



RAFFLES GIRLS' PRIMARY SCHOOL
SEMESTRAL ASSESSMENT (1)
2011

Section A 60%	Your score out of 100	
Section B 40%		
	Class	Level
Highest score		
Average score		
Parent's signature		

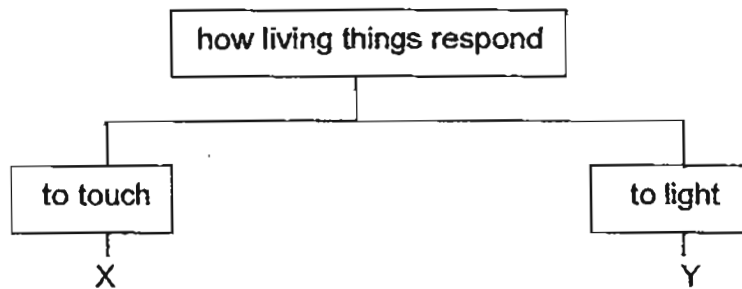
Name : _____ Index No: _____ Class: P 5 _____

6th May 2011 SCIENCE Attn: 1 h 45 min

SECTION A (30 X 2 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 on the Optical Answer Sheet.

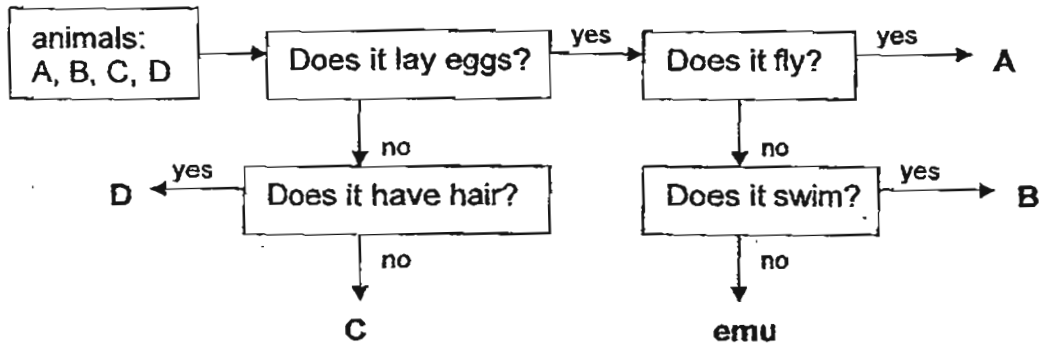
1. The diagram below shows how some living things respond.



Based on the diagram above, which one of the following does **NOT** belong to both groups X and Y?

- | | |
|---------------|---------------|
| (1) moss | (2) mimosa |
| (3) millipede | (4) toadstool |

2. The flow chart below differentiates some animals.



In which group, A, B, C or D, does the animal shown below belong to?



(1) A

(2) B

(3) C

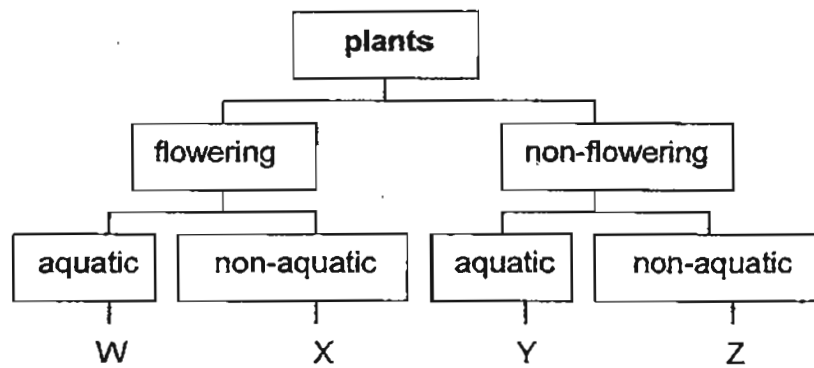
(4) D

3. The table below gives information on four different types of plants, A, B, C and D, based on two characteristics.

A tick (✓) in the box shows that the plant has that particular characteristic.

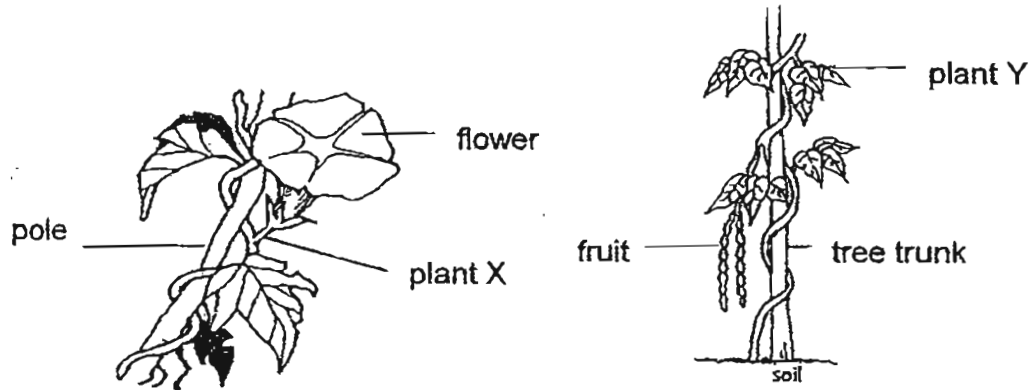
characteristic	plants			
	A	B	C	D
bears fruit		✓		✓
grows on land	✓			✓

Based on the information above, which groups do plants B and C belong to in the classification table below?



	plant B	plant C
(1)	W	Y
(2)	X	Z
(3)	Y	X
(4)	Z	W

4. The diagrams below show two green plants, X and Y, growing in a garden.



Which of the following statement(s) can be inferred from the given information on **both** plants?

- A They have weak stems.
- B They make their own food.
- C They reproduce by spores.

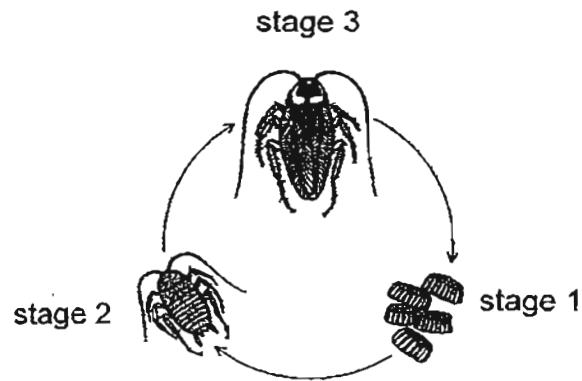
- (1) C only
- (2) A and B only
- (3) A and C only
- (4) A, B and C

5. Which of the following statements about bacteria are true?

- A Bacteria are micro-organisms.
- B Bacteria cannot grow in water.
- C All bacteria found in our bodies are harmful.
- D Bacteria can be seen with the help of a powerful microscope.

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

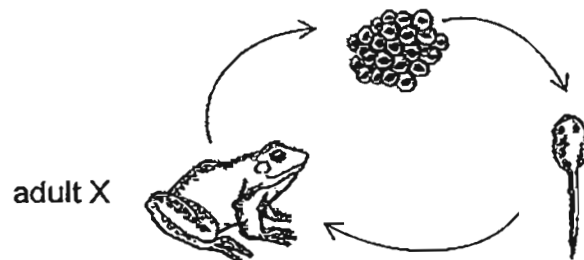
6. The diagram below shows the 3 stages in the life cycle of an animal.



