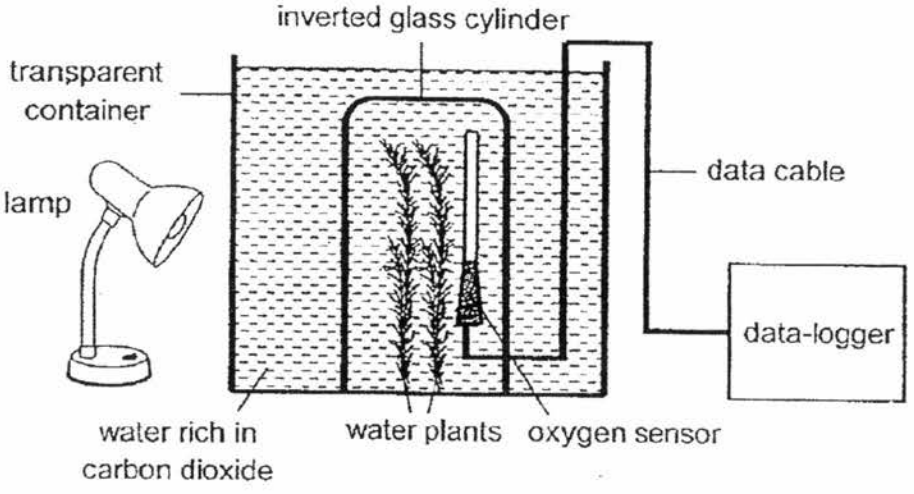
(a) Apart from being a conductor of electricity, suggest another property of the material of rod Y for the system to work. [1]

(b) Explain how the fan is able to work after the switch is turned on. [2]

(c) What will happen to the brightness of the light bulb when another bulb is added between the batteries and the switch? [1]

Marks : / 4

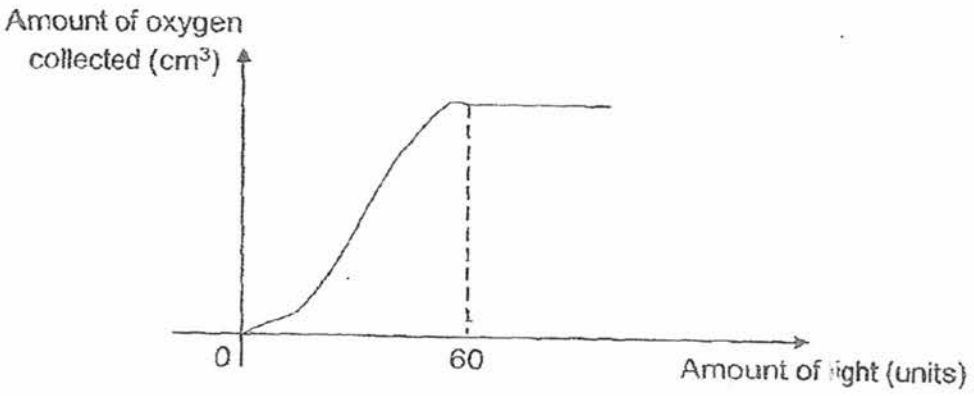
37. Some water plants were placed in a transparent container with an inverted glass cylinder placed over it. The lamp was switched on and the set-up was left alone for one day.



(a) After a day, it was noticed that the water level in the inverted glass cylinder had dropped. Explain this observation. [2]

Marks : / 2

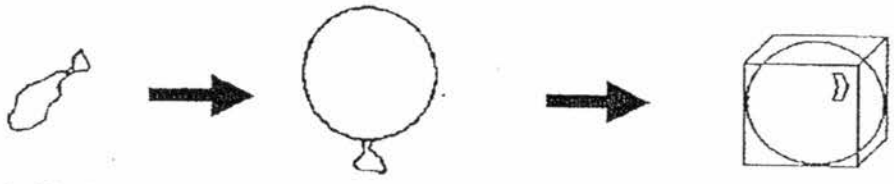
The experiment was repeated with different amounts of light provided to the water plants. The amount of the oxygen collected with different amount of light provided was recorded and shown in the graph below.



