

**SINGAPORE CHINESE GIRLS' SCHOOL**

**FIRST SEMESTRAL ASSESSMENT 2013**

**SCIENCE**

**PRIMARY FIVE**

NAME: \_\_\_\_\_ ( )

DATE: \_\_\_\_\_

CLASS: PRIMARY 5

30 questions

60 marks

Total time for Booklets A & B: 1 h 45 min

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.**

**FOLLOW ALL INSTRUCTIONS CAREFULLY.**

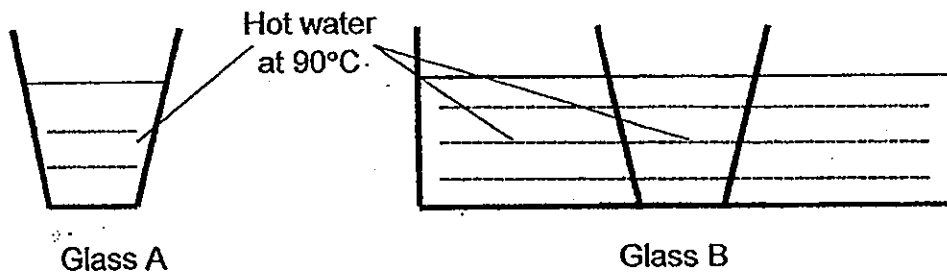
**Part 1 (60 marks)**

For each question from 1 to 30, 4 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.

1. Abigail carried out an experiment to find out how heat can affect matter. Hot water was poured into 2 glasses of the same thickness as shown below. After some time, Glass A cracked but Glass B did not.



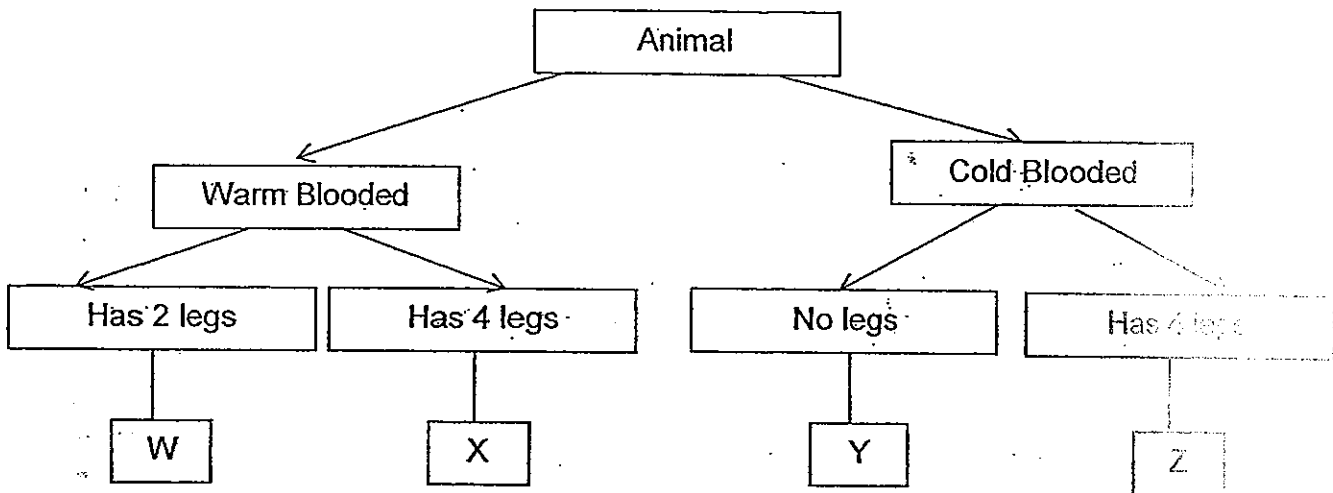
Which of the following best explains the outcome of the experiment?

	Glass A	Glass B
(1)	Inner surface of glass expanded more than outer surface.	Inner and outer surface of glass expanded at the same rate.
(2)	Inner and outer surface of glass expanded at the same rate.	Inner surface of glass expanded more than outer surface.
(3)	Outer surface of glass expanded more than inner surface.	Inner surface of glass expanded more than outer surface.
(4)	Inner and outer surface of glass expanded at the same rate.	Outer surface of glass expanded more than inner surface.