Which one of the following identifies the stages of growth of this animal correctly?

	stage 2	stage 3
(1)	pupa	adult
(2)	larva	adult
(3)	nymph	pupa
(4)	nymph	adult

7. The diagram below shows the life cycle of animal X.

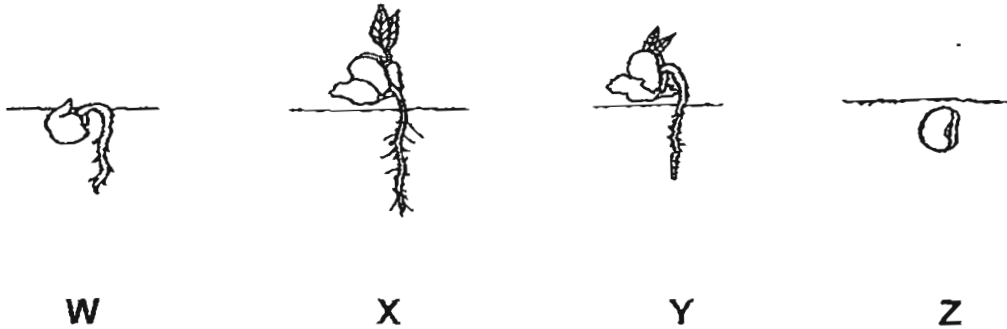


Based on the diagram above, which of the following statements do **NOT** describe animal X correctly?

- A It gives birth to its young alive.
- B It has three stages in its life cycle.
- C Its young closely resembles its parent.

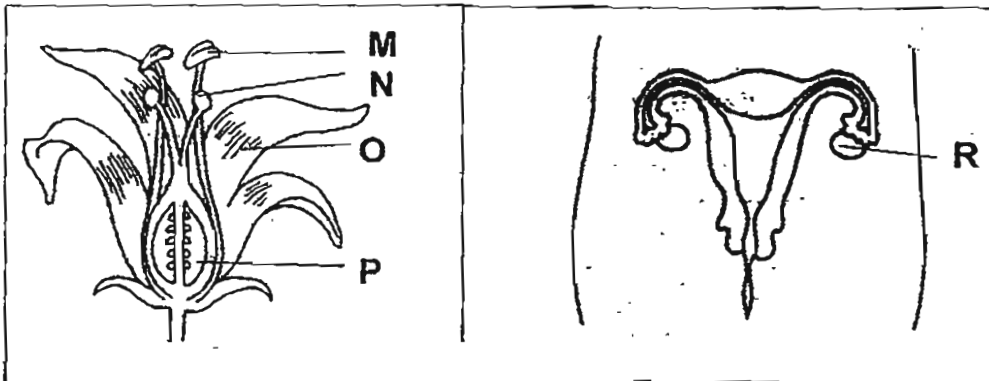
- (1) A and B only
- (2) A and C only
- (3) B and C only
- (4) A, B and C

8. The diagrams below show the different stages of growth (NOT in order), W, X, Y and Z, of a germinating seed.



Which one of the following shows the correct order of the stages of growth of the germinating seed?

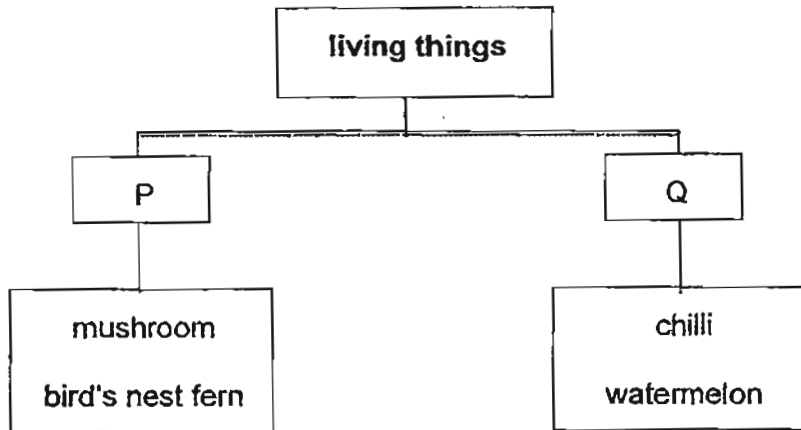
- (1) $W \rightarrow X \rightarrow Y \rightarrow Z$ (2) $X \rightarrow Y \rightarrow W \rightarrow Z$
 (3) $Z \rightarrow W \rightarrow Y \rightarrow X$ (4) $Z \rightarrow Y \rightarrow W \rightarrow X$
9. The diagrams on the left shows the vertical cross-section of a flower and the right shows a female human reproductive system.



Part R has a similar function as part _____ of the reproductive system of the plant.

- (1) M (2) N
 (3) O (4) P

10. The classification chart below is used to classify some living things.



Which one of the following gives suitable sub-headings for P and Q?

	P	Q
(1)	flowering plants	non-flowering plants
(2)	non-flowering plants	flowering plants
(3)	reproduce by spores	reproduce by seeds
(4)	reproduce by seeds	reproduce by spores

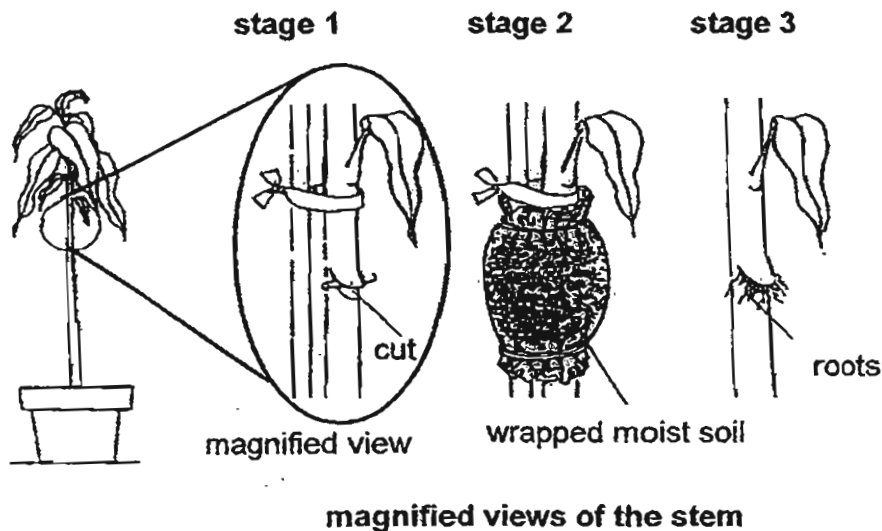
11. Fruit farmers sometimes use a method called marcotting to reproduce new plants.

As shown in the diagram below, a portion of the branch of a parent plant is cut at the surface (stage 1).

Moist soil is wrapped around the area of the cut (stage 2).

After a few months, new roots will emerge from the cut area (stage 3).

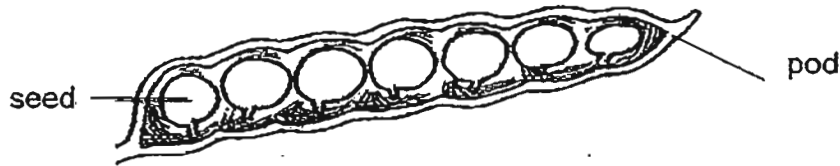
The branch with its new roots will then be removed from the parent plant and grown on its own.



Which one of the following can be inferred from this reproduction method?

- (1) The new plant will not have the same characteristics as its parent plant.
- (2) Fruit farmers have to use this method because there is no other way by which the plant can reproduce.
- (3) The new plant produces the same type of fruits since it inherited the genetic information from its parent plant.
- (4) The type of the fruit produced may not be the same as the parent plant as genetic information may not be passed on from parent to its young.