(b) Describe the relationship between the **rate of photosynthesis** and the **amount of light** provided to the water plants. [2]

Marks : /2

38. . A deflated balloon was filled with substance X. After the balloon was inflated, it was squeezed into a smaller container.



deflated balloon | inflated balloon filled with substance X | inflated balloon squeezed into a smaller container

(a) Identify the state of substance X. Explain your answer. [2]

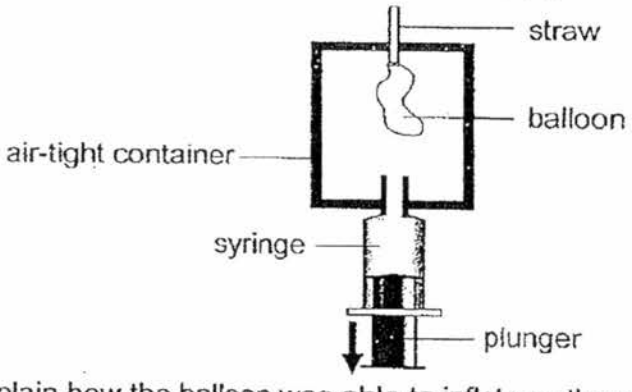
State of substance X: _____

Explanation: _____

_____

_____

In another experiment, a deflated balloon was placed in an air-tight container with a syringe connected to it. When the plunger of the syringe was pulled downwards, the balloon inside the container inflated.



(b) Explain how the balloon was able to inflate as the plunger was pulled downwards. [2]

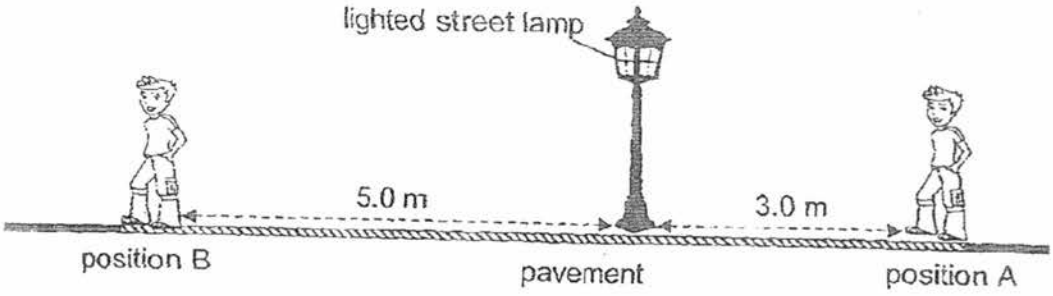
_____

_____

_____

Marks : / 4

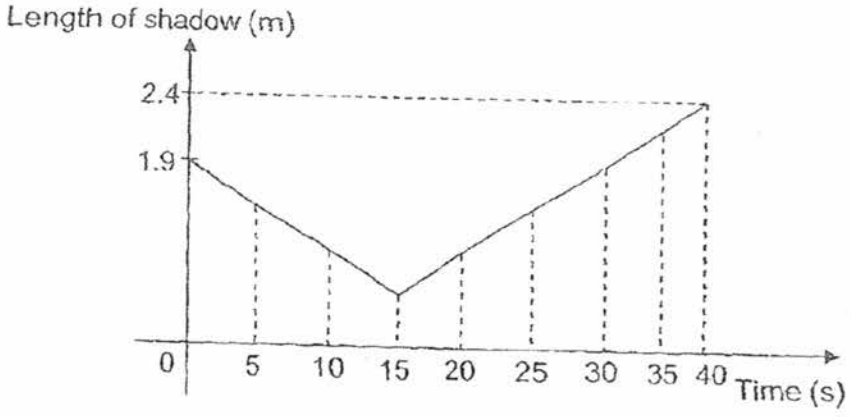
39. As George walks from position A to B at night, his shadow is cast on the pavement.



Length of shadow at position A is 1.9 m.
Length of shadow at position B is 2.4 m.

(a) State how the shadows at positions A and B are formed [1]

The graph below shows how the length of his shadow changes as he walks from position A to B.