2. Which of the following traces the route of digestion in our body?

- (1) Mouth → Gullet → Small Intestine → Stomach → Large Intestine
- (2) Nose → Gullet → Stomach → Small Intestine → Large Intestine
- (3) Mouth → Gullet → Stomach → Small Intestine → Large Intestine
- (4) Mouth → Windpipe → Small Intestine → Stomach → Large Intestine

3. Study the classification table below.



Which one of the following pupils identified the animals correctly?

	Pupils	W	X	Y	Z
(1)	Barbara	Guppy	Deer	Dolphin	Lizard
(2)	Candice	Fly	Ladybird	Guppy	Frog
(3)	Daniel	Penguin	Lizard	Turtle	Toad
(4)	Eliza	Chicken	Lion	Snake	Crocodiles

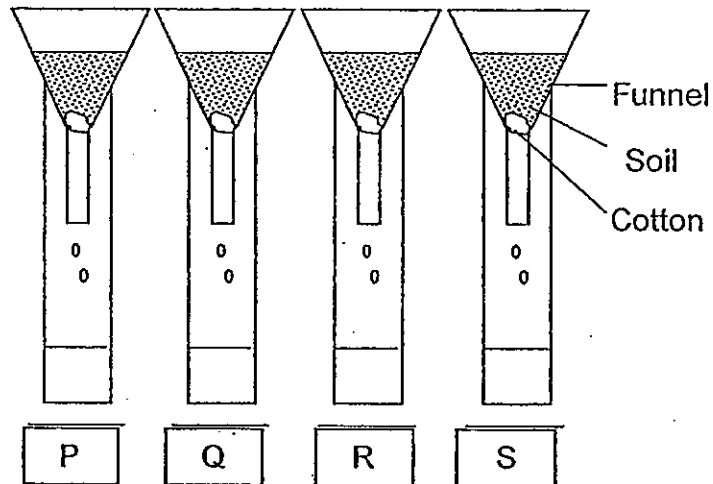
4. Martin carried out an experiment to see how long his hand could remain on the surface of a hot plate. The table below shows the results.

Temperature of hot plate surface	Time taken before his hand leaves the surface of the hot plate (s)
40	4
60	2
80	0.5

What conclusion can Martin make from the experiment?

- (1) Heat travels from a hotter to cooler place.
- (2) Heat travels to Martin's hand faster if the temperature is lower.
- (3) The hotter the surface of the plate, the faster his hand leaves the surface of the hot plate.
- (4) As the temperature of the surface of the hot plate increases, Martin will leave his hands there longer.

5. Gordon set up the following experiment to find out which type of soil would retain water best.

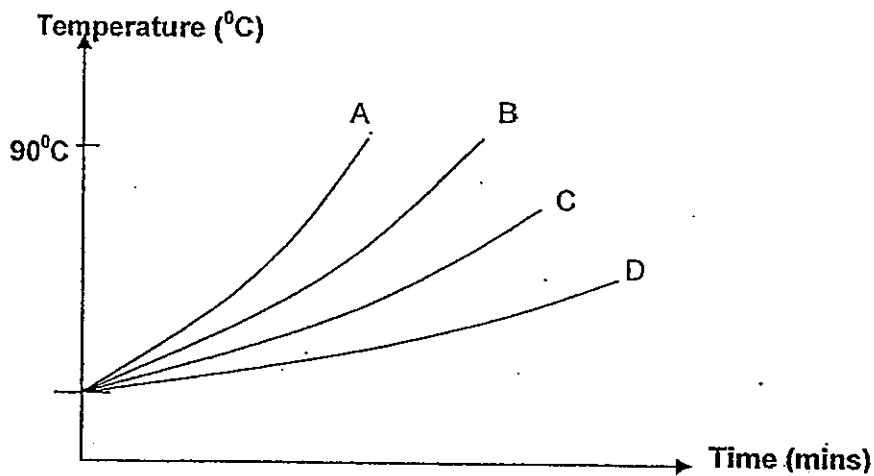


Soil Sample	Time taken for first drop of water to fall into cylinder (s)	Amount of water in cylinder after 20 minutes (ml)
P	6	200
Q	29	70
R	18	100
S	10	?

Which one of the following data would Gordon most likely record for **Amount of water in cylinder after 20 minutes** in Soil Sample S in his table above?

