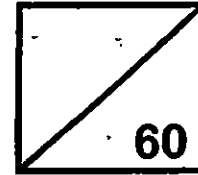




**Rosyth School**  
**Semestral Examination 2 for 2015**  
**STANDARD SCIENCE**  
**Primary 5**



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

Total  
Marks:

60

Class: Pr 5 - \_\_\_\_\_ Register No. \_\_\_\_\_ Duration: 1 h 45 min

Date: 2 Nov 2015 Parent's Signature: \_\_\_\_\_

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## **Booklet A**

### **Instructions to Pupils:**

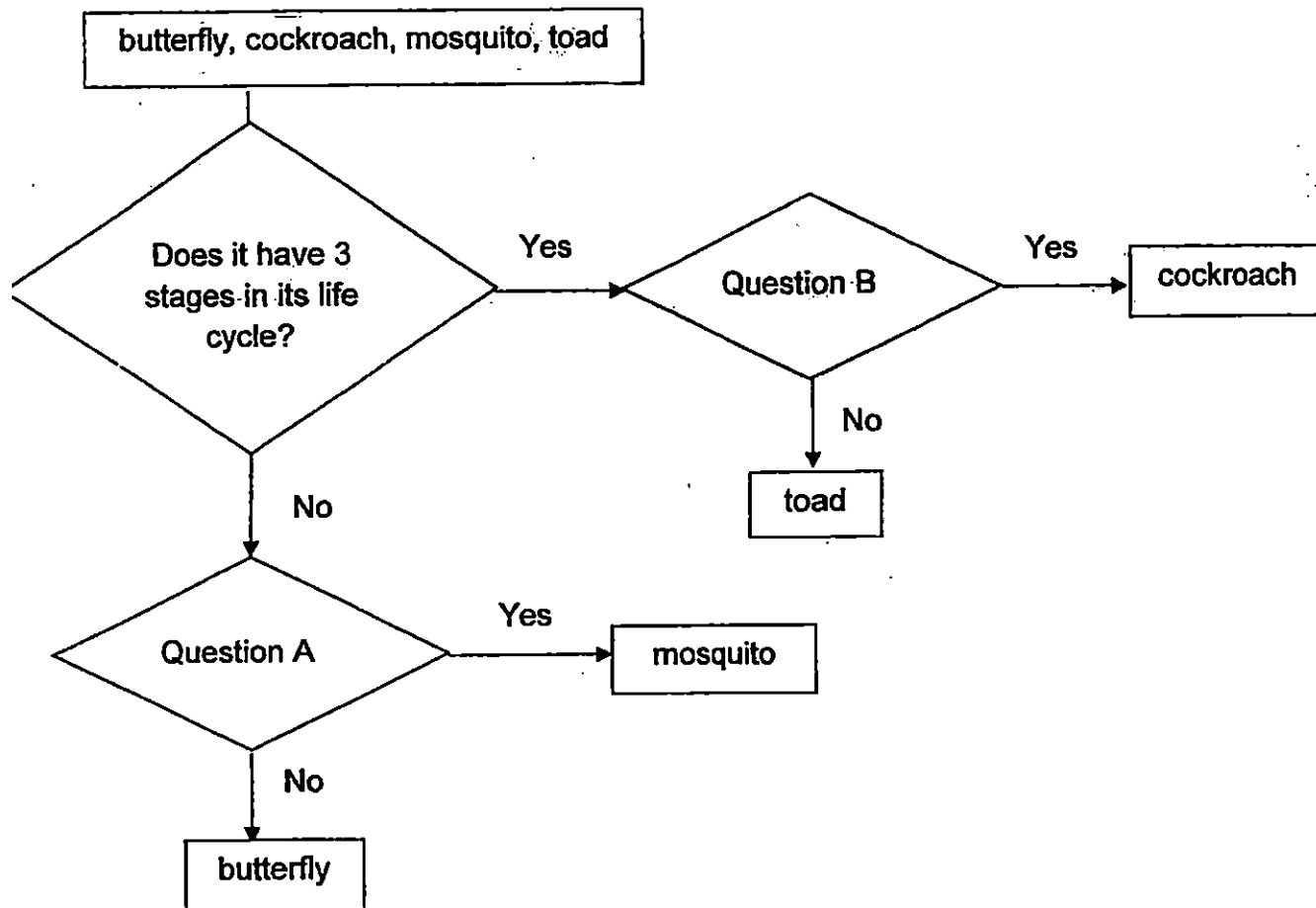
- 1. Do not open the booklets until you are told to do so.**
- 2. Follow all instructions carefully.**
- 3. This paper consists of 2 booklets, Booklet A and Booklet B.**
- 4. For questions 1 to 30 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.**
- 5. For questions 31 to 44, write your answers in the spaces given in Booklet B.**

**\* This booklet consists of 25 pages.**

**Booklet A**

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.** (60 marks)

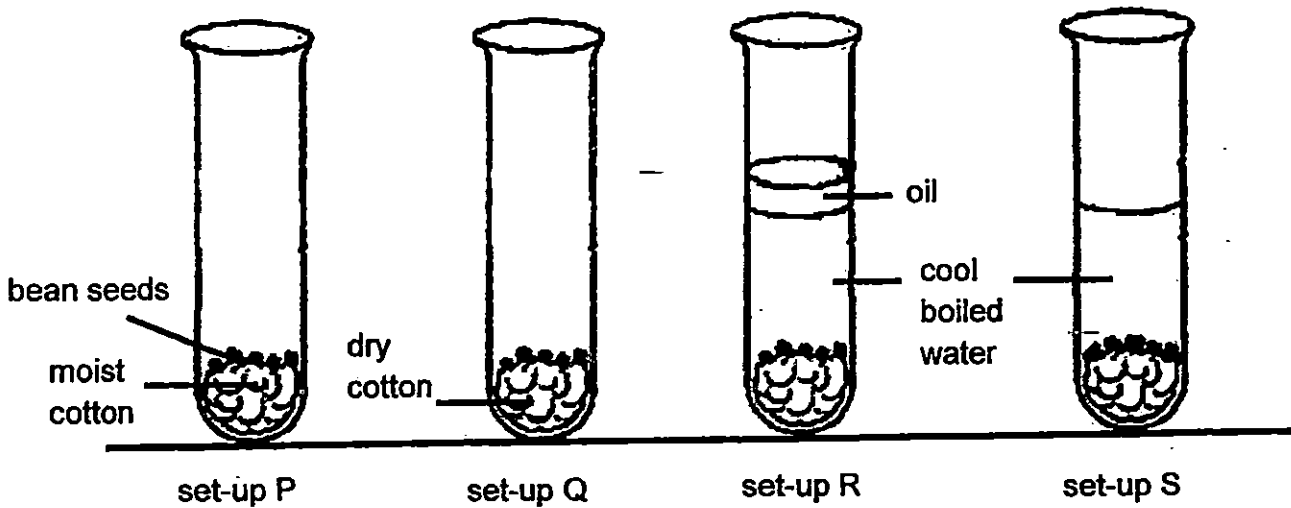
1. John classifies some organisms using the chart as shown below.



What are the questions for A and B?

	Question A	Question B
(1)	Does the young look like the adult?	Is the life cycle partially in water?
(2)	Does the insect go through internal fertilization?	Is the life cycle partially in water?
(3)	Is the life cycle partially in water?	Does the young look like the adult?
(4)	Is the life cycle partially in water?	Does the insect go through external fertilization?

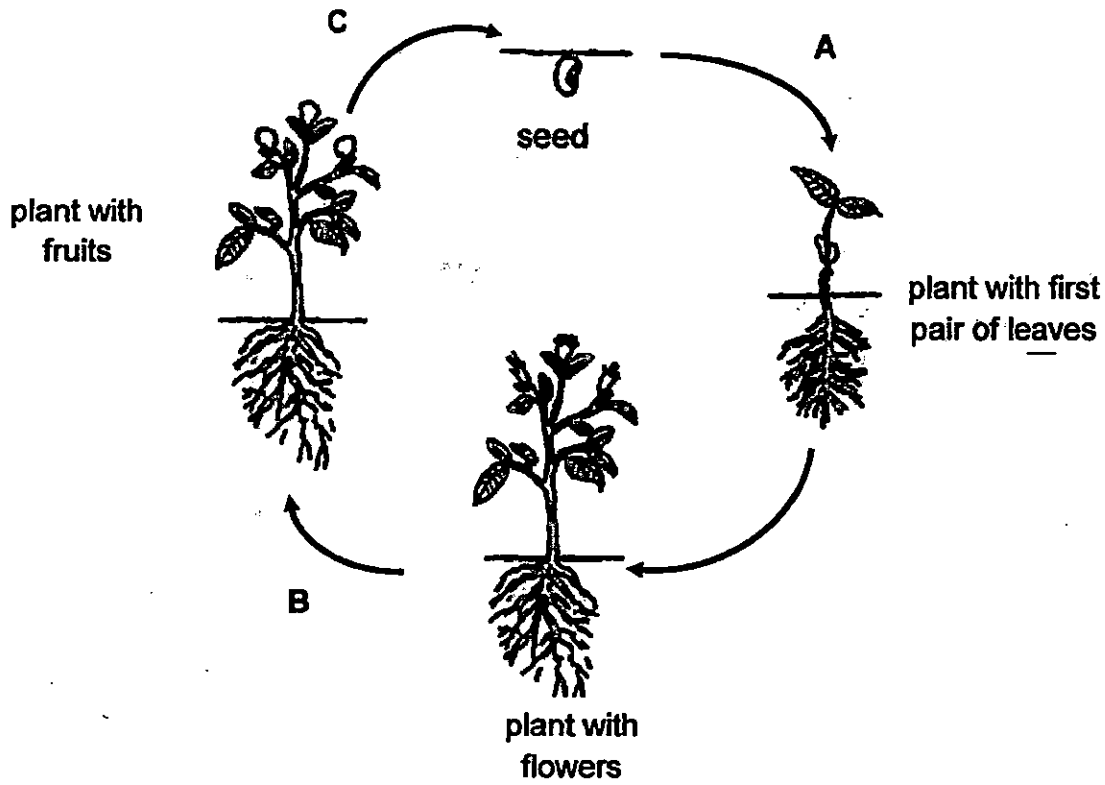
2. Jane placed 5 bean seeds into each of the test tubes in the four set-ups P, Q, R and S as shown below. She placed all the set-ups near an open window.



She observed that only the seeds in set-ups P and S germinated after 4 days. Which of the following conditions were investigated using the set-ups above?

- A: presence of air  
B: presence of water  
C: temperature of the surrounding
- (1) A only  
(2) A and B only  
(3) B and C only  
(4) A, B and C

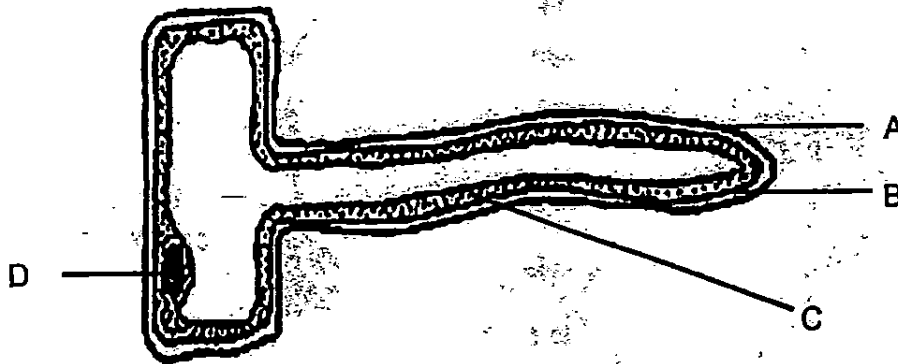
3. The diagram below shows the stages of growth of a flowering plant.