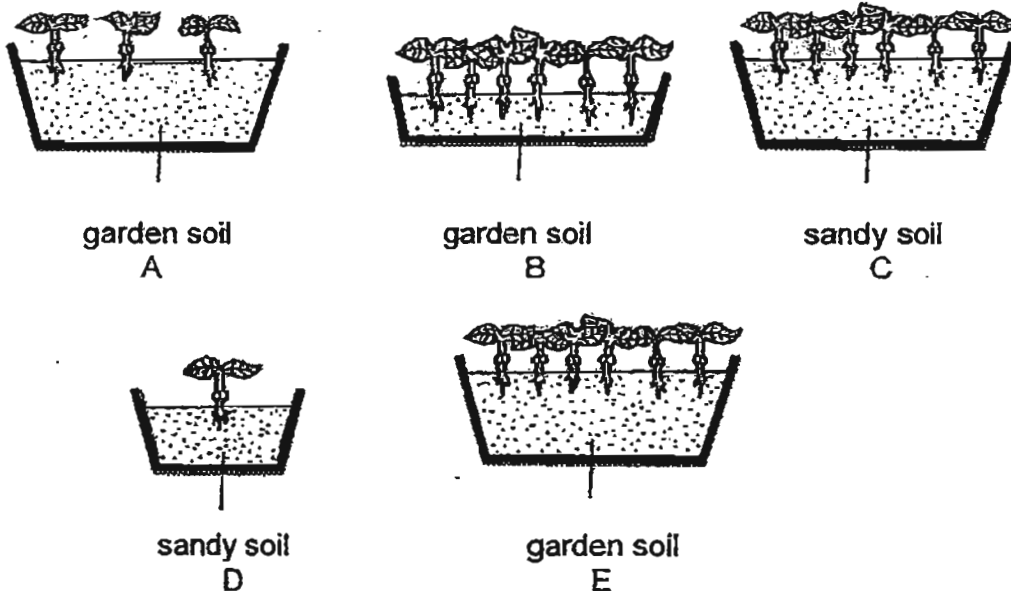
12. The diagram below shows the seeds in the pod of plant K.



Based on your observation of the pod above, what can be inferred about plant K?

- (1) Plant K has large flowers.
 - (2) Plant K is a flowering plant.
 - (3) Plant K is a non-flowering plant.
 - (4) Each flower of plant K has an ovary with one ovule only.
13. Samy wanted to find out how overcrowding can affect the growth of seedlings.

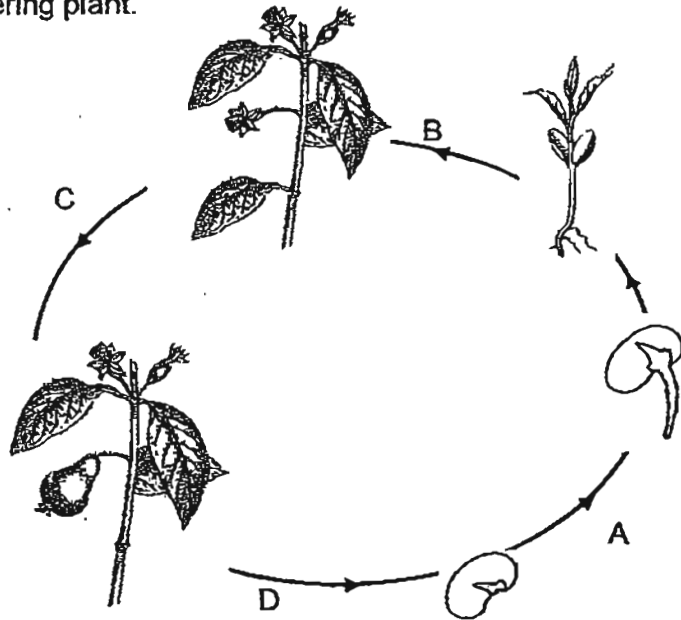
He placed seeds of the same type in five pots of soil and placed them in a sunny part of a garden. He watered the seeds with the same amount of water. After a few days, the seeds developed into seedlings.



Which two pots of seedlings should Samy observe to make a fair comparison?

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

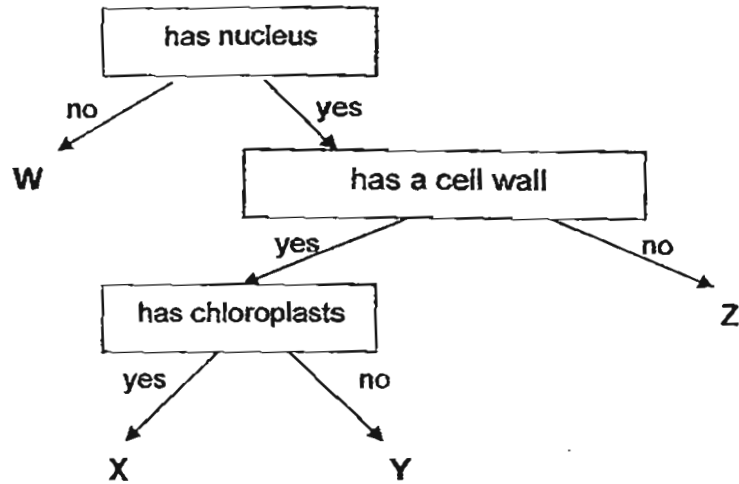
16. The diagram below shows the processes, A, B, C and D, involved in the life cycle of a flowering plant.



Which one of the following identifies the processes of germination, fertilisation and seed dispersal in the diagram correctly?

	germination	fertilisation	seed dispersal
(1)	A	C	D
(2)	B	A	C
(3)	C	D	B
(4)	D	B	A

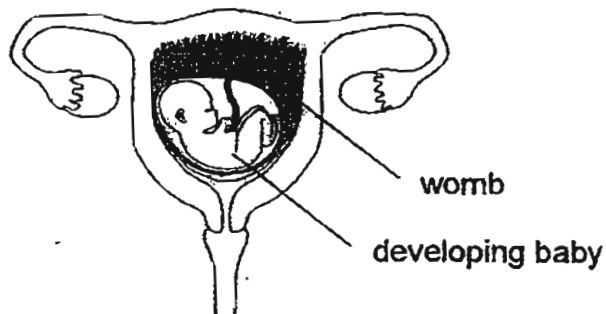
17. The flow chart below distinguishes some cells: W, X, Y and Z.



What one of the following identifies the types of cells correctly?

	W	X	Y	Z
(1)	leaf cell	root cell	red blood cell	cheek cell
(2)	cheek cell	leaf cell	red blood cell	root cell
(3)	red blood cell	leaf cell	root cell	cheek cell
(4)	red blood cell	root cell	cheek cell	leaf cell

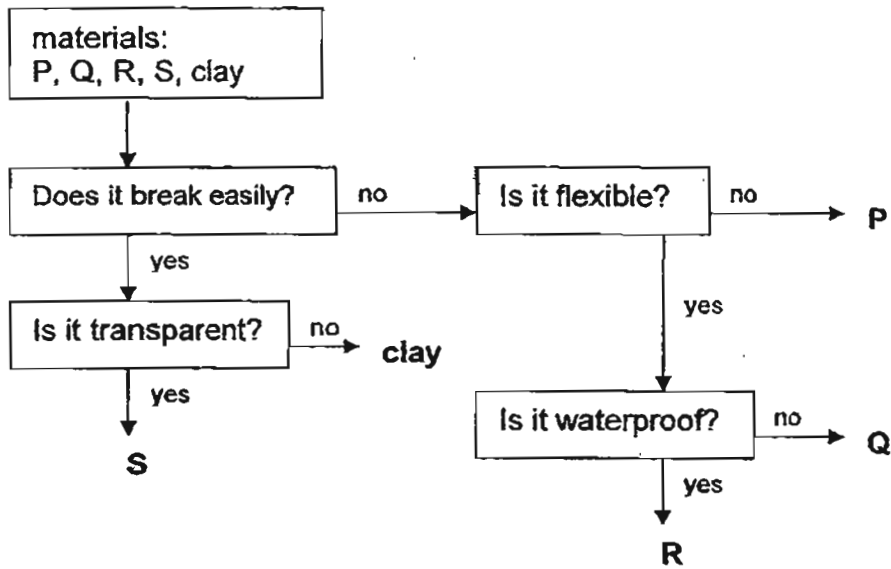
18. The diagram below shows a developing baby in the womb of a woman.