- (1) 50  
 (2) 100  
 (3) 150  
 (4) 200

6. Study the graph below.



Faridah wanted to boil eggs. She had to decide among the cooking pots made of different materials. Which one of the following materials would allow her to cook the eggs in the shortest time?

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

7. Jackie made the following observations about 2 animals, T and S. She drew up the table below.

Animals	T	S
Characteristics		
Feathers		✓
Scales	✓	
Legs	✓	✓
Wings		✓

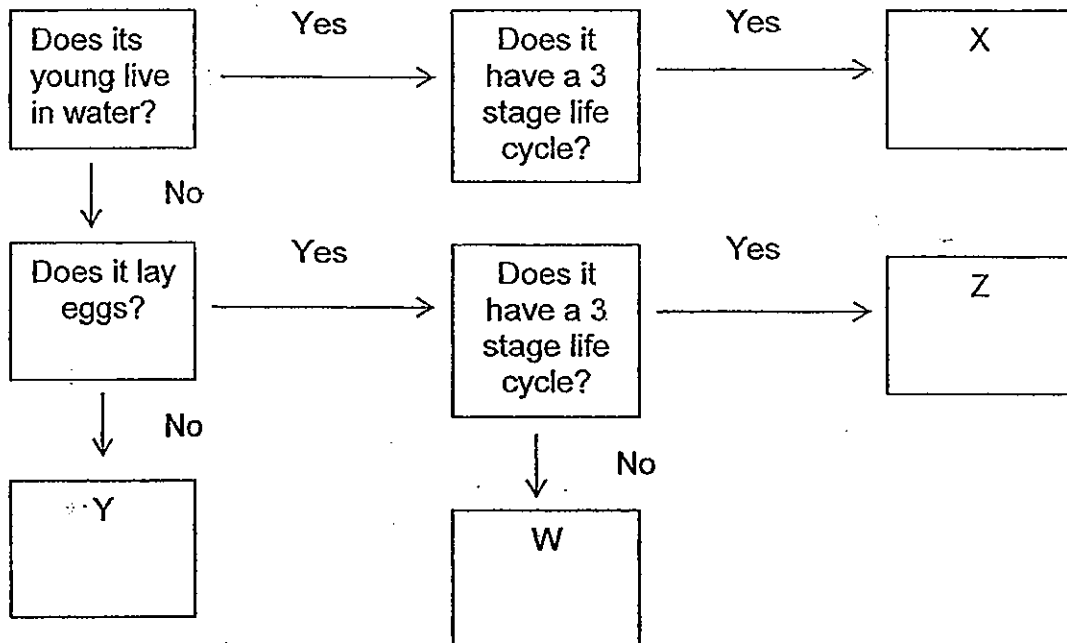
Jackie

What can Mandy definitely conclude from her observations above?

- A: Animal S cannot fly
- B: Animal T cannot fly
- C: Animal S is a fish
- D: Animal T is a fish
- E: Animal S is a bird
- F: Animal T is a bird

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

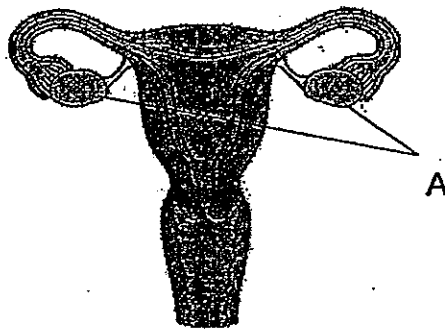
8. Study the flow chart below.



Which one of the following correctly identifies the animals?

	W	X	Y	Z
(1)	Beetle	Mosquito		Cockroach
(2)	Bee	Mosquito		Grasshopper
(3)	Butterfly	Frog		Grasshopper
(4)	Grasshopper	Toad		Beetle