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

	Seed dispersal	Germination	Pollination and fertilisation
(1)	C	B	A
(2)	A	C	B
(3)	C	A	B
(4)	B	A	C

4. Study the root cell below.



Which parts of the cell above are also present in most animal cells?

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

5. Which of the following are functions of the nucleus in a cell?

- A: controls cell growth
- B: controls the repair of damaged cells
- C: controls cell division
- D: controls the shape of the cell

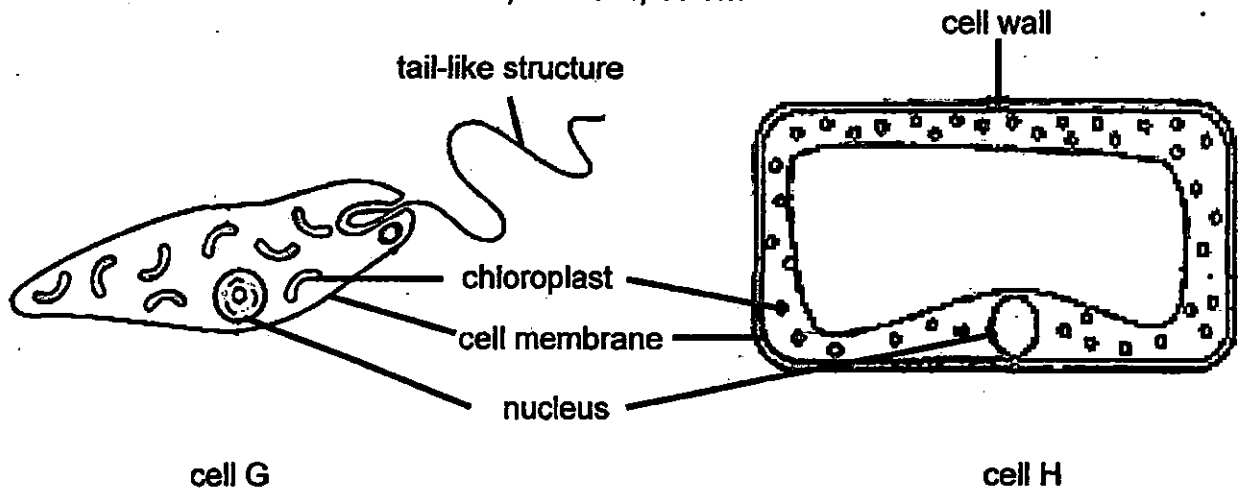
- |                     |                     |
|---------------------|---------------------|
| (1) A and B only    | (2) C and D only    |
| (3) A, B and C only | (4) A, C and D only |

6. What are the common cell parts found in both the leaf and root cells of a carrot plant?

- A: nucleus
- B: cell wall
- C: chloroplast
- D: cell membrane

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

7. Thomas studied the two cells, G and H, below.



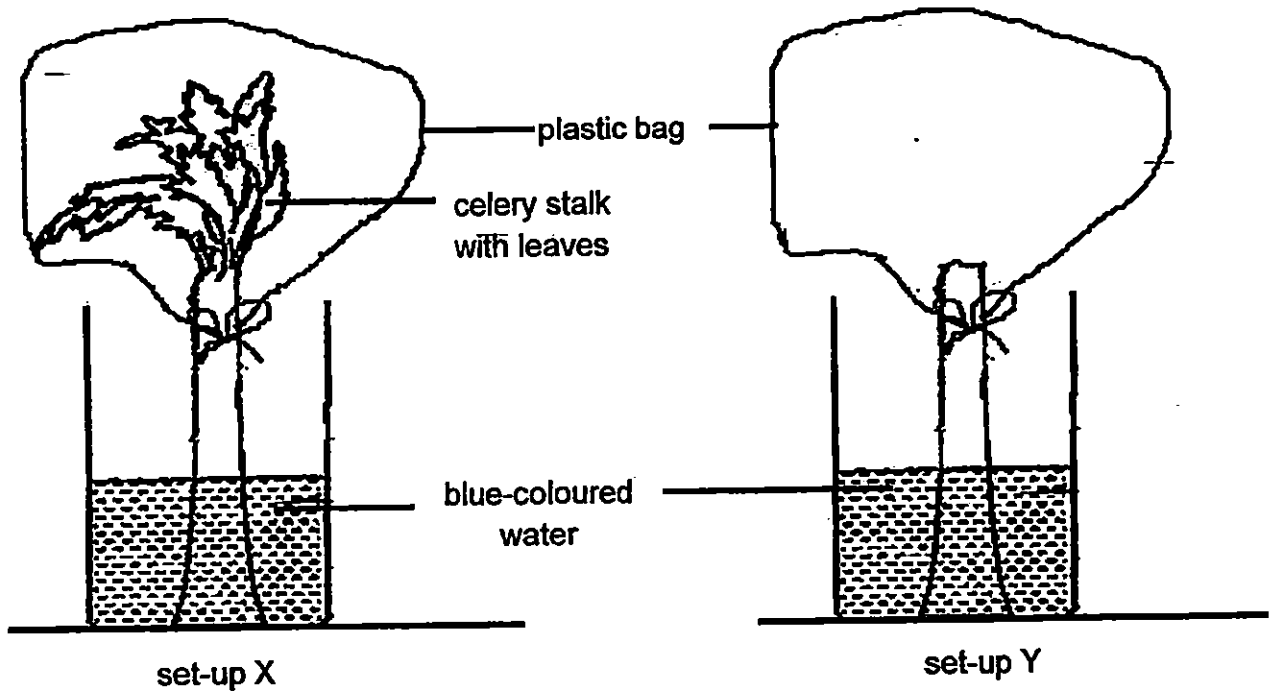
Based on his observations of the cells above, which of the following statements are definitely true?

- A: Both cells are most likely plant cells.
- B: Cell G can move while cell H cannot.
- C: Both cells can go through cell division.
- D: Cell G can make food while cell H cannot.

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

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

8. Jane placed a celery stalk with leaves into a measuring cylinder containing blue-coloured water. She covered the leaves with a clear plastic bag as shown in set-up X. She prepared another set-up using a celery stalk without leaves, as shown in set-up Y. Both set-ups were placed near a window.



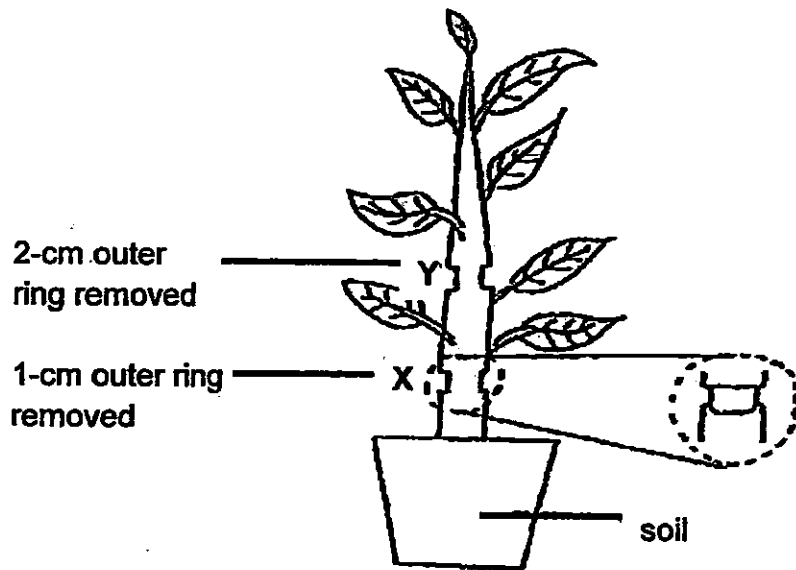
Which of the following would she observe after 1 day?

- A: The leaves in set-up X would turn blue.
- B: There would be more water left in set-up X than Y.
- C: The leaves in set-up X would release water droplets.
- D: There would be water droplets inside the plastic bag of set-up X but not in set-up Y.

- (1) A and B only
- (3) A and D only

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

9. Joyce removed a 1-cm thick outer ring at X and a 2-cm thick outer ring at Y from a plant. A few days later, she noticed that the leaves above Y began to turn yellow while the leaves below Y remained green.



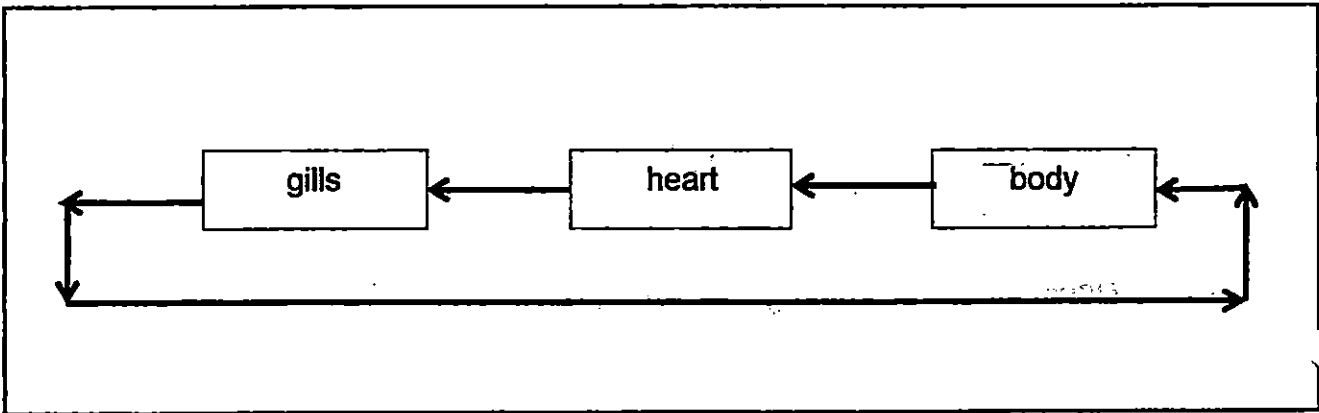
Which of the following statements best explains the observation?

- (1) The food-carrying tubes cannot transport food to all the leaves below Y.
- (2) The food-carrying tubes cannot transport food to all the leaves above Y.
- (3) The water-carrying tubes cannot transport water to all the leaves above Y.
- (4) The water-carrying tubes cannot transport water to all the leaves above X.

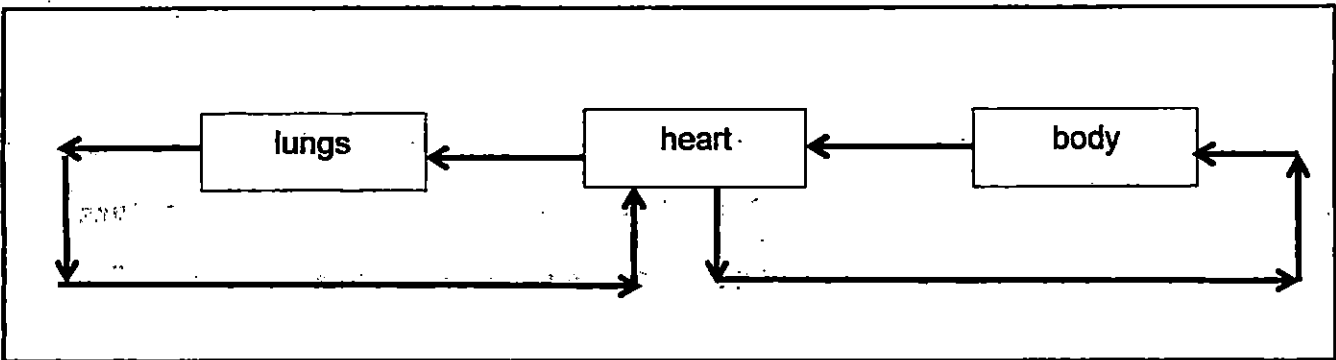


10. The diagrams below show how gases are transported in the circulatory system of a fish and a man respectively.

**Circulatory system of a fish**



**Circulatory system of a man**



Based on the diagrams above, which of the following statement(s) is / are correct?