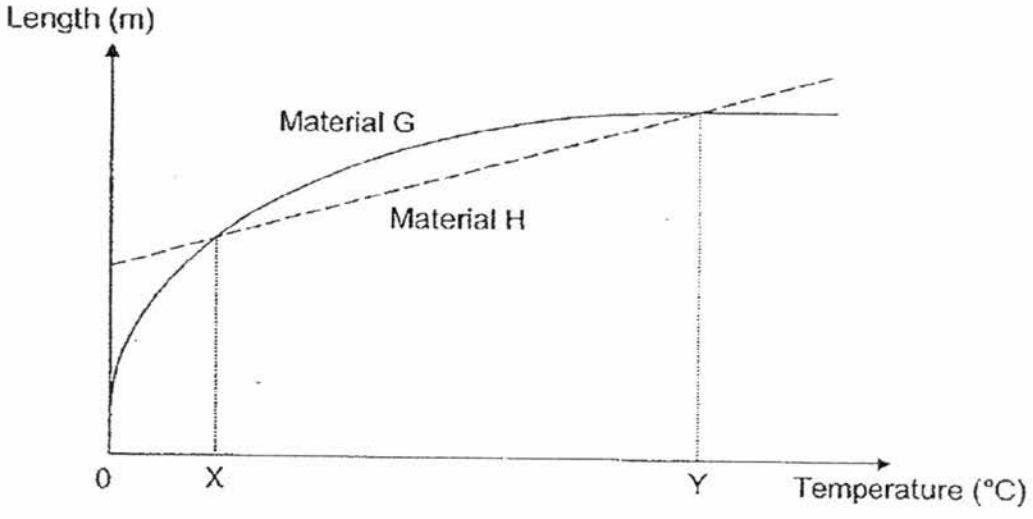


(b) (i) How much time does George take to reach the lighted street lamp from position A? [1]

(ii) Explain your answer in (i). [2]

Marks : / 4

40. The graphs show the change in length of two materials as their temperature changes.

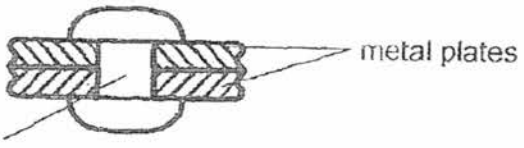


(a) Put a tick (✓) next to the statement if it is true. [1]

Statement	Tick (✓) if the statement is true
Materials G and H are definitely metals.	
At 0°C, the materials are of the same length.	
From 0°C to X°C, Material G increases in length faster than Material H.	
From X°C to Y°C, both materials increase in length as temperature increases.	

Marks : / 1

(b) The diagram below shows an object made of two pieces of metal plates joined together by part A.



part A

This object is found in an engine that works at a temperature above Y°C.

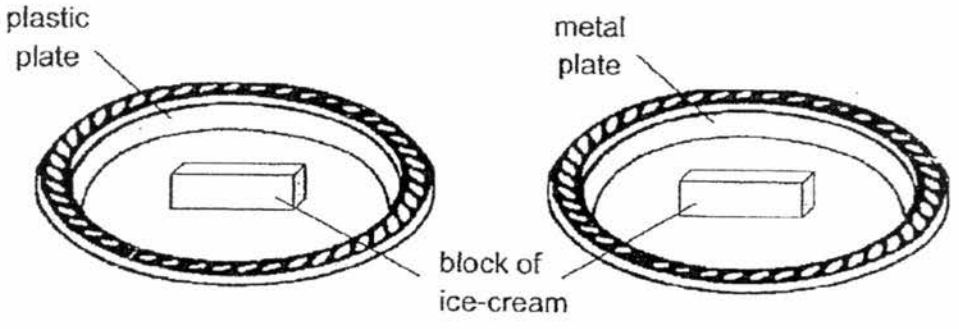
(i) Which material, G or H, is suitable for making part A?
Explain your answer. [2]

(ii) When the engine cools down, part A holds the metal plates even more tightly together.

Explain how this happens. [1]

Marks : / 3

41. Timothy wanted to find out whether the material of a plate would affect how long it took a block of ice-cream to melt. He prepared two set-ups on a table at room temperature as shown below.



(a) What should Timothy do to make this test fair?

Put a tick (✓) in the box if you agree with the statements below. [1]

(i) Both blocks of ice-cream must be of the same size. ☐

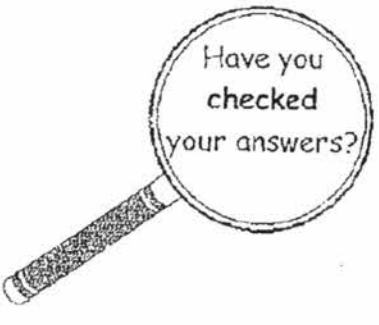
(ii) Both set-ups can be placed in a room with a temperature of 40°C. ☐

(b) After 5 minutes, the ice-cream in set-up Q melted faster. Explain this observation. [1]

_____

_____

~ END OF PAPER ~



Marks : ☐ / 2

EXAM PAPER 2017 (P5)

SCHOOL : MAHA BODHI SCHOOL

SUBJECT : SCIENCE

TERM : SA2

BOOKLET A

Q1	2	Q2	3	Q3	2	Q4	4	Q5	1	Q6	2	Q7	3
Q8	1	Q9	1	Q10	3	Q11	3	Q12	1	Q13	3	Q14	3
Q15	1	Q16	2	Q17	2	Q18	3	Q19	2	Q20	4	Q21	1
Q22	2	Q23	1	Q24	2	Q25	2	Q26	3	Q27	4	Q28	2

BOOKLET B

Q29 (a) The water droplets gained heat from the surroundings air and evaporated.