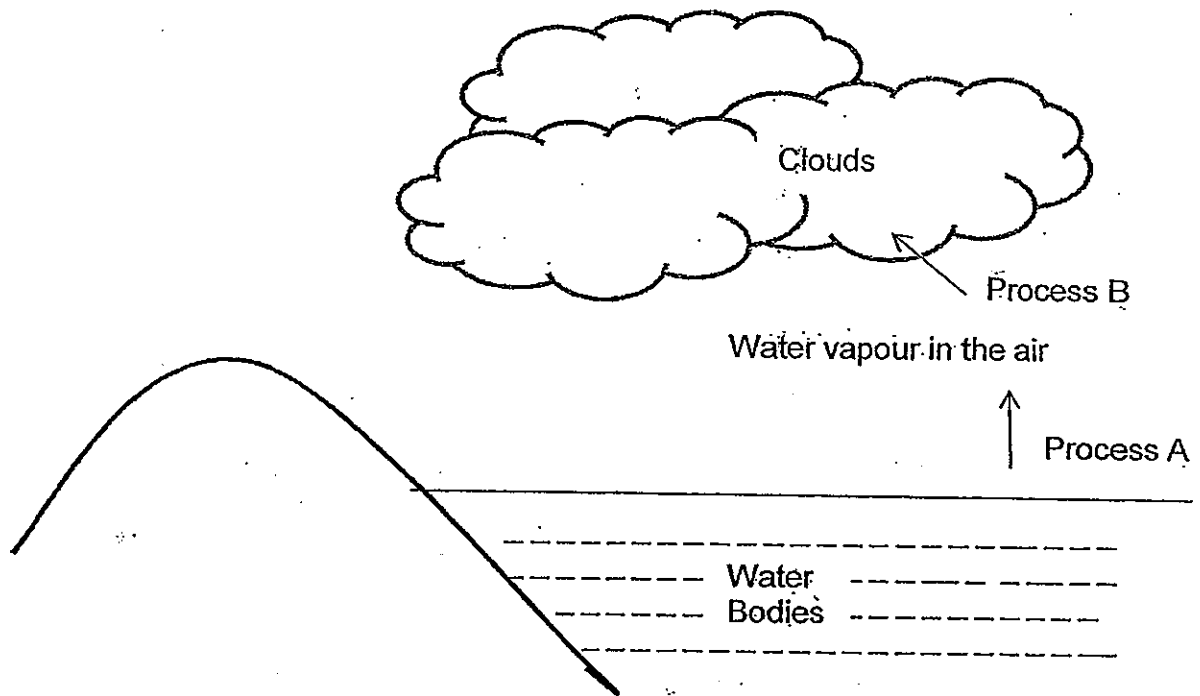
9. The diagram below shows a human reproductive system.



What would happen if parts A were removed?

- (1) No eggs can be released.
- (2) More eggs will be released.
- (3) The foetus will develop in the vagina.
- (4) The sperms will not be able to be produced.

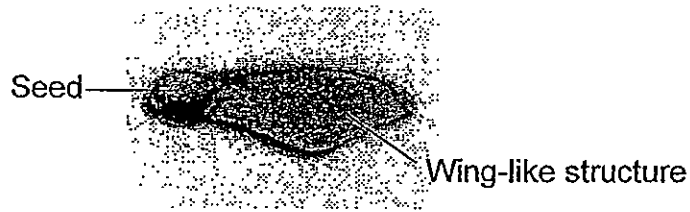
10. Study the water cycle below.



Which one of the following describes if heat is gained or lost by the water for Process A and Process B?

	A	B
(1)	Heat Gain	Heat Loss
(2)	Heat Gain	Heat Gain
(3)	Heat Loss	Heat Gain
(4)	Heat Loss	Heat Loss

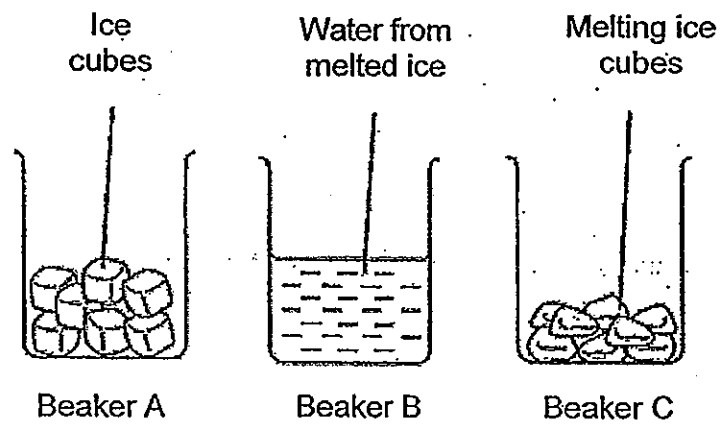
11. Gordon picked up a seed as shown in the diagram below while walking at a park.