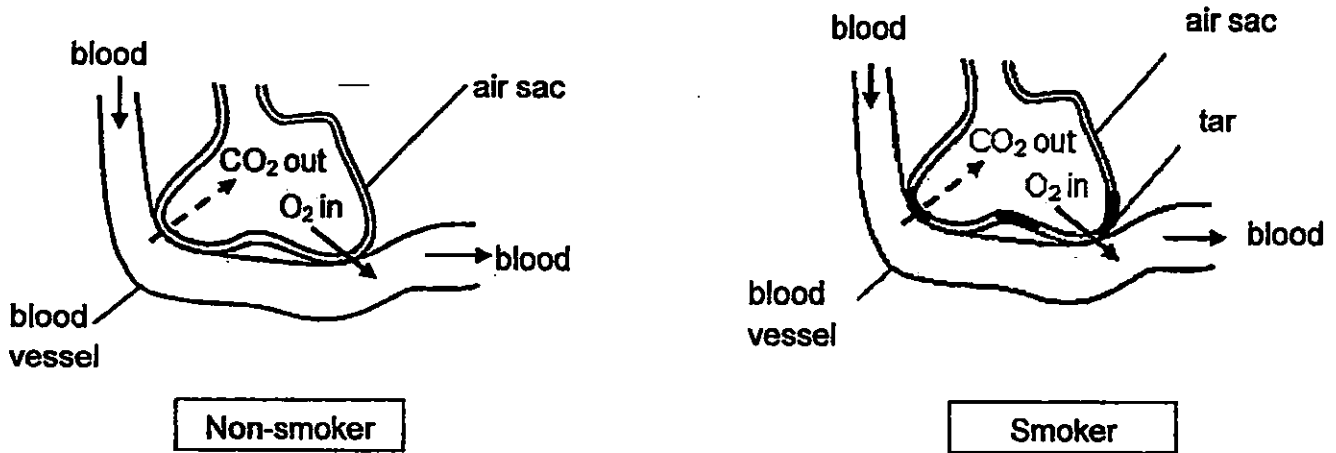
- A A fish has a single circulatory system while man has a double circulatory system.
- B Exchange of gases takes place in the gills for the fish while in the lungs for man.
- C In fish and man, blood circulates through the heart twice before being pumped to the rest of the body.

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

11. The diagram below shows the air sacs of the lungs of a smoker and a non-smoker. Cigarettes contain a substance known as tar which blocks the walls of the air sacs and prevents substances from passing through it.

CO<sub>2</sub> : carbon dioxide

O<sub>2</sub> : oxygen

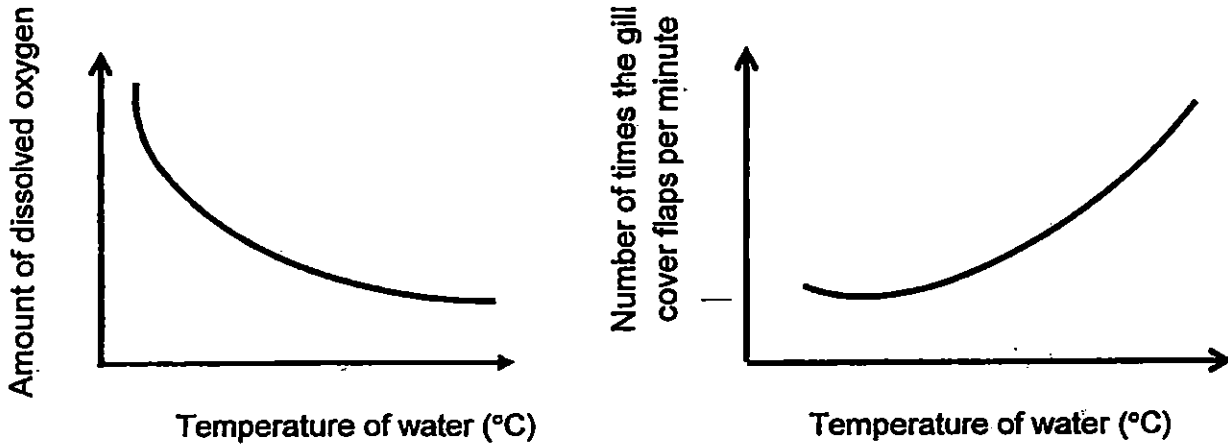


Based on the given information, which of the following statements are true?

- A: The air sacs of smokers will allow less oxygen to enter the bloodstream.
- B: The oxygen that enter the bloodstream of smokers will be mixed with tar.
- C: The smoker will have to breathe faster in order to get the same amount of oxygen as a non-smoker.
- D: Smokers feel tired easily as gaseous exchange cannot take place effectively.

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

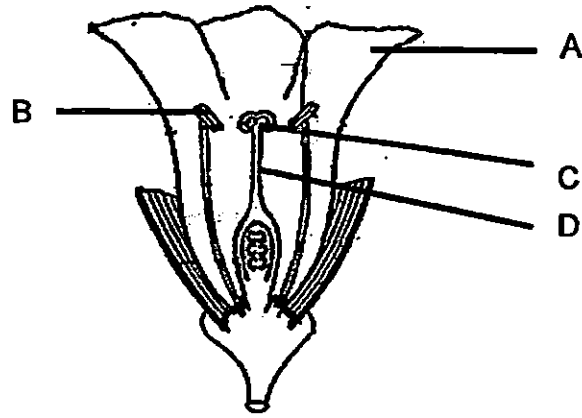
12. A fish was placed in water of different temperatures. The amount of dissolved oxygen and the number of times the gill cover flapped per minute were measured at each temperature. The results were recorded in the graphs as shown below.



What is the relationship between the amount of dissolved oxygen in the water and the number of times the gill cover flaps per minute?

- (1) The greater the number of gill cover flaps per minute, the greater the amount of dissolved oxygen in the water.
- (2) The greater the amount of dissolved oxygen in the water, the greater the number of gill cover flaps per minute.
- (3) The greater the amount of dissolved oxygen in the water, the fewer the number of gill cover flaps per minute.
- (4) The fewer the number of gill cover flaps per minute, the greater the amount of dissolved oxygen in the water.

13. The following diagram shows the different parts of a flower.



Mary studied four similar flowers W, X, Y and Z from different plants. The flowers share similar parts as shown in the diagram above. Some parts were removed from each of the flowers after they had been pollinated. Which one of the following flowers is still able to develop into a fruit?

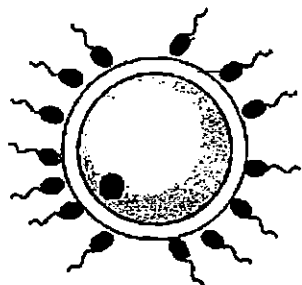
	Flower	Parts removed
(1)	W	A and C
(2)	X	B and C
(3)	Y	A and D
(4)	Z	A and B

14. What are the similarities between a spore and a pollen grain?

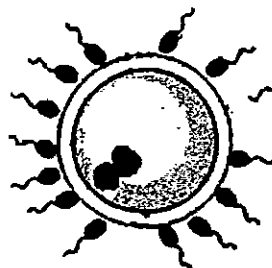
- (1) Both are dispersed by wind only.
- (2) Both are required for reproduction.
- (3) Both are produced by flowering plants.
- (4) Both are male reproductive cells of a plant.

15. Which one of the diagrams below illustrates that fertilisation had just taken place in humans?

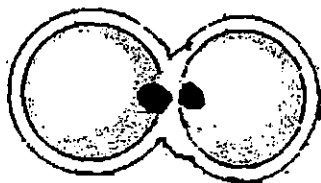
(1)



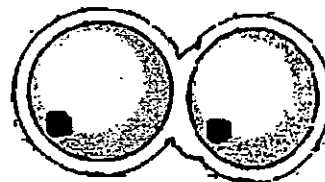
(2)



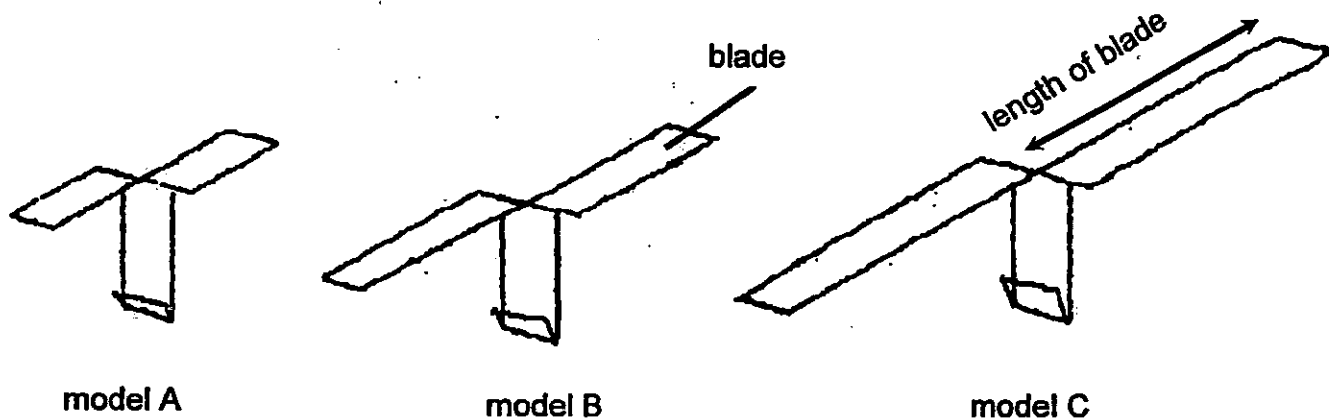
(3)



(4)



16. Joyce made some paper-spinner models to represent fruits with wing-like structures. She wanted to find out if the length of the blades of the paper spinner will affect the time taken for it to reach the ground. She used the same type of paper but varied the length of the blades to make the 3 paper-spinner models, A, B and C, as shown below.



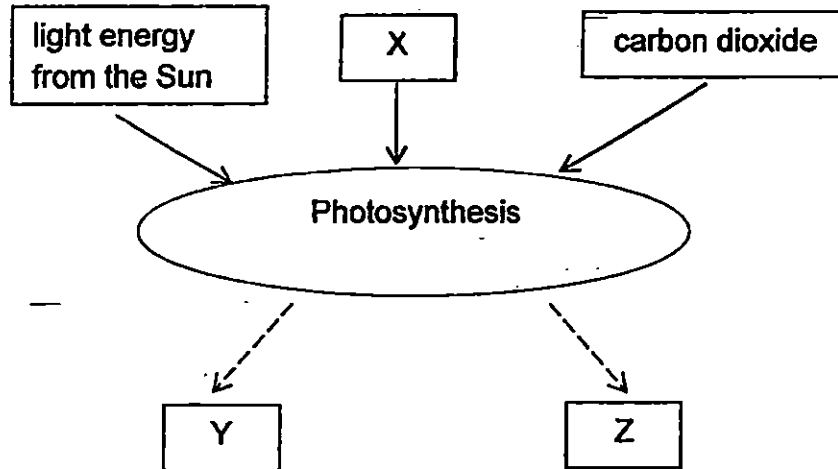
She threw the paper spinners from a fixed height and recorded the time taken for them to reach the ground. The results are shown in the table below.