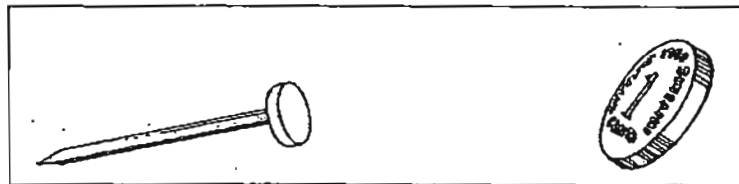
Which one of the following statements about the developing baby is **NOT** correct?

- (1) He is formed from a fertilised ovary.
- (2) He is made up of many different kinds of cells.
- (3) He carries genetic information from both of his parents.
- (4) He is formed when a sperm fuses with a female sex cell.

19. The flow chart below differentiates different types of materials, P, Q, R, S and clay.

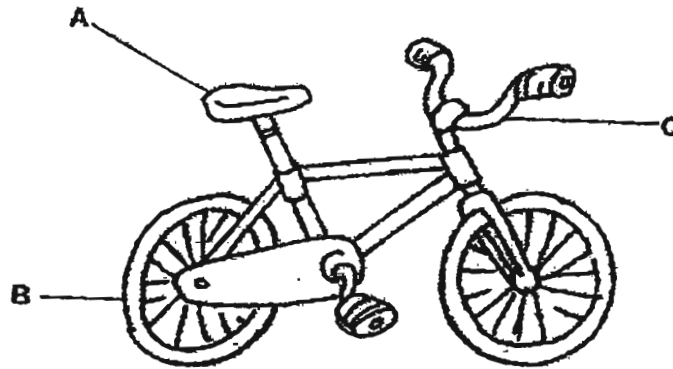


Based on the information above, which one of these materials, P, Q, R or S, is used to make the following objects?



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

20. The diagram below shows a bicycle with different parts labelled A, B and C.



The table below shows three different materials X, Y and Z and their properties.

material	properties
X	flexible and stretchable
Y	rust-proof and durable
Z	soft and waterproof

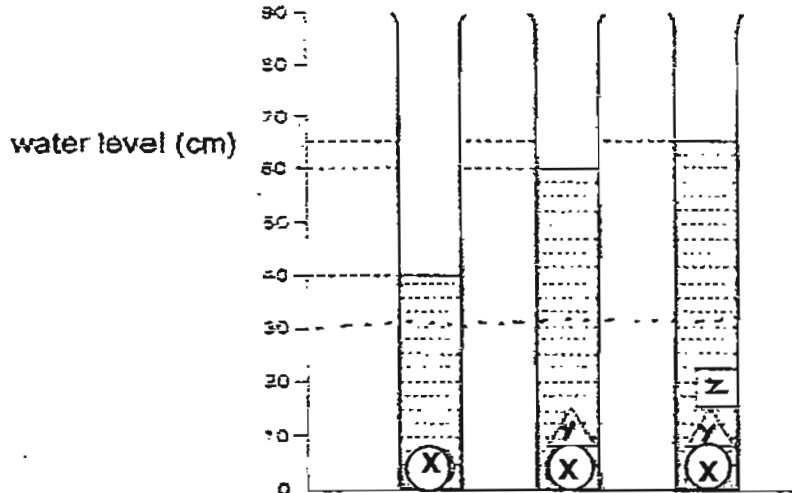
Which one of the following shows the best material to be used for each part of the bicycle?

	part A	part B	part C
(1)	X	Y	Z
(2)	Y	X	Z
(3)	Z	X	Y
(4)	Z	Y	X

21. Esther had 3 objects, X, Y and Z (NOT drawn to scale).

First she put X in a measuring cylinder containing 30 cm³ of water. Next, she put in Y, followed by Z.

The diagram below shows how the water level changed after each object was put in.



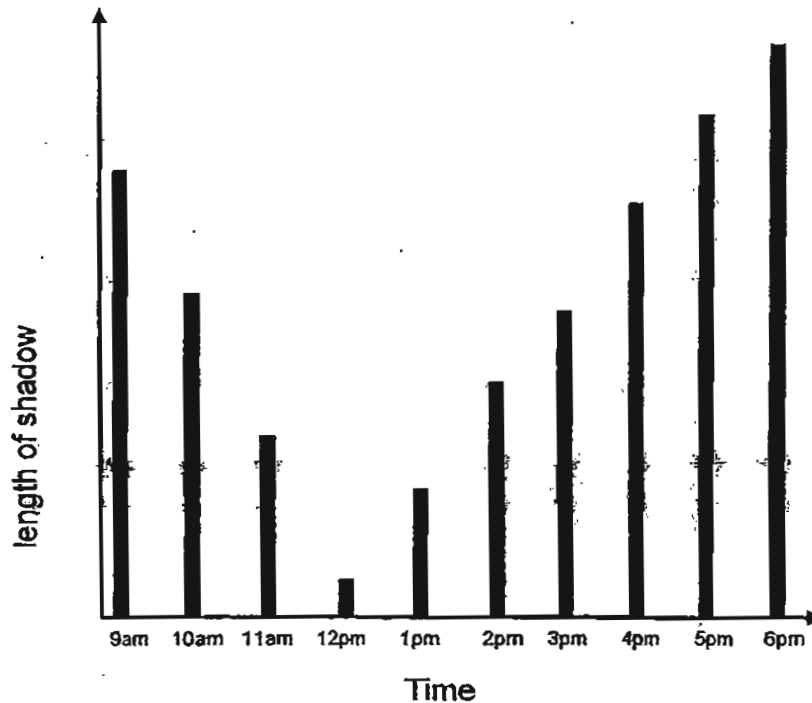
Based on the information above, which of the following statement(s) is / are true about objects X, Y and / or Z?

- A Object Z took up the least space in water.
- B Object X took up more space than object Y.
- C Both objects X and Z took up less space than object Y.

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

28. Peter conducted an experiment to find out if the length of the shadow of the pole depends on the time of the day. He placed a wooden pole in the open on a sunny day. Next, he measured the length of the shadow of the pole at every hour from 9 a.m. to 6 p.m.

Peter recorded his results in the following bar graph and showed it to his classmates.



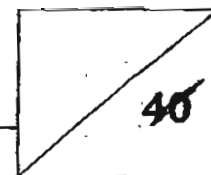
Peter's classmates made the following conclusions.

- Ahmad : The longest shadow occurred at 5 pm.
Carolyn : The shadow was shortest early in the morning.
Tilly : The shadow was formed when the pole blocked light.
David : The shadow became longer after 1 pm.

Based on the information above, which of Peter's classmates made the correct conclusions?

- (1) Ahmad and David only
(2) Carolyn and Tilly only
(3) Tilly and David only
(4) Ahmad, Carolyn and David only

Name: _____ Index No: _____ Class: P5

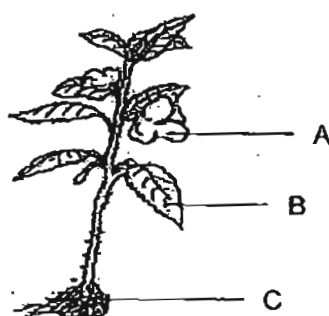


SECTION B (40 marks)

For questions 31 to 44, write your answers clearly in the spaces provided.