The seed is likely to be dispersed by \_\_\_\_\_.

- (1) Wind  
 (2) Water  
 (3) Animals  
 (4) Splitting

12. Look at the following set-up.

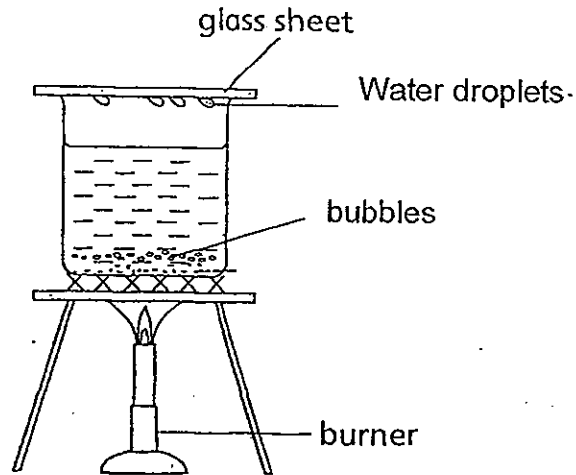


Helena recorded the temperature of the set-ups in a table. Which one of the following shows the correct recording?

	Beaker A	Beaker B	Beaker C
1	-2°C	3°C	0°C
2	0°C	3°C	5°C
3	-2°C	0°C	-1°C
4	0°C	0°C	-2°C



13. Study the experiment below.



Why did water droplets appear on the inner surface of the glass sheet?

- (1) The water vapour was cooler than the glass sheet and the water vapour condensed into water droplets.
- (2) The glass sheet was cooler than the water vapour and the water vapour condensed into water droplets.
- (3) The bubbles rose to the surface of the water and condensed into water droplets.
- (4) The surface of the glass sheet inside was warmer than the outer surface and water droplets formed on it.

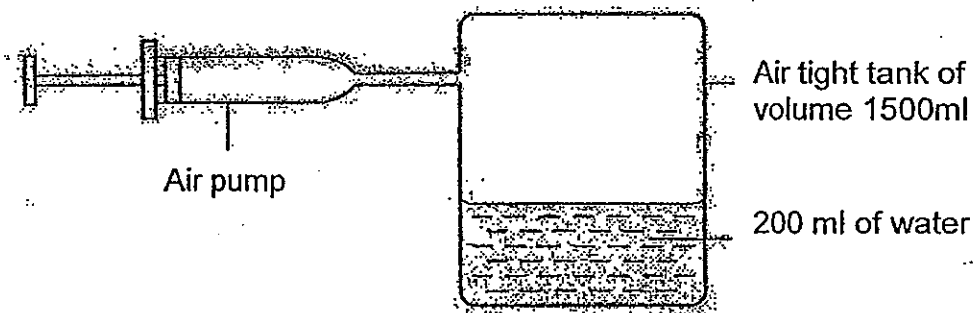
14. Study the classification table below.

	Cell A	Cell B	Cell C
Nucleus	√		
Cell Wall	√		√
Chloroplast			√
Cell Membrane	√	√	

Which one of the following represents a cell from a root hair?

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

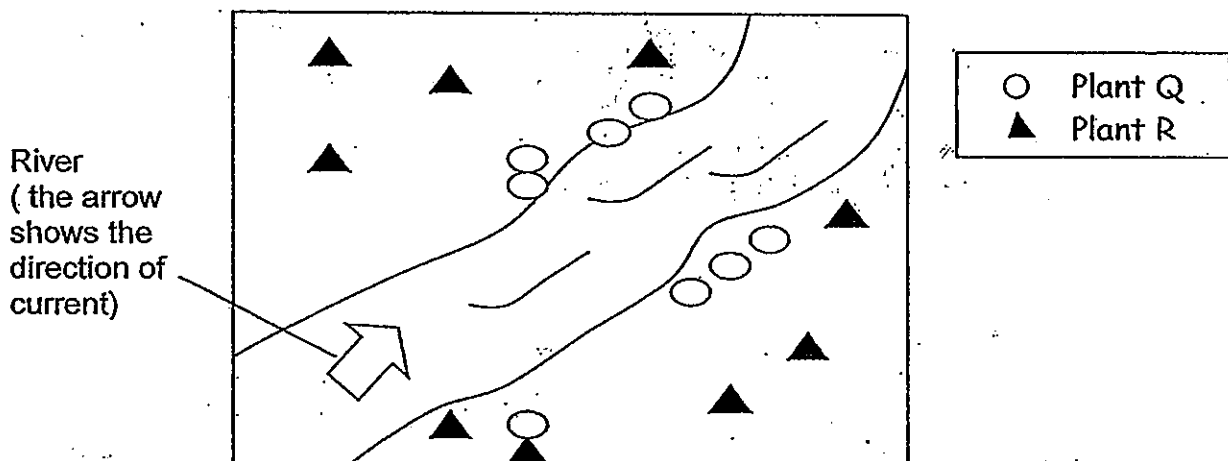
15. Jacob set up an experiment as shown below.