	Time taken for the paper spinner to reach the ground (s)			
	1 <sup>st</sup> reading	2 <sup>nd</sup> reading	3 <sup>rd</sup> reading	Average reading
model A	3.3	3.5	3.3	3.4
model B	4.5	4.7	4.4	4.5
model C	5.9	6.1	6.2	6.1

What is the relationship between the length of blade of each model and the time taken for the model to reach the ground?

- (1) The longer the length of the blade, the longer the time taken for the model to reach the ground.
- (2) The longer the length of the blade, the shorter the time taken for the model to reach the ground.
- (3) The shorter the length of the blade, the longer the time taken for the model to reach the ground.
- (4) The shorter the time taken for the model to reach the ground, the longer the length of the blade.

17. The diagram below shows what plants need and the products formed during photosynthesis.

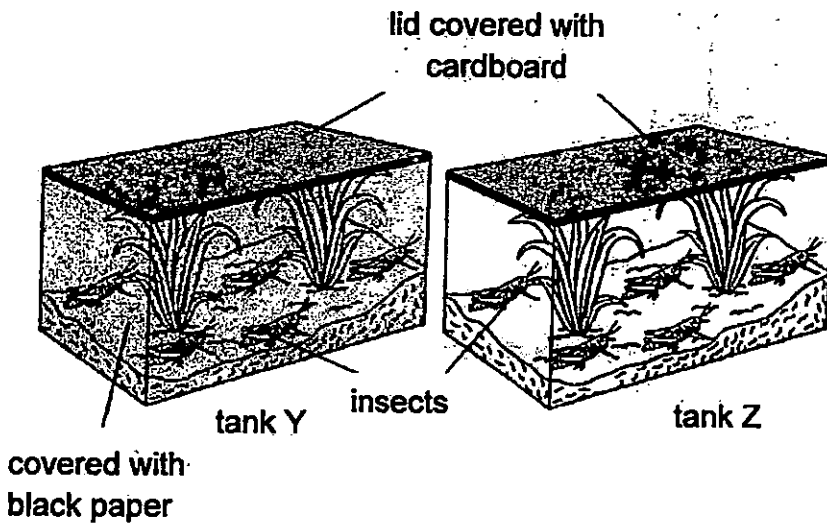


What are substances X, Y and Z?

	X	Y	Z
(1)	oxygen	water	carbon dioxide
(2)	oxygen	carbon dioxide	food
(3)	water	carbon dioxide	food
(4)	water	food	oxygen

18. Ross placed the same number of similar plants and the same number of similar plant-eating insects in 2 glass tanks, Y and Z as shown below.

She covered all four sides of tank Y with black paper. The plants in each tank were watered daily.



Ross observed that the plants and insects in tank Y did not survive as well as those in tank Z. What is/are the most likely reason(s) for her observations?

A: The amount of oxygen in tank Y became too low.

B: The plants in tank Y cannot photosynthesize as there is no sunlight.

C: The plants in tank Y cannot photosynthesize as there is no carbon dioxide.

(1) C only

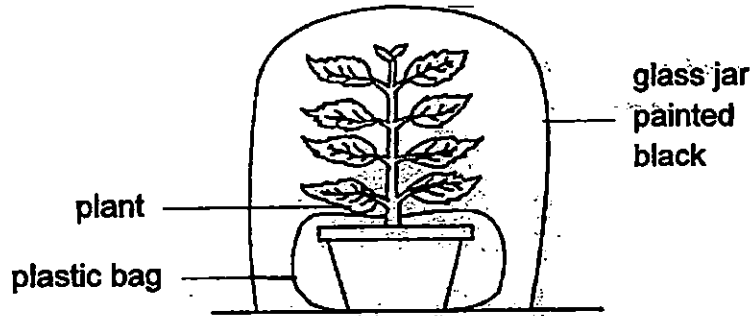
(2) A and B only

(3) A and C only

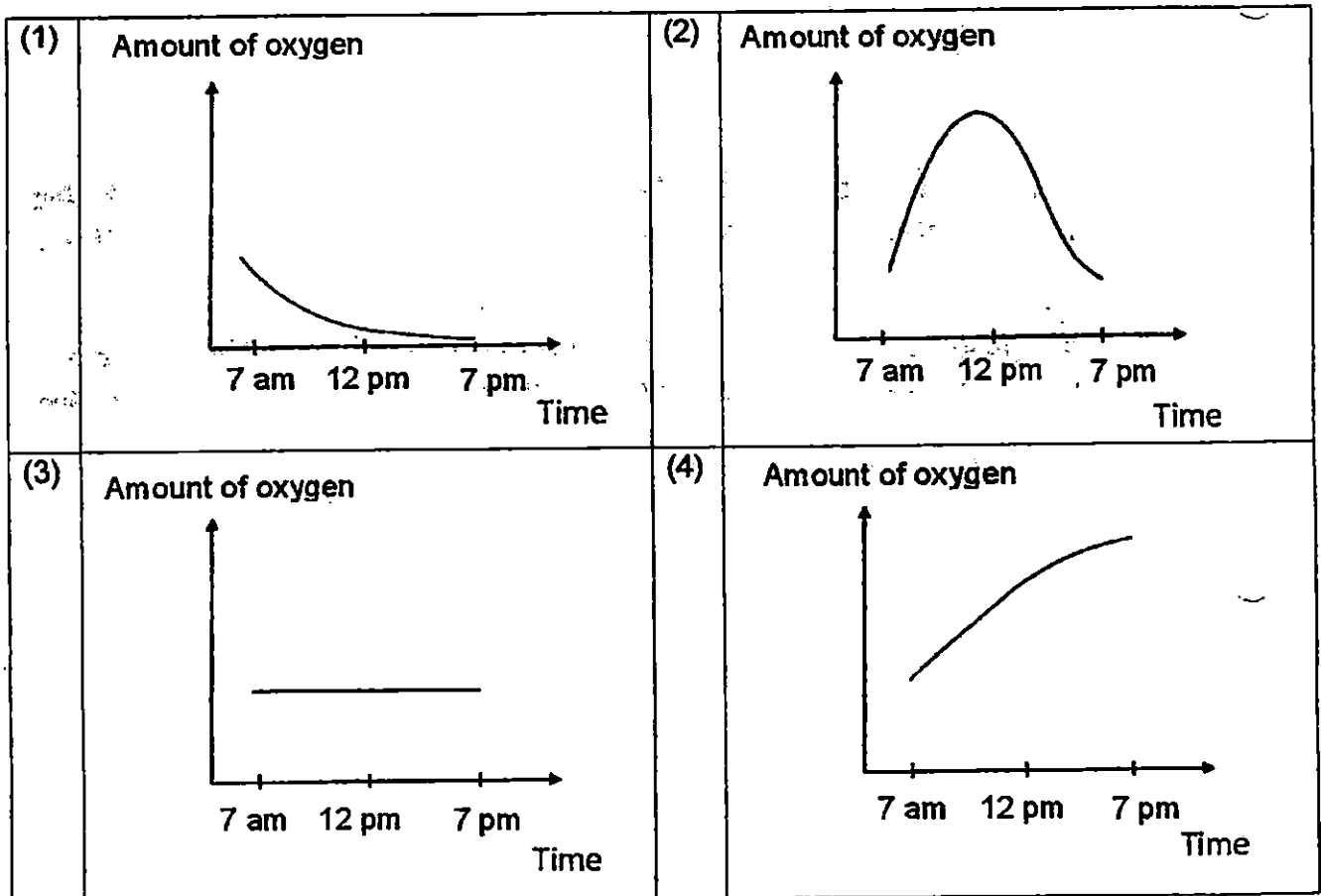
(4) B and C only



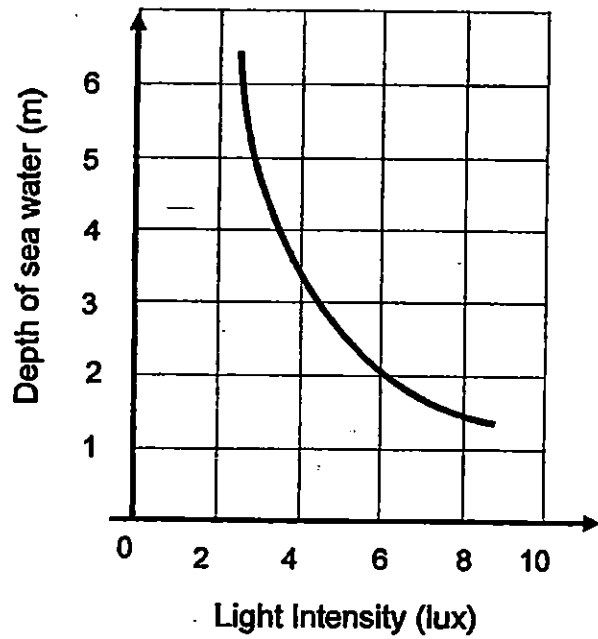
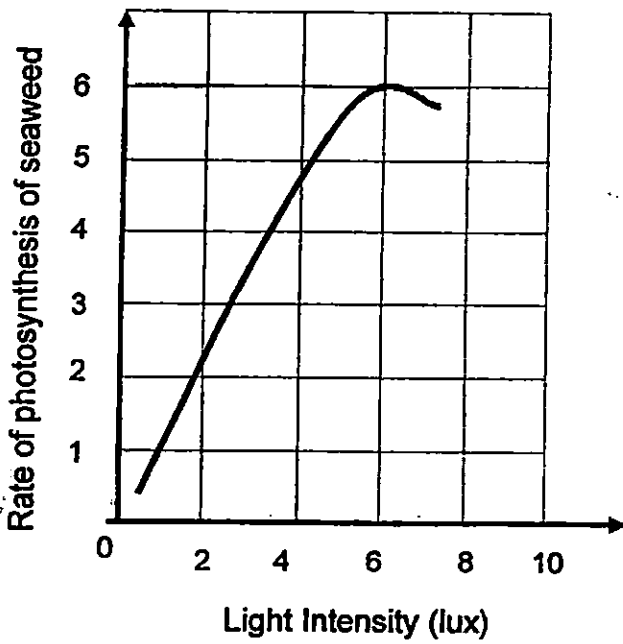
19. Jocelyn carried out an experiment as shown in the diagram below. She painted the glass jar black and watered the plant before placing the set-up under the Sun. She measured the amount of oxygen in the glass jar from 7 am to 7 pm.



Which one of the following graphs shows how the amount of oxygen in the glass jar changed during the experiment?



20. The two graphs below show the relationship between the rate of photosynthesis of seaweed and depth of sea water.

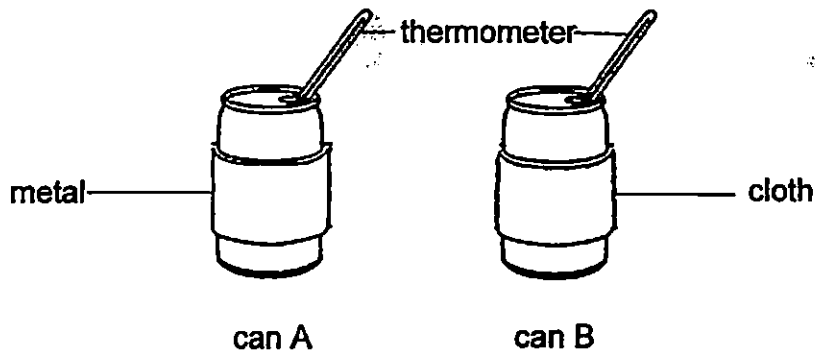


Based on the given graphs, what can be deduced about the seaweeds?