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

31. The diagram below shows a flowering plant.

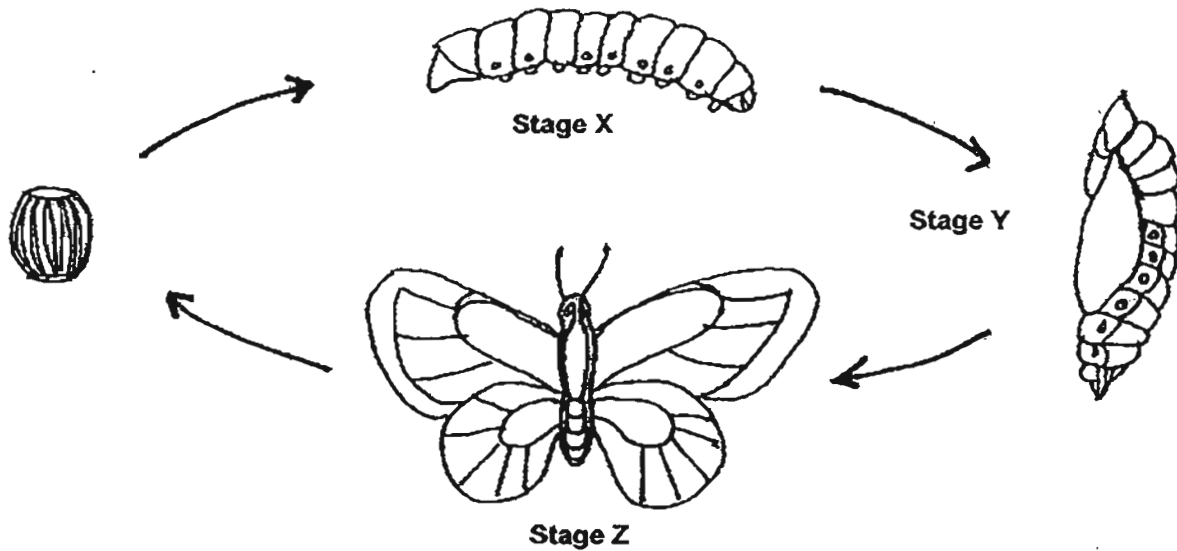


(a) What does part A of the plant develop into after pollination? [1]

(b) State how useful part B is to the plant. [1]

(c) Part C is removed from the plant.
Explain what will happen to the plant after a few days. [1]

32. The diagram below shows the different stages of growth in the life cycle of an animal.



Based on the diagram above, answer the following questions:

(a) Name the stages marked X and Y. [1]

X: _____ stage

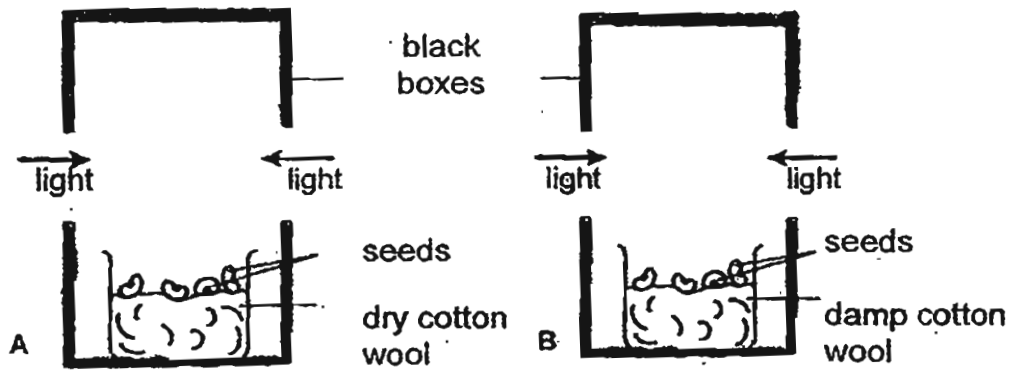
Y: _____ stage

(b) List two ways in which Stage X is different from Stage Z.

(Do NOT compare size and shape.) [2]

33. An equal number of seeds of type X were put into identical glass beakers, A and B, each with an equal amount of cotton wool.

The two beakers were placed in black boxes made of the same material (as shown in the diagrams below) near an open window.



Based on the information above, answer the following questions:

- (a) In which of these beakers, A and / or B, would the seeds most likely to germinate?

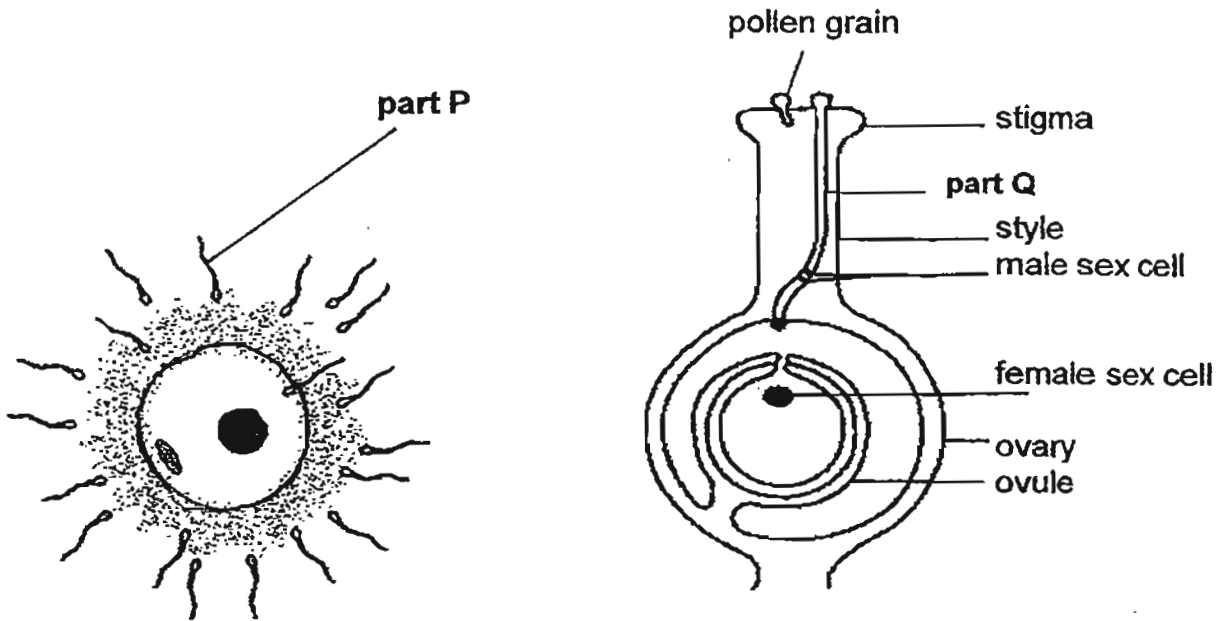
Explain your answer.

[2]

- (b) Which part of the seedling appeared first?

[1]