Some more air was pumped into the tank but the volume remained the same. This is because air \_\_\_\_\_.

- (1) has mass
- (2) takes up space
- (3) cannot be compressed
- (4) does not have a definite volume

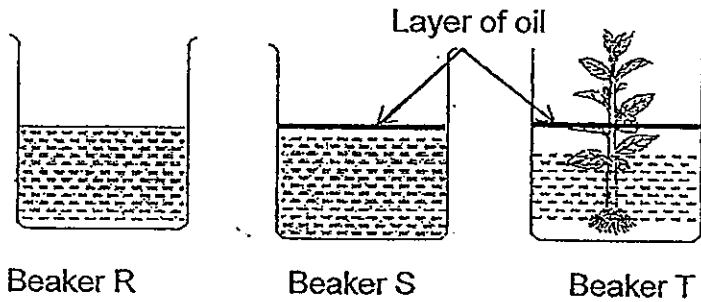
16. Thomas drew a map of a piece of land where Plants Q and R were found growing.



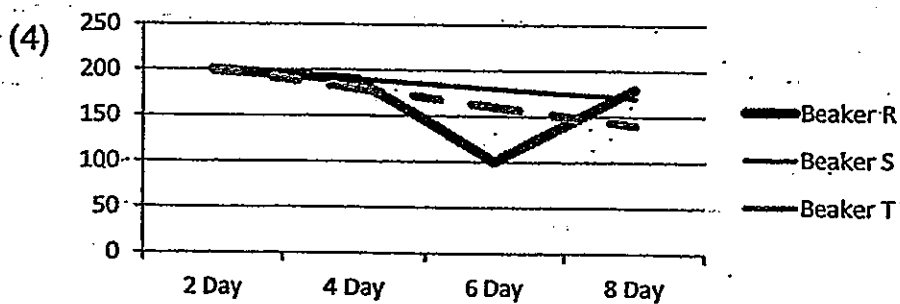
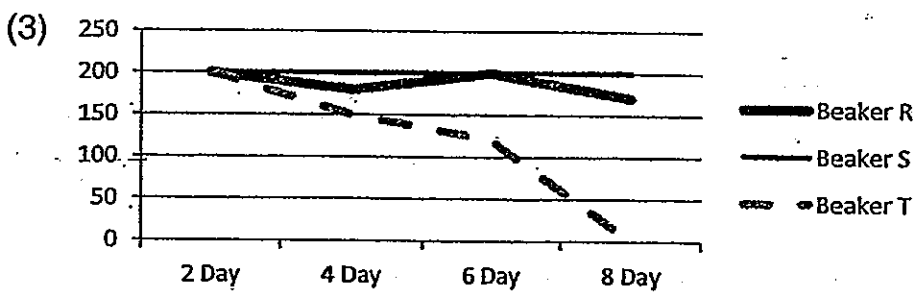
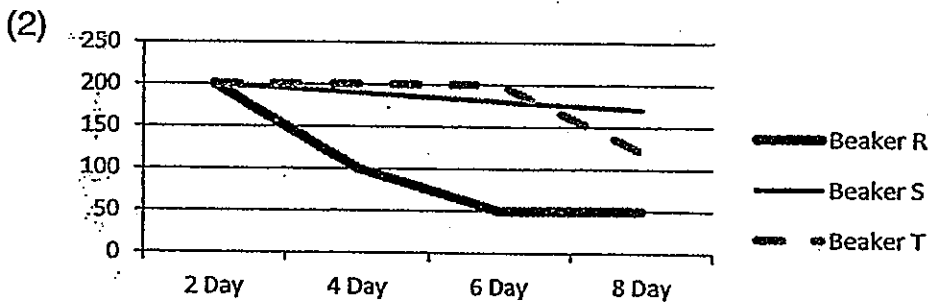
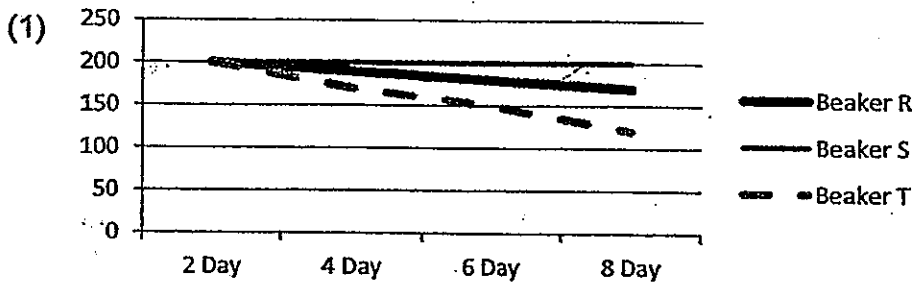
Which of the following would best represent Plant Q and Plant R?