- A: The greater the light intensity, the higher the rate of photosynthesis.
- B: The rate of photosynthesis does not depend on the depth of sea water.
- C: The highest rate of photosynthesis of seaweed occurs at a depth of 2m.
- D: The greater the light intensity, the higher the rate of photosynthesis until it reaches a maximum after which it drops.

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

21. Benjamin filled two identical cans with an equal amount of water at  $60^{\circ}\text{C}$ . He then wrapped one of the cans with metal and the other with cloth as shown in the diagram below.



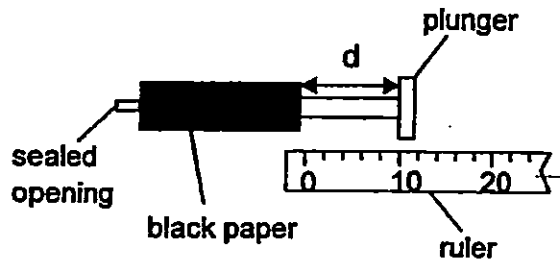
He left the cans in a classroom and recorded the temperature of water in each can every 5 minutes. The temperature of water in can A is shown in the table below.

Time (min)	0	5	10
Temperature of water in Can A ( $^{\circ}\text{C}$ )	60	54	50

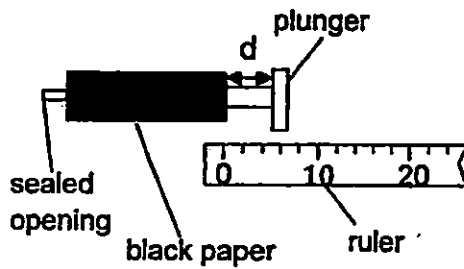
Which of the following sets of temperature readings would most likely be recorded for can B?

Temperature of water ( $^{\circ}\text{C}$ ) in Can B at			
	0 min	5 min	10 min
(1)	60	52	48
(2)	60	63	66
(3)	60	57	54
(4)	60	55	48

22. Susan was given 2 syringes covered with black paper. Syringe A contained substance S while syringe B contained substance T. The distance  $d$  represents the distance moved by the plunger.



syringe A



syringe B

Susan pushed the plungers and recorded her observations in the table below.

	d (mm)	
	Before Pushing	After Pushing
substance S	10	10
substance T	10	5

Based on the above observations, which one of the following could be substances S and T?

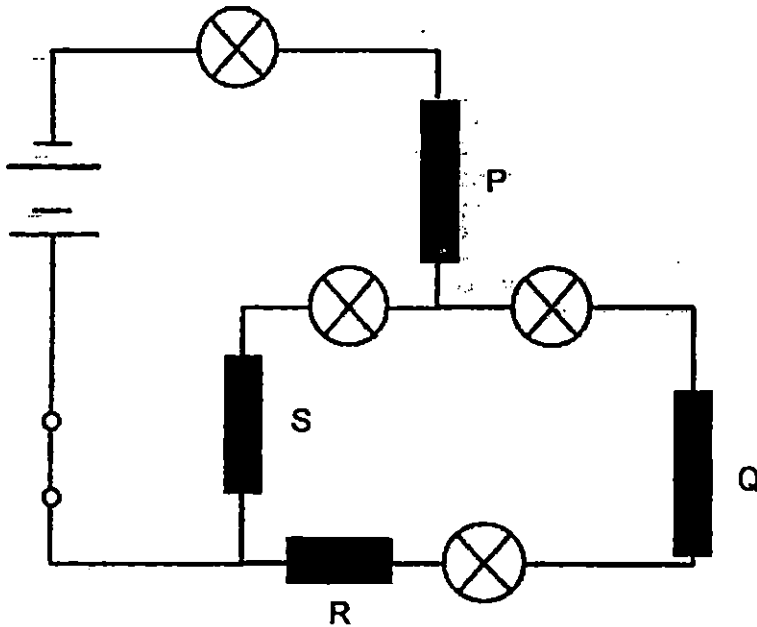
	substance S	substance T
(1)	sand	air
(2)	air	sand
(3)	water	sand
(4)	air	water

23. Mary tested a simple electrical circuit using materials W, X, Y and Z. She recorded the results as shown below:

Materials	Does the bulb light up?
X and Y	No
W and X	Yes
Y and Z	No
W and Z	Yes

Which of the following material(s) is/are conductor(s) of electricity?

- (1) W only  
 (2) W and Y only  
 (3) W, X and Z only  
 (4) X, Y and Z only
24. Four rods, P, Q, R and S, were connected in the electrical circuit as shown below. One of the rods is an insulator of electricity.



When the switch was closed, only 3 bulbs lit up.

Which one of the rods is an insulator of electricity?

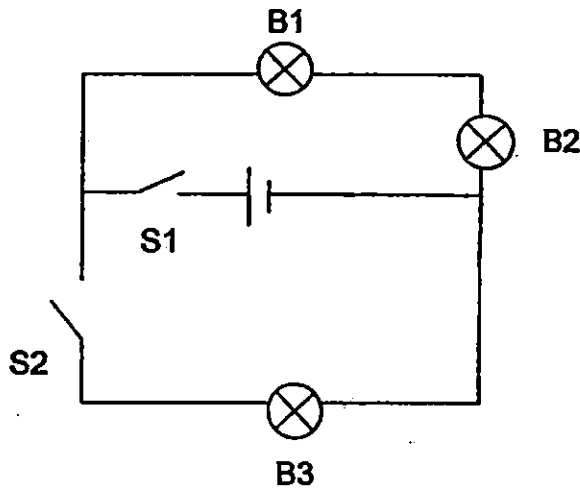
- (1) P  
 (2) Q  
 (3) R  
 (4) S

25. Jack wanted to carry out an experiment to find out if the arrangement of bulbs will affect the brightness of the bulbs in the circuit. Which one of the following variable(s) must he keep the same to ensure that the experiment is a fair one?

- A: The number of batteries.
- B: The voltage of the batteries.
- C: The arrangement of the bulbs.

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

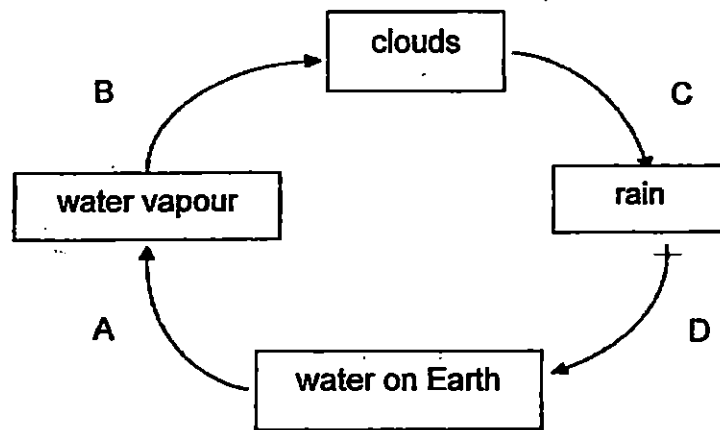
26. Andy designed an electrical circuit with bulbs B1, B2 and B3 and switches S1 and S2 connected as shown below.



Which one of the following options is correct?

Switches		Do the bulbs light up?		
S1	S2	B1	B2	B3
(1) Closed	Open	Yes	No	Yes
(2) Closed	Closed	Yes	No	Yes
(3) Open	Closed	No	No	Yes
(4) Closed	Open	Yes	Yes	No

27. The diagram below shows the water cycle.

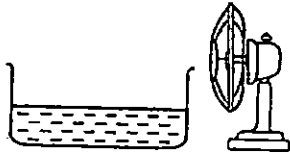


The letters A, B, C and D represent the processes that take place in the water cycle. Which letter represents the process of evaporation?

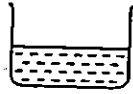
- (1) A
- (3) B

- (2) C
- (4) D

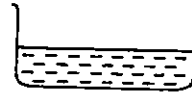
— 28. The diagram below shows three containers A, B and C with the same amount of water at the start of the experiment. The containers were left in the same room for the same amount of time.



Container A  
200 ml of



Container B  
200 ml of



Container C  
200 ml of

After a certain time, the amount of water left in each beaker was measured. Which one of the following shows the correct order of the containers based on the amount of water left?

	Most amount of water left	—————>	Least amount of water left
(1)	A		C
(2)	B		A
(3)	C		A
(4)	B		C



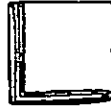
29. Valerie conducted an experiment using three identical handkerchiefs A, B and C. She poured the same amount of water on each of them. She then made different number of folds and recorded the time taken for each handkerchief to dry completely.



A (not folded)



B (folded once)



C (folded twice)

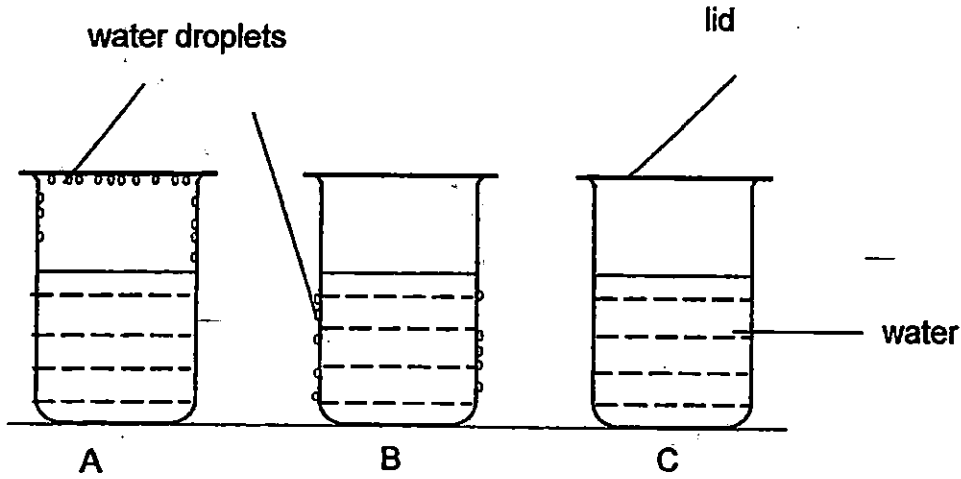
Her results are shown below.

Handkerchief	Time taken to dry completely (min)
A	20
B	40
C	60

What conclusion can she make based on her results?

- (1) The more the number of folds, the higher the rate of evaporation.
- (2) The fewer the number of folds, the higher the rate of evaporation.
- (3) The smaller the exposed surface area of the handkerchief, the higher the rate of evaporation.
- (4) The larger the exposed surface area of the handkerchief, the lower the rate of evaporation.

30. Three beakers of water at different temperatures were placed in a room at 30°C. The diagram below shows what he observed after 10 minutes.

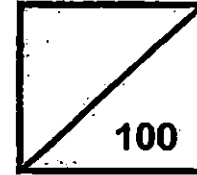


Which one of the following options most likely represents the temperature of the water in each beaker?