34 The diagrams below (NOT drawn to scale) show fertilisation taking place in different reproductive systems.

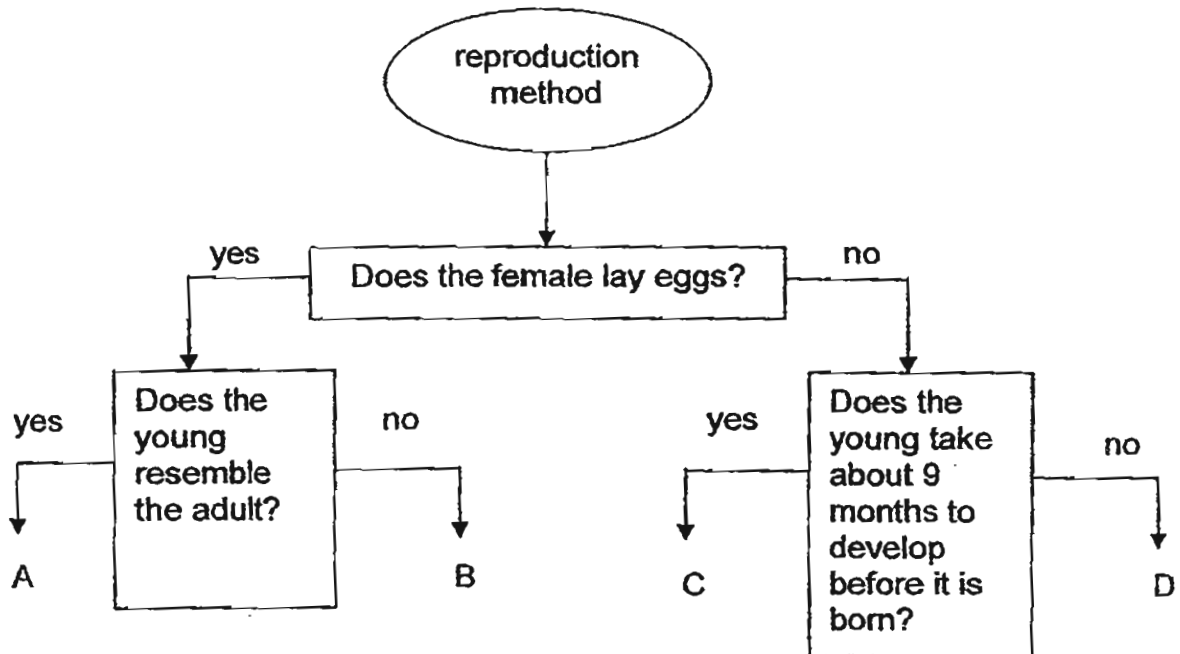


Based on the diagrams above, explain how parts P and Q enable fertilisation to take place in each of the reproductive systems: [2]

(i) P: _____

(ii) Q: _____

35. The flow chart shows how some animals are differentiated based on their different reproduction methods:



Based on the information above, classify each of the following animals.

Write letters A, B, C and D ONLY.

[2]

human : _____

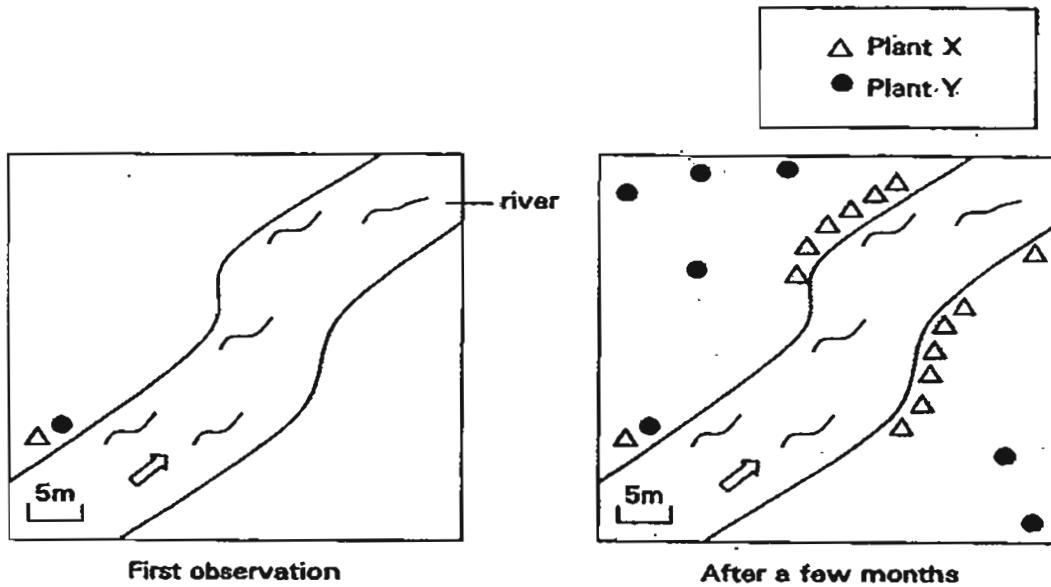
dolphin : _____

mosquito : _____

crocodile : _____

36. Sue Lynn observed and recorded the number of wild plants, X and Y, on a piece of land. After a few months, she examined the same piece of land again.

Her observations are shown below.



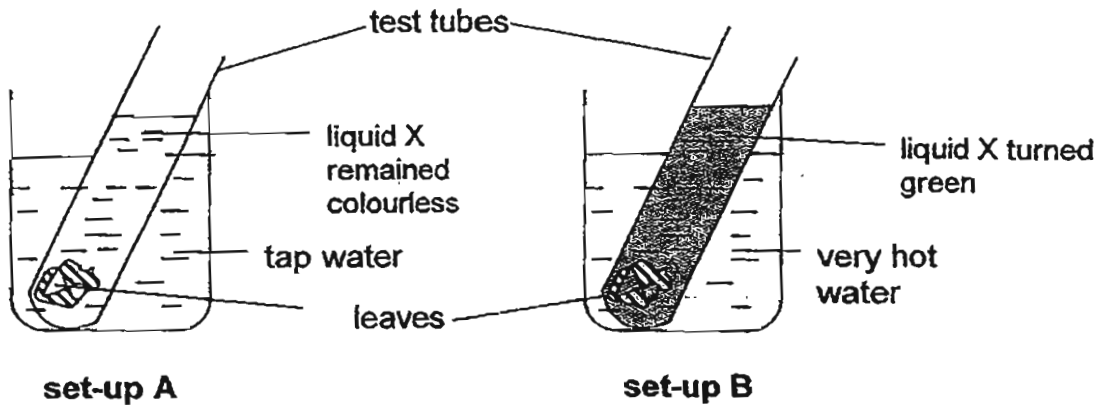
- (a) State the methods of dispersal of fruits / seeds of plants X and Y and give a reason for each of your answers: [2]

plant	method(s) of fruit / seed dispersal	reason
X		
Y		

- (b) Give an example of a plant with seeds of fruits which share the same method of fruit dispersal as fruits of plant X. [1]

37. Kate placed two leaves of similar size from the same plant into each of two identical test tubes containing liquid X.

After three hours, Kate observed the differences as shown below:

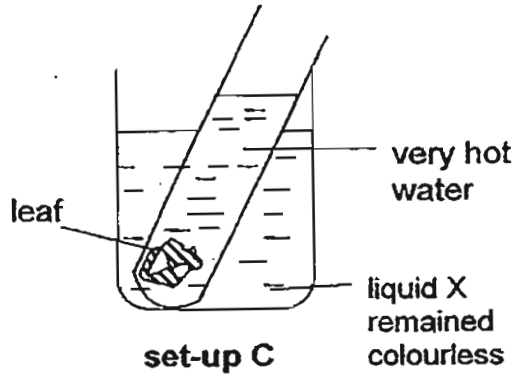


- (a) What caused colourless liquid X to turn green? [1]

To be continued on the next page

Kate conducted **ANOTHER** experiment using set-up C.

Liquid X in set-up C, as shown below, remained colourless after three hours.



Based on the results of Kate's experiments, answer the following questions:

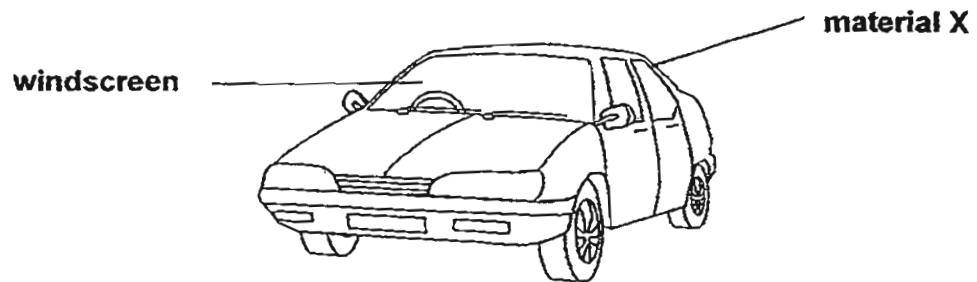
[2]

- (b) (i) Identify the set-up, A, B or C, in which chlorophyll was removed from the leaf.