(b) The water droplets gained heat from the trapped air to evaporate into water vapour and hence the air loses heat.

Q30 (a) The sea water gains heat from the flame and evaporates. Then, the water vapour comes into contact with the cooler inner surface of the tube and condenses into tiny water droplets as it loses heat to the cold water. Finally, the condensed water vapour will flow into the container as pure drinkable water.

(b) 9 Minutes

(c) Run cooler water into the tube. The water vapour will lose heat faster , condensing into water vapour faster.

Q31 (a)(i) Testis

(a)(ii) Penis

(b) No. The sperms produced by the testes will not be able to go through Path W to reach the penis where the sperms should be deposited into the vagina. Thus, fertilisation will not be able to take place.

Q32 (a) Fruit M: Animals
Fruit N: Explosive action.

(b) Actions (i): Put fruit M into some water.
(ii): Pry open fruit M.

Observations (i): Check if the fruits floats on water.
(ii): There are tiny air spaces in the husk of fruit M.

Q33 (a)

Set-up	Mass of each set-up (g)	
	At the start	After two days
A	4000	4000
D	4000	3990
C	4000	3980
B	4000	3970

(b) The water lost from the leaves of plant A evaporated as water vapour. The water vapour was trapped inside the bag and hence there was no change in the mass of Set-up A.

Q34 (b) The blood at P is to be pumped to the rest of the body, causing it to contain more oxygen for use whereas the blood at Q is from the rest of the body after they have used some of the oxygen and the blood at Q contains more carbon dioxide for the lungs to remove from the body.

(c) His breathing rate increases so that he can get the required amount of oxygen to provide energy for moving and sitting upright.

Q35 (a) They will still light up.

(b) The bulbs are arranged in parallel, which means that each bulb has the same electric current through it so if one bulb fuses, the others will still have electricity flowing through them and light up as it is not an open circuit.

Q36 (a) It must be a magnetic material.

(b) The iron rod will become an electromagnet and attract rod Y to it. When that happens, the context will touch each other and the circuit will be closed for the motor to turn the fan blades.

(c) The brightness of the bulb will decrease.

Q37 (a) The water plants had light from the lamp and dissolved carbon dioxide in the water to photosynthesize. When they photosynthesize, oxygen is produced. Then, the oxygen will rise to the top of the inverted glass cylinder in the form of air bubbles. As oxygen takes up space, some of the water in the inverted glass cylinder will be forced to leave it and hence the water level in the inverted glass cylinder will decrease.

(b) Before the amount of light reaches 60 units, the more the amount of light, the faster the rate of photosynthesis. After the amount of light reaches 60 units, the rate of photosynthesis stays the same despite the increase of light.

Q38 (a) Substance X: Gas.
Explanation: It has all the characteristics for gas like it takes up space and can be compressed as it took up space in the balloon to inflate and air could be compressed to fit into a smaller box.

(b) The air trapped in the air-tight container took up space so the balloon could not inflate. When the air was sucked into the plunger, there was space for the air in the surroundings to rush into the balloon through the straw and inflate it.

Q39 (a) The light from the street lamp was blocked by George.

(b)(i) 15 seconds

(ii) The length of the shadow was the shortest at 15 seconds which means that he was standing directly under the light source which was the lighted lamp.

Q40 (a)

Statement	Tick (√) if the statement is true
Materials G and H are definitely metals.	
At 0°C, the materials are of the same length.	
From 0°C to X°C, Material G increases in length faster than Material H.	√
From X°C to Y°C, both materials increase in length as temperature increases.	√

(b)(i) Material G. It stopped expanding at Y°C which will ensure the metal plates will not become loose.

(ii) Part A will also cool down and contract to secure the metal plates even more tightly.

Q41 (a)(i) Both blocks of ice-cream must be of the same size. [√]

(ii) Both set-ups can be placed in a room with a temperature of 40°C. [√]

(b) Metal is a better conductor of heat which will gain heat from the surroundings faster compared to the plastic plate and hence the ice-cream block on the metal plate will gain heat faster and melt.