	Plant Q	Plant R
(1)	Coconut	Love Grass
(2)	Angsana	Coconut
(3)	Love Grass	Coconut
(4)	Love Grass	Angsana

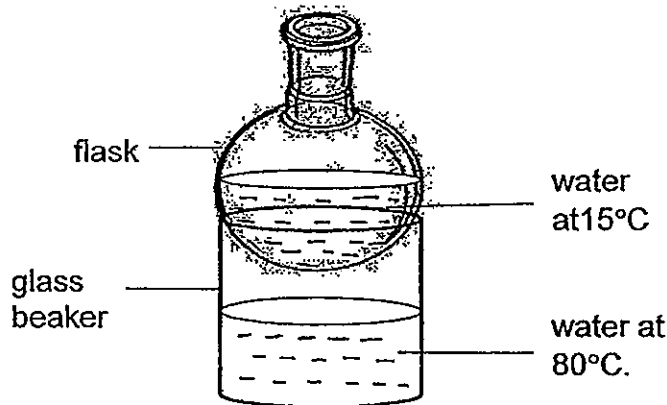
17. Suyin carried out an experiment to find out which beaker would have the least amount of water after 1 week. She placed all her beakers on the table.



She monitored the amount of water in each beaker every 2 days. Choose the graph that most likely shows her observation.



18. Martha placed a flask of water with a temperature of  $15^{\circ}\text{C}$  on a glass beaker of water with a temperature of  $80^{\circ}\text{C}$ . After 5 minutes, she recorded her observation.



Which of the following describes what she had observed?

- A Water droplets are visible at the bottom of the flask.
- B Water droplets are visible at the inner surface of the flask.
- C Water droplets are visible at the outer surface of the glass beaker.
- D Water droplets are visible at the inner surface of the glass beaker.

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

- (3) A and D only
- (4) C and D only

19. Study the table below.

Substances	J	K
Melting point	$20^{\circ}\text{C}$	$40^{\circ}\text{C}$
Boiling point	$60^{\circ}\text{C}$	$80^{\circ}\text{C}$

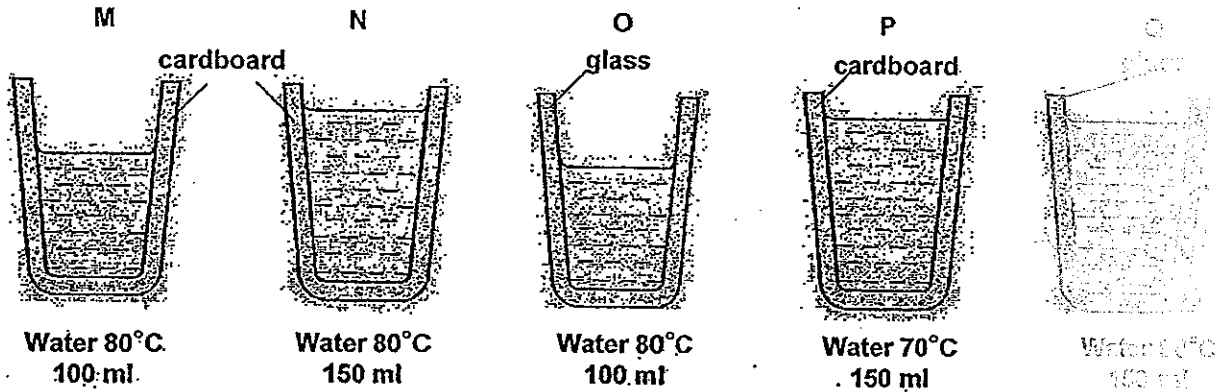
Which of the following statements describe J and K correctly?