	A	B	C
(1)	90°C	5°C	30°C
(2)	90°C	30°C	5°C
(3)	5°C	90°C	30°C
(4)	30°C	5°C	90°C



**Rosyth School**  
**Semestral Examination 2 for 2015**  
**STANDARD SCIENCE**  
**Primary 5**



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

Total  
Marks:

Class: Pr 5- \_\_\_\_\_ Register No. \_\_\_\_\_ Duration: 1 h 45 min

Date: 2 Nov 2015 Parent's Signature: \_\_\_\_\_

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## **Booklet B**

**Instructions to Pupils:**

1. For questions 31 to 44, write your answers in the spaces given in this booklet.

	<b>Maximum</b>	<b>Marks Obtained</b>
<b>Booklet A</b>	<b>60 marks</b>	
<b>Booklet B</b>	<b>40 marks</b>	
<b>Total</b>	<b>100 marks</b>	

\* This booklet consists of 15 pages.

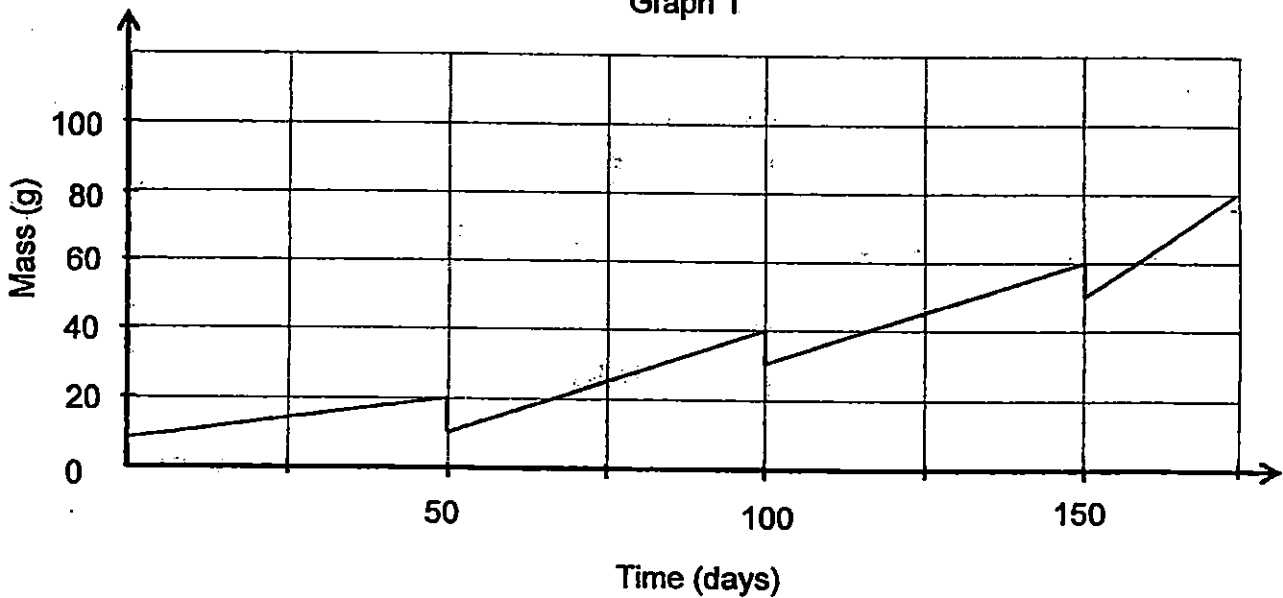
**Booklet B (40 marks)**

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

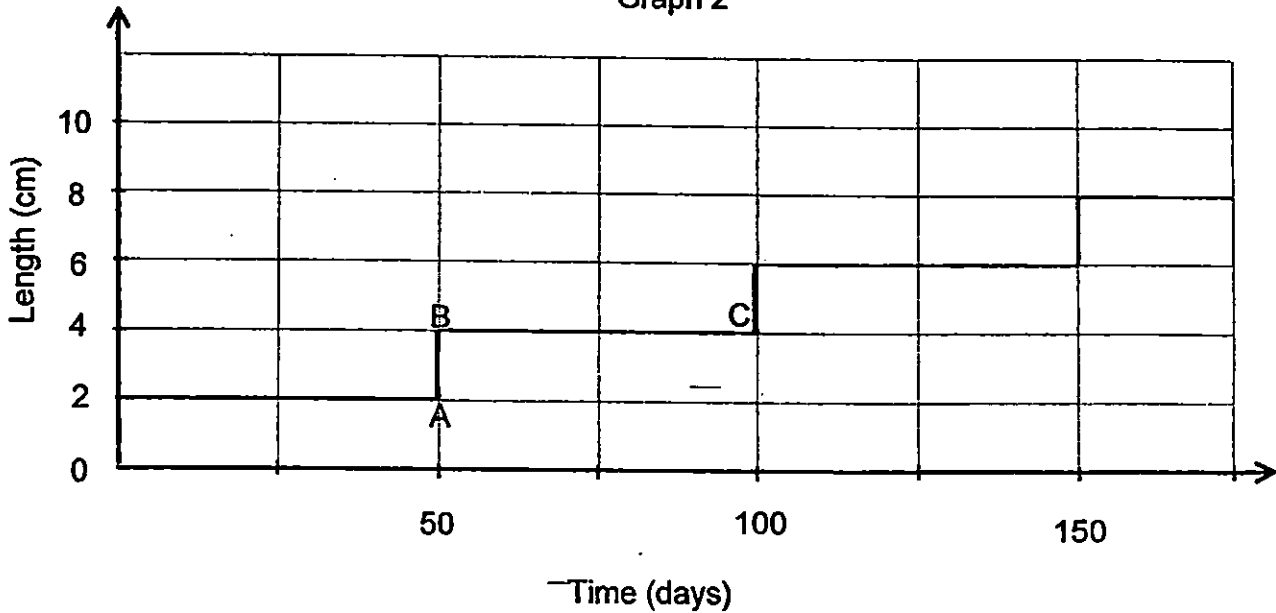
31. Insects need to moult during their growth as they have a hard exoskeleton. Ismail monitored and recorded the growth of a particular insect during the nymph stage. He observed that the insect did not feed when it was moulting.

The two graphs below show the changes in mass and length of the insect as it grows.

Graph 1



Graph 2



Question 31 continues on page 2

(a) Match the following letters correctly to the relevant processes in Graph 2. (1m)

- |    |   |   |                          |
|----|---|---|--------------------------|
| A  | • | • | new skin hardens         |
| B  | • | • | non-stop feeding         |
| AB | • | • | loss of old skin         |
| BC | • | • | rapid increase in length |

(b) How does the mass of the insect change as the insect increases in length? (1m)

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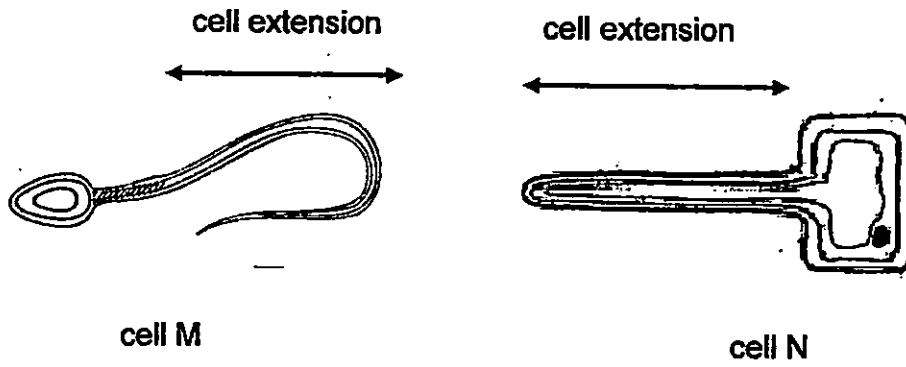
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(c)

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32. Study the cells M and N below.



(a) State two similarities between the above cells. (1m)

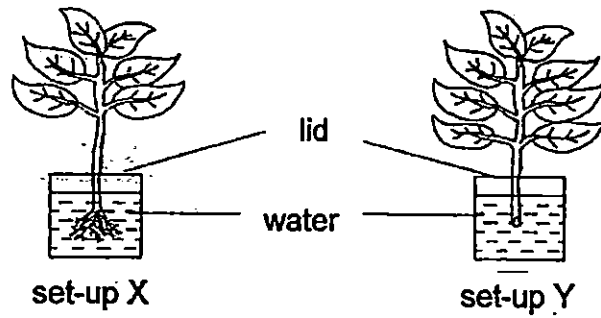
Similarity 1: \_\_\_\_\_

Similarity 2: \_\_\_\_\_

(b) In what way do the cell extensions differ in function? (1m)

\_\_\_\_\_  
\_\_\_\_\_

33. Jessica set up an experiment as shown below to find out how the number of leaves affects the amount of water taken in by the plants.



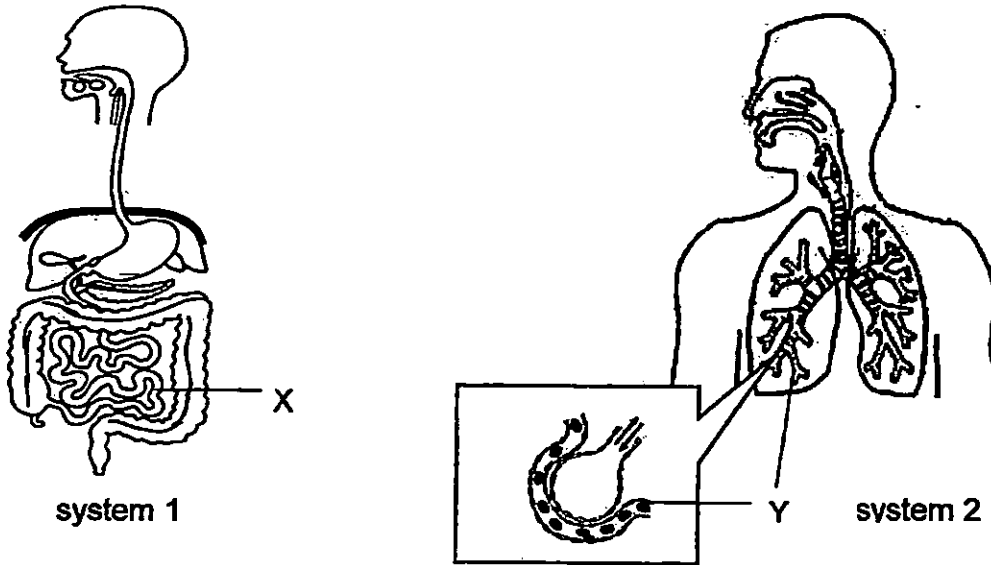
- (a) Is this a fair experiment? Explain why. (1m)

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- (b) Based on the above experiment, what would Jessica observe to conclude that water has been taken in by the plant? (1m)

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34. The diagrams below show the parts of 2 systems in the human body.



Identify the systems.

(1m)

(a) system 1 : \_\_\_\_\_

system 2 : \_\_\_\_\_

(b) Due to the processes occurring in X and Y, how does the blood differ in X and Y? (1m)

(i) Blood leaving X carries more \_\_\_\_\_ than the blood entering it.

(ii) Blood leaving Y carries more \_\_\_\_\_ than the blood entering it.