- (ii) Next, describe how chlorophyll could be removed from the leaf. Complete steps 2 and 3 in the table below.

step	description of procedure
1	Put a green leaf into a test tube.
2	
3	
4	Place the test tube containing the green leaf and liquid X into the beaker of very hot water.

38 The diagram below shows a car with some of its labelled parts.



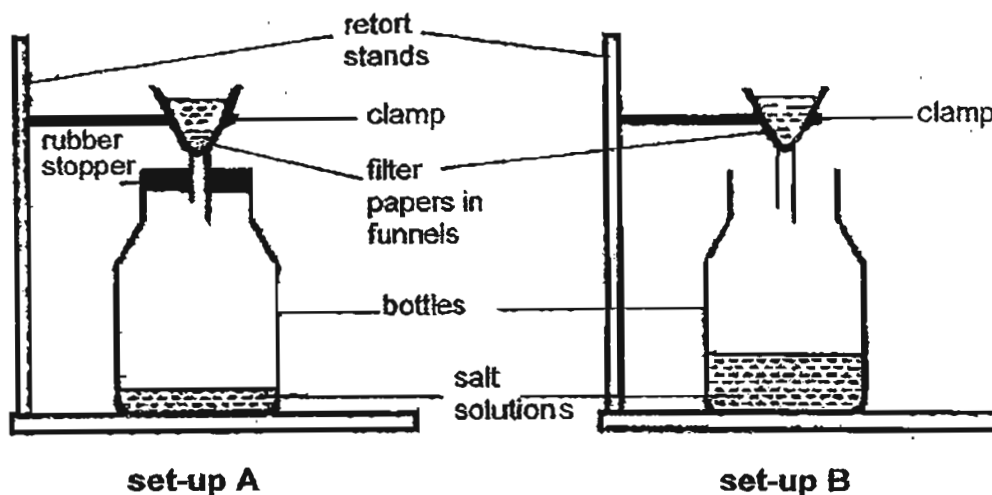
- (a) Suggest a suitable material to make the windscreen of a car. Give a reason why the material is used. [2]

material	reason

- (b) Name **ANOTHER** object that is made of material X. [1]

39. Jasmine was given a beaker of sand in salt solution. She used set-up A to separate the sand from the salt solution.

The salt solution dripped into the bottle very slowly. Her teacher told her to use set-up B instead.



- (a) Explain why Jasmine's teacher asked her to use set-up B. [2]

- (b) Suggest what Jasmine could do next to obtain salt from the salt solution. [1]

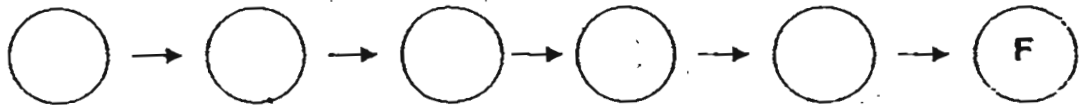
40. The statements A to F describe the events / processes (**NOT** arranged in the correct order) that lead to the formation of rain.

A	?
B	Condensation takes place
C	Droplets of water form clouds
D	Warm air rises and then cools
F	Water droplets become bigger to form rain
E	Heat energy from the Sun warms the Earth

- (a) Complete the diagram below to show the correct order in which rain is formed.

Write letters A, B, C, D and E in the appropriate circles.
Letter F is written for you.

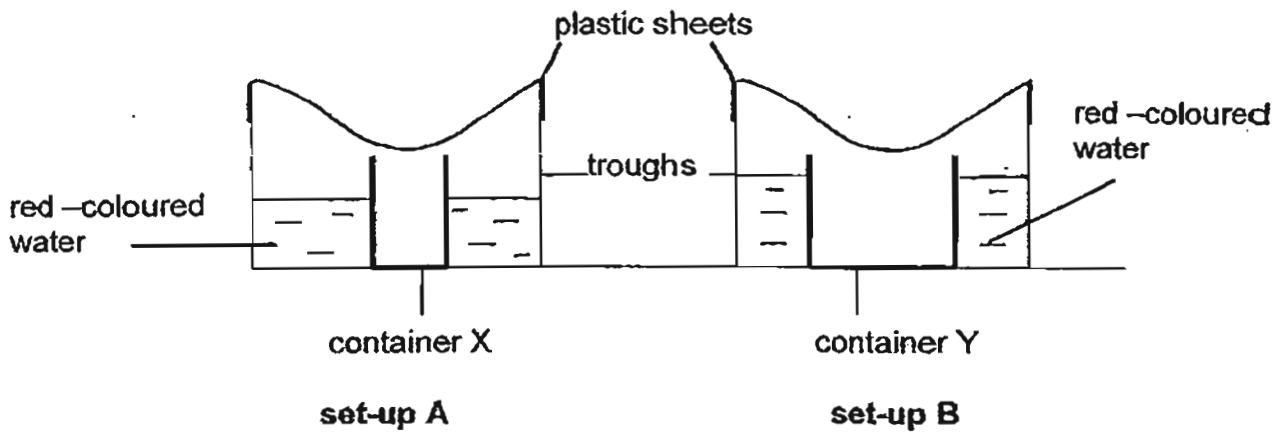
[1]



- (b) Name the process that takes place at A.

[1]

41. Mavis filled 2 identical troughs with the same amount of red-coloured water. Next, she placed the set-ups, A and B, in the garden on a hot day for 2 days.



At the end of 2 days, Mavis observed that both containers X and Y were **NO** longer empty. She found the same substance, P, in both containers.

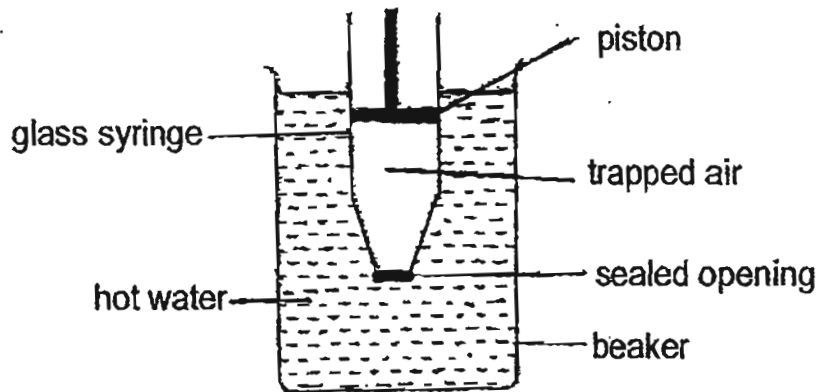
- (a) What was substance P? [1]

Mavis measured the amount of substance P in each container, X and Y.

- (b) Which container, X or Y, collected more of substance P? Explain your answer. [2]

42. The opening of a glass syringe below was sealed. Air was trapped between the piston and its sealed opening.

Joseph placed the sealed syringe in a beaker of hot water as shown below.

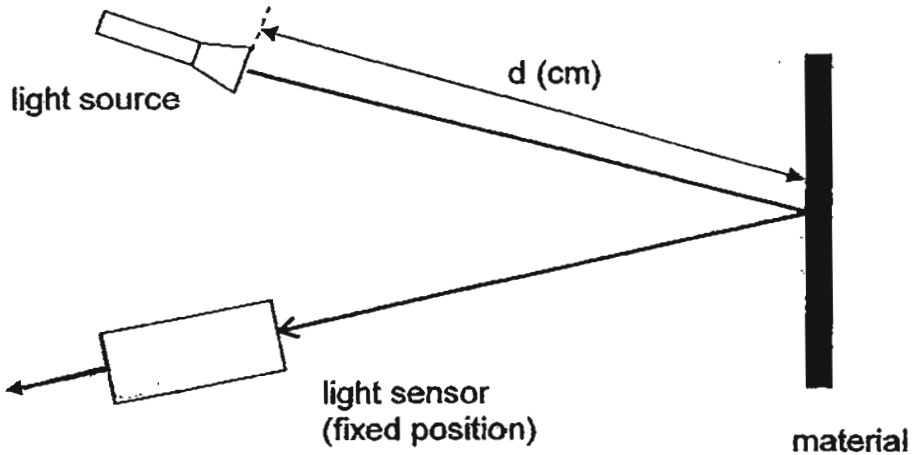


What would Joseph observe of the piston when he placed the syringe in hot water?