- A Both substances melt at  $30^{\circ}\text{C}$ .
- B Both substances boil at  $60^{\circ}\text{C}$ .
- C Both substances are solids at  $10^{\circ}\text{C}$ .
- D Both substances are only liquid at  $80^{\circ}\text{C}$ .

- (1) B only
- (2) C only

- (3) A and D
- (4) A and C

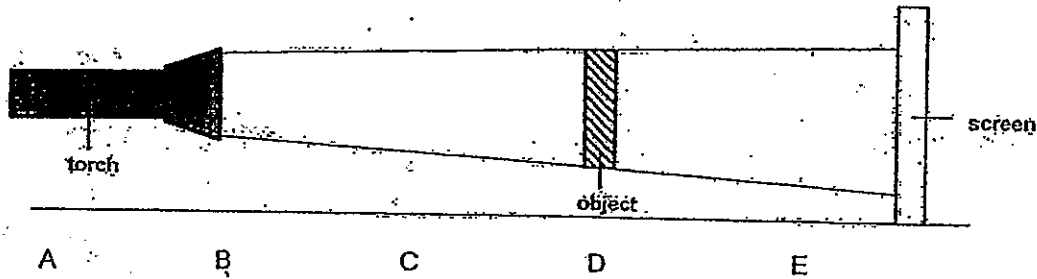
20. Kelly wanted to find out whether glass or cardboard is a better conductor of heat.



Which of the 2 set-ups should she use to conduct her experiment?

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

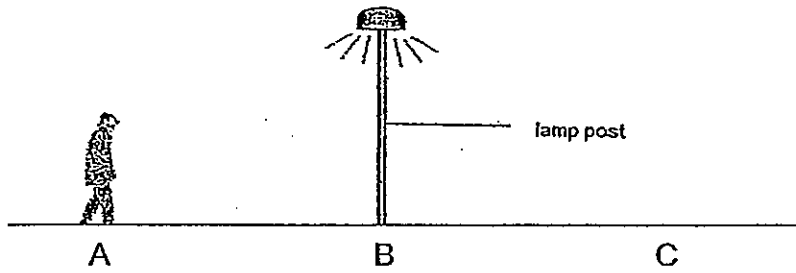
21. Craig placed a torch at position B. He also placed an object at position D as shown below. A shadow was cast on the screen.



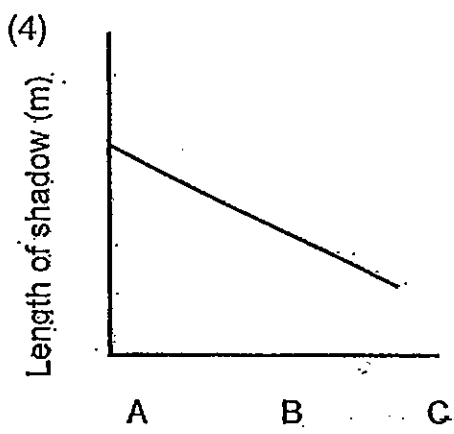
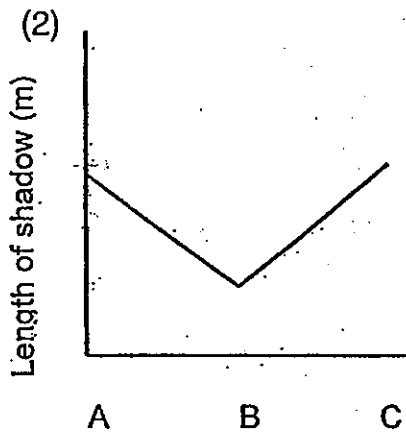