(c) Describe how the useful substances from the above two systems get transported around the human body? (2m)

system 1: \_\_\_\_\_

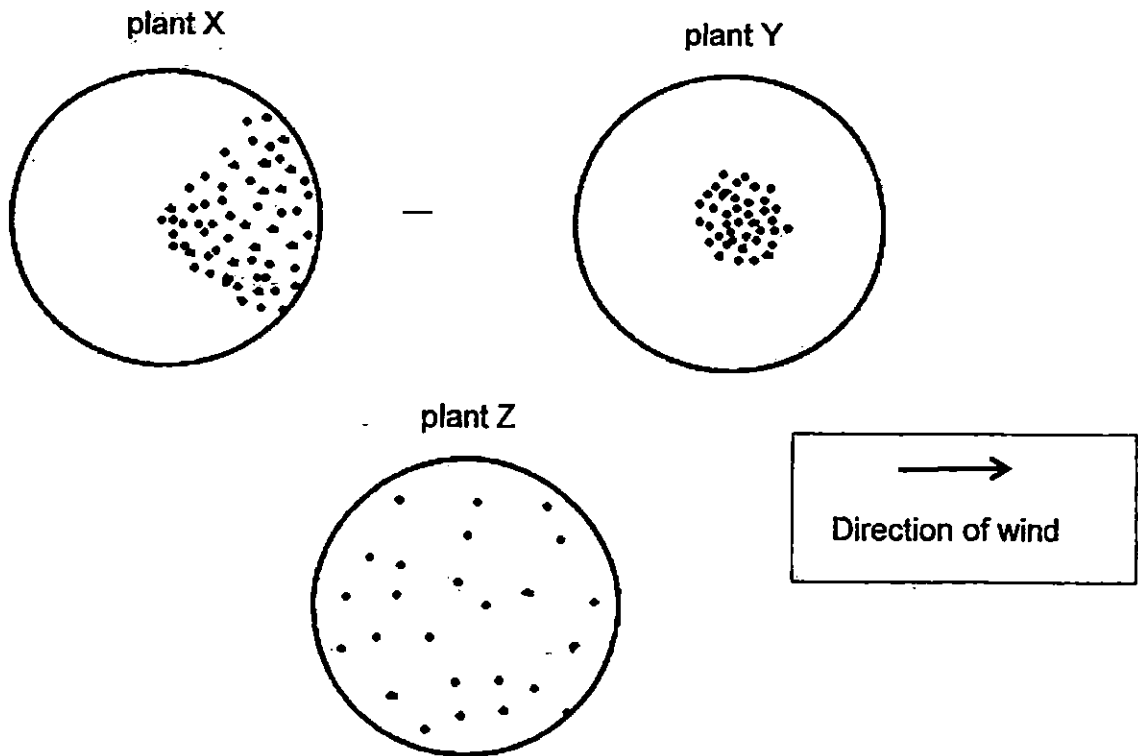
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



35. The figure shows the pattern of fruit dispersal around three plants, X, Y and Z, each within a circular area. Each dot represents one fruit. The fruits of each plant are dispersed differently.



- (a) Based on the patterns shown, deduce the method of dispersal for the fruits of the plants X, Y and Z. (1m)

	Fruit of plant	Method of dispersal
(i)	X	
(ii)	Y	
(iii)	Z	

- (b) Explain how you deduce the method of dispersal in plant X. (1m)

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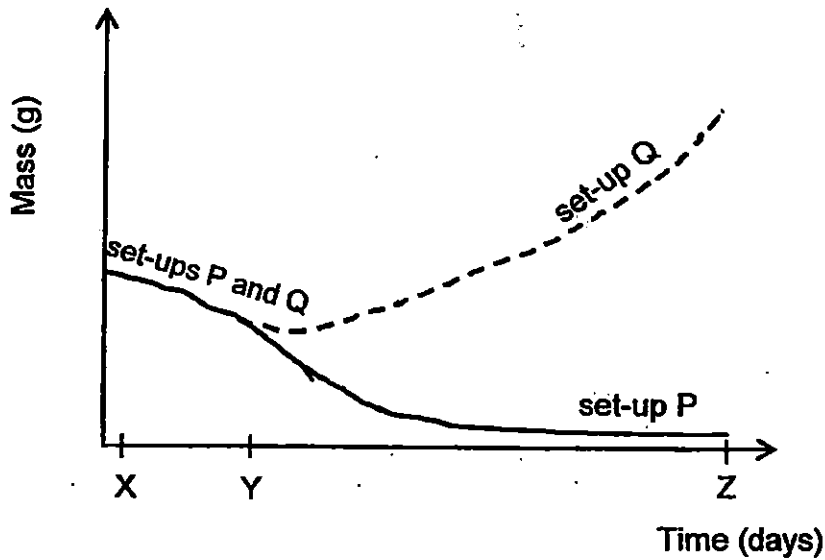


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36. Kumar placed an equal number of pea seeds of the same type in two identical beakers. He allowed the pea seeds in the two set-ups P and Q to germinate in suitable conditions.

After germination, set-up P was placed in the dark and set-up Q in the light.

The graph below shows the change in mass of seedling for both set-ups P and set Q as they germinated and grew into young plants.



- (a) What is the change in the mass of the seedlings in both set-ups P and Q from X to Y. Explain why. (1m)

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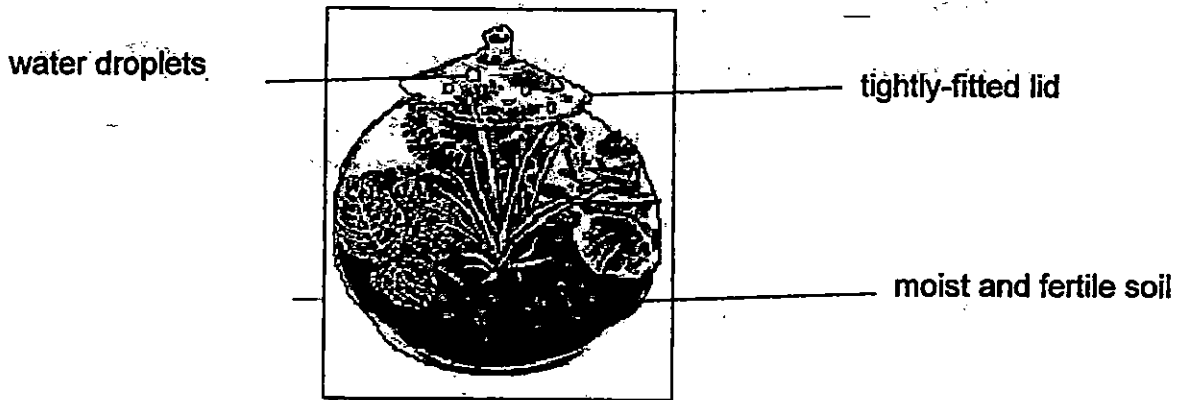
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- (b) Explain why there is a difference in the mass of seedlings between set-ups P and Q from Y to Z. (2m)

(i) Set-up P \_\_\_\_\_  
\_\_\_\_\_

(ii) Set-up Q : \_\_\_\_\_  
\_\_\_\_\_

37. The diagram below shows a bottle garden which is kept in a brightly-lit room. The mosses and ferns in the tightly-closed bottle grew and reproduced well.



- (a) Explain how the green plants can survive in the bottle for a long period of time without any water being added. (2m)

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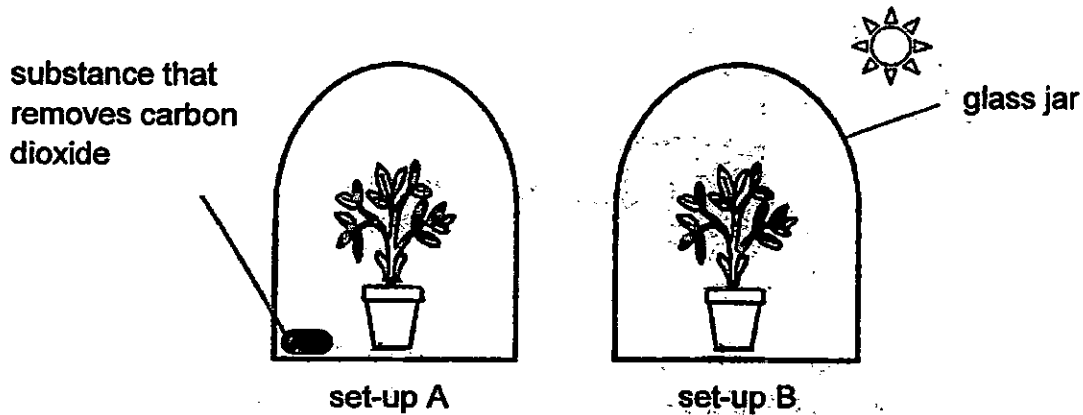
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- (b) How do the ferns and mosses reproduce in the bottle garden? (1m)

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38. Dan placed two pots of similar plants in two similar glass jars under the Sun. Set-up A had a substance that could remove carbon dioxide. Both plants were watered regularly.



After 2 days, he removed a leaf from each of the two set-ups A and B to test if photosynthesis had taken place.

- (a) In which set-up would the leaves not be able to make food? Give a reason for your answer. (2m)

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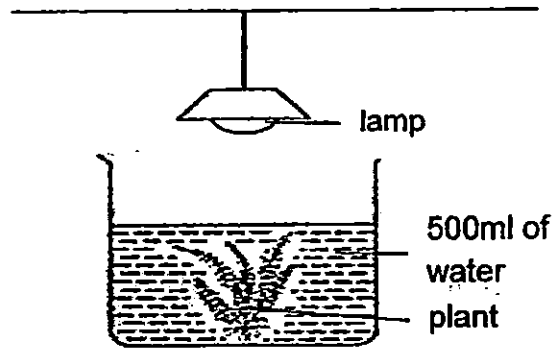
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- (b) Before the experiment, Dan kept the plants in the dark for two days. What was the purpose of keeping both plants in the dark? (1m)

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39. Susan conducted an experiment by placing a plant in a transparent jar as shown in the diagram below.



She placed a similar plant into each of the 3 transparent jars; P, Q, and R, and filled them with 500 ml of water. Each jar had a different amount of light shone on it. She counted the number of oxygen bubbles that were given out by the plants over 20 minutes and recorded it in the table below.

Jar	Amount of light (units)	Number of oxygen bubbles produced over 20 minutes
P	40	10
Q	80	27
R	120	44

- (a) What is the aim of Susan's experiment? (1m)

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- (b) What is the relationship between the amount of light received by the plant and the number of oxygen bubbles released? (1m)

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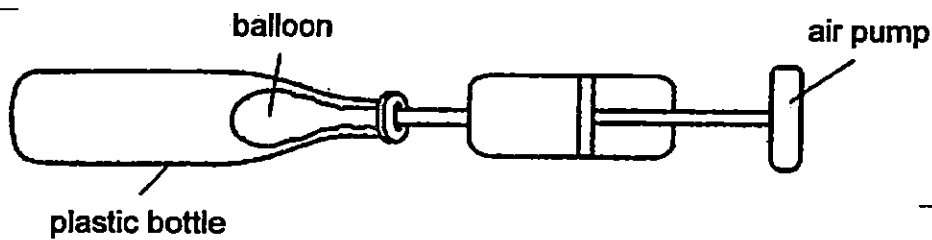
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- (c) Which jar has the highest rate of photosynthesis? Explain your choice. (2m)

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40. Alex placed a balloon into a plastic bottle as shown below.