Explain your answer.

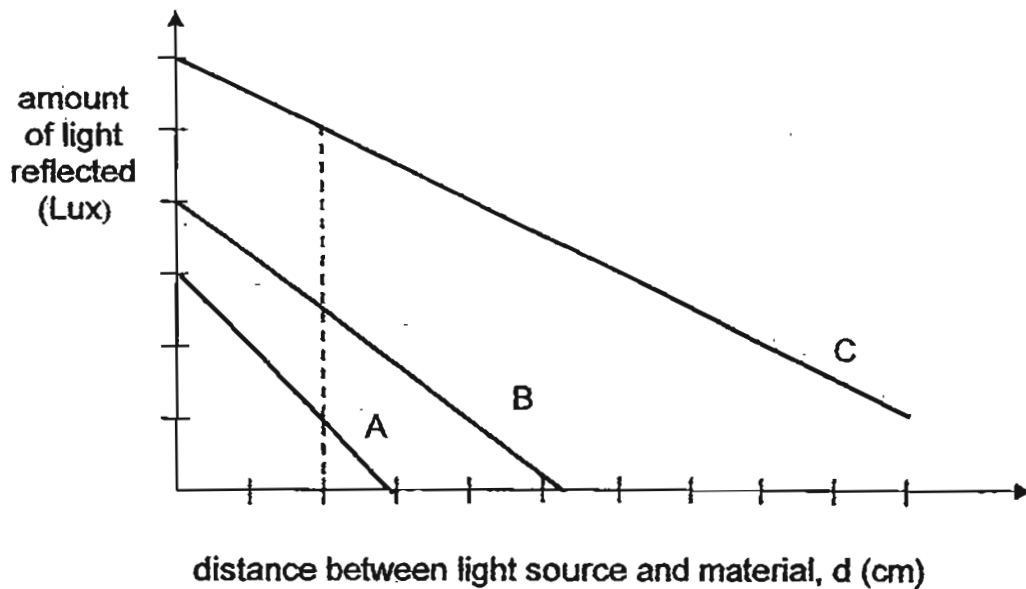
[2]

43. Ali conducted an experiment to find out how the amount of light reflected by each of these different materials, A, B and C, is affected by the distance between the light source and the material, d (cm). He set up his apparatus as shown in the diagram below.



Ali placed the light source at different distances from the material, one at a time, and used a light sensor to measure the amount of light each material reflected.

He recorded his results and plotted the graph shown below.



Based on the information on page 35, answer the following questions:

- (a) Which material, A, B or C, was able to reflect the most light at X? [1]

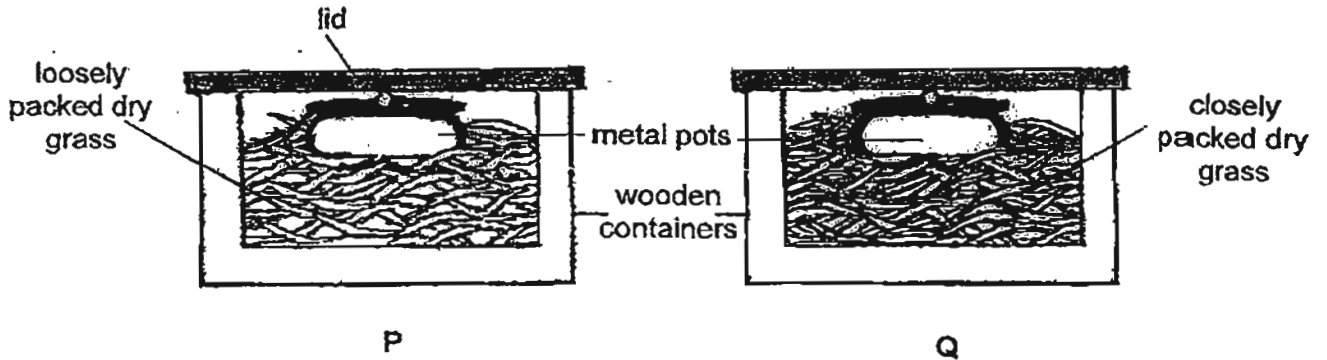
- (b) Which material, A, B or C, could reflect light from the greatest distance? [1]

- (c) Ali conducted his experiment in a completely dark room to ensure a fair test. Explain why Ali needed to do this. [1]

- (d) State one **OTHER** variable that Ali should keep constant to conduct a fair test for his experiments. [1]

44. The following diagrams show an old method of keeping food warm.

Two identical metal hot pots were surrounded with dry grass. The dry grass in container P was loosely packed unlike the dry grass in container Q which was packed closely together.



- (a) The metal pot in container Q was able to keep food warm for a longer period. Explain why. [2]

Using the same metal pot and lid, John used **ANOTHER** set-up to find out if the type of container will affect the rate in which the metal pot loses heat.

- (b) List two variables which John must keep the same to carry out a fair test. [2]

VARIABLE 1	
VARIABLE 2	

- END OF PAPER -

Setters: Mrs Christina Lim, Mdm Prisca Fernandez, Mr Ronald Lee

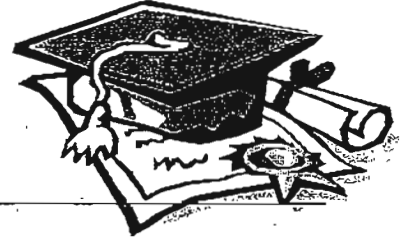


ANSWER SHEET

EXAM PAPER 2011

**SCHOOL : RAFFLES GIRLS'
SUBJECT : PRIMARY 5 SCIENCE**

TERM : SA1



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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	1	3	4	1	2	1	2	4	3	3	3	2

31)a)A fruit.

b)Part B has chlorophyll in it to trap light energy for photosynthesis.

c)The plant will die. Without roots, the plant cannot absorb for photosynthesis.

32)a)X: Larval stage Y: Pupa stage

b)At stage Z, the animal has a pair of feelers while at stage X, it does not have feelers.

33)a)B. In B, the seeds have sufficient warmth, oxygen and water while in A, the seeds do not have a sufficient amount of water.

b)The roots.

34)i)P enables the sperm to swim to fuse with the egg.

ii)It enables the male sex cell to move all the way to the ovary to meet the female sex cell for fertilization.

35)C,D,B,A

36)a)X: by water / The seeds of X are found along the riverbank.

Y: by wind / Seeds were scattered randomly away on the land.

b)Coconut.

37)a)Heat from the hot water and the chlorophyll from the leaf.

b)i)B.

ii)2)Fill the test tube with liquid X.

3)Fill another beaker with very hot water.

38)a)Glass / It is waterproof, strong, durable and transparent.

b)Nail.

39)a)In set-up B, air in the bottle could escape more quickly so the salt solution could flow into the bottle more quickly.

b)She could boil the salt solution to obtain salt.

40)a)E→A→D→B→C→F

b)Evaporation.

41)a)Pure water.

b)The exposed surface area of water in the trough in set-up A was larger. Water in the trough could evaporate and condense on the undersides of the plastic sheet more quickly.

42)The piston moved up. The glass syringe gained heat from the hot water. So the trapped air gained heat from the syringe and, push in the piston upwards.

43)a)C.

b)C.

c)He had to measure the amount of light each material reflected from the light source and not the surroundings.

d)The angle of the light source.

44)a)Closely packed dry grass is a better insulator of heat than loosely packed dry grass.

b)1)The thickness of the containers.

2)The temperature of the surrounding.