(a) Alex tried inflating the balloon using the air pump but found it difficult to do so. Why is this so? (1m)

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(b) What can Alex do to make it easier for him to inflate the balloon within the plastic bottle? (1m)

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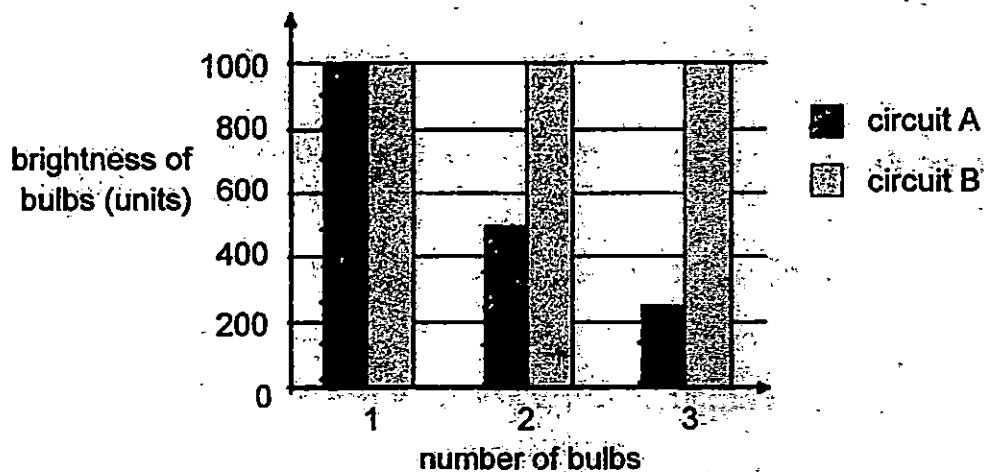
(c) Explain your answer in (b).

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41. Jason set up two different circuits, A and B, using two batteries and a bulb in each circuit. As he added more bulbs to each of the circuits, he observed the brightness of the bulbs. The graph below shows the brightness of the bulbs in the two circuits.



- (a) How were the bulbs in circuit A arranged? Explain why. (1m)

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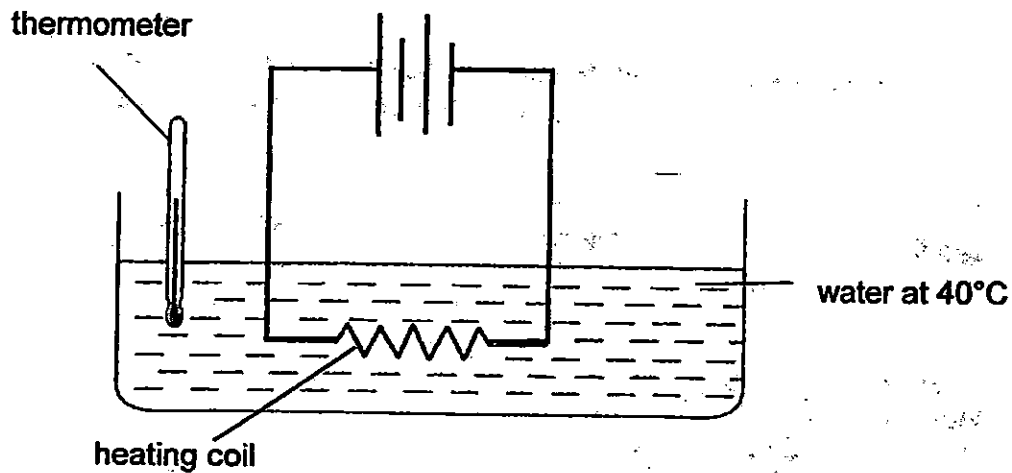
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- (b) Based on the graph above, what is an advantage of arranging the bulbs as in circuit B? (1m)

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42. Sue conducted an experiment using the set-up as shown below.



She recorded the results of her experiment in the table below.

Number of batteries	Temperature of water after 10 mins (°C)
2	47
3	56
4	68

(a) What are the changed and measured variables in the experiment above? (1m)

Changed variable: \_\_\_\_\_

Measured variable: \_\_\_\_\_

(b) What is the aim of the experiment above? (1m)

\_\_\_\_\_  
 \_\_\_\_\_

(c) What can Sue conclude from her experiment? (1m)

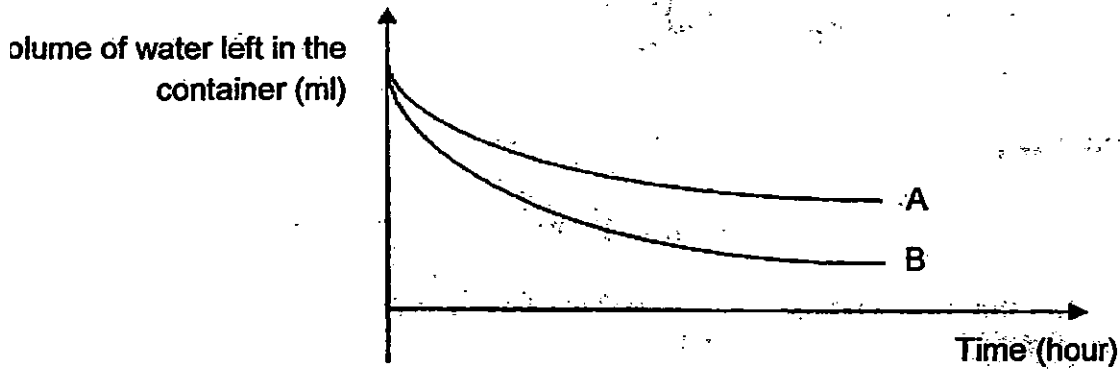
\_\_\_\_\_  
 \_\_\_\_\_



43. Jake wanted to find out if the temperature of the surroundings will affect the rate of evaporation of water.

He filled two identical containers with the same amount of water. He placed one in his garden directly under the Sun. The other container was placed in his bedroom.

He recorded the change in the volume of water in each container over time.



- (a) Which graph (A or B) would represent the amount of water left in the container that was placed directly under the Sun? Explain your choice. (1m)

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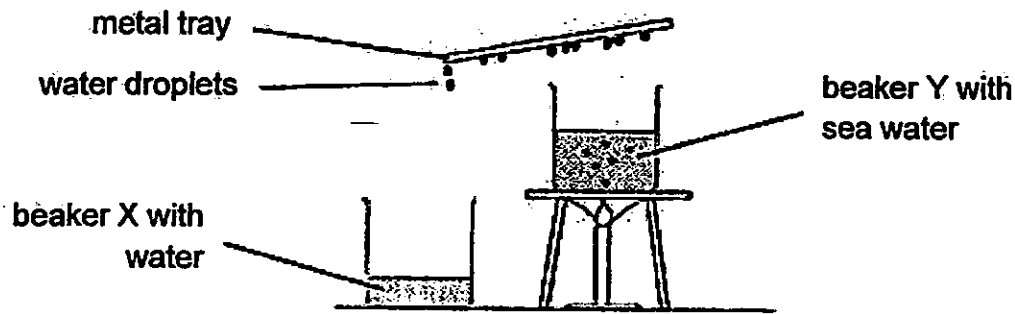
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- (b) Without changing the container, name one way that Jake can speed up the rate of evaporation of the water in the container that was placed in his bedroom. (1m)

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44. Jacob set up an experiment to boil some sea water.



A metal tray was placed over beaker Y as the sea water was heated.

- (a) Name the processes that have taken place that caused the water droplets to be formed on the metal tray. (1m)

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- (b) Explain how the water in beaker X was obtained? (2m)

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- (c) After 20 minutes, Jacob realised that less water droplets were formed on the metal tray. Explain why. (1m)

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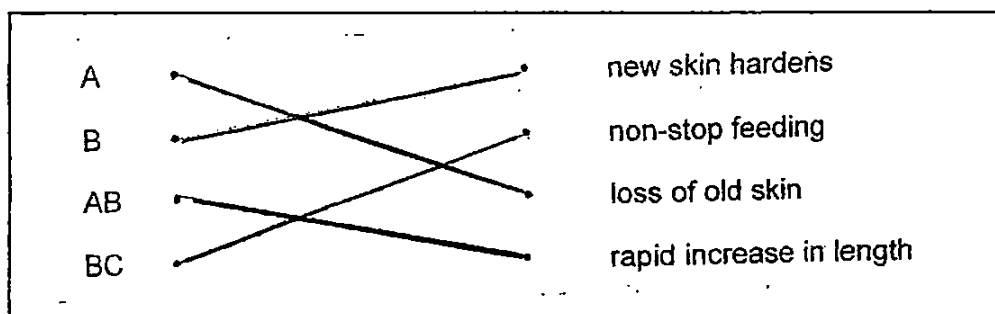
End of Booklet B



**LEVEL : PRIMARY 5**  
**SCHOOL : ROSYTH SCHOOL**  
**SUBJECT : SCIENCE**  
**TERM : SA2**

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	2	3	4	3	3	2	3	3	2
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
3	3	4	2	2	1	4	2	1	4
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	1	3	4	2	4	1	2	2	1

Q31a. SEE PICTURE



Q31b. The mass of the insect increases as the insect increases in length.

Q31c. As the insect will eat non - stop.

Q32a. Both cells have a cell extension.

Q32a. Both cells have a cell membrane.

Q32b. The cell extension in Cell N helps it to absorb more water while the cell extension in Cell M helps it to move.

Q33a. No. The number of leaves is the only variable that must be changed.

Q33b. The water level will drop.

Q34a. System 1 - Digestive system      System 2 : Respiratory system

Q34bi) digested food      Q34bii) oxygen

Q34c. The oxygen get absorbs into the bloodstream is transported to the heart which is then pumped to all parts of the body.

Q35a. i) Wind    Q35aii) splitting    Q35aiii) Animal

Q35b. The seeds of plant X only follow the direction of wind and no other direction.

leaves is being used up.

Q36bi) The seedling is not able to make food and will eventually decrease in mass.

Q36bii) The seedling makes food ( in the light ) and increases in mass.

Q37a. Water from the moist soil evaporates to water vapour, the water vapor condenses to water droplets which falls back to the soil for the plants to absorb.

Q37b. They drop their spores on the moist and fertile soil and it will germinate into a young fern or moss.

Q38a. Set up A. As there is no carbon dioxide in set - up A as the substance removes carbon dioxide and carbon dioxide is needed for photosynthesis.

Q38b. To use up oil the starch in the plant so that the results will be reliable.

Q39a. To find out how the amount of light will affect the number of oxygen bubbles produced over 20 minutes.

Q39b. As the amount of light received by the plant increases, the number of oxygen bubbles released also increases.

Q39c. Jar R. As it produced the most amount of oxygen bubbles over 20 minutes and has most amount of light compared to Jar P and Q.

Q40a. As there is air occupying the space in the plastic bottle and as air takes up space, it is hard for the air to escape thus it is difficult to inflate the balloon in the plastic bottle.

Q40b. He should poke some hole in the plastic bottle to make it easier for him to inflate the balloon.

Q40c. As the air occupying the space in the plastic bottle will be able to escape and thus the balloon can use up the space originally occupied by the air.

Q41a. The bulbs in circuit A are arranged in series. As the number of bulbs increases, the brightness of the bulbs decreases as the power of the batteries are shared by the bulbs.

Q41b. The bulbs will have the same amount of brightness and will be brighter compared to the bulbs in circuit A.

Q42a. Changed variable : Number of batteries.

Q42a. Measured variable : Temperature of water after 10 minutes.

Q42b. To find out how the number of batteries affect the temperature of water after 10 minutes.

Q42c. As the number of batteries increases, the temperature of water increases.

Q43a. Graph B. The volume of water left in the container is lower as it has the highest rate of evaporation.

Q43b. He could put the container under a lamp which is turned on.

Q44a. Condensation and Evaporation

Q44b. The salt water gains heat and evaporates to form water vapour. The water vapour then loses heat when it comes in contact with the metal tray and condenses to form water droplets.

Q44c. This is because the metal tray has become warmer causing the rate of condensation to decrease.

**THE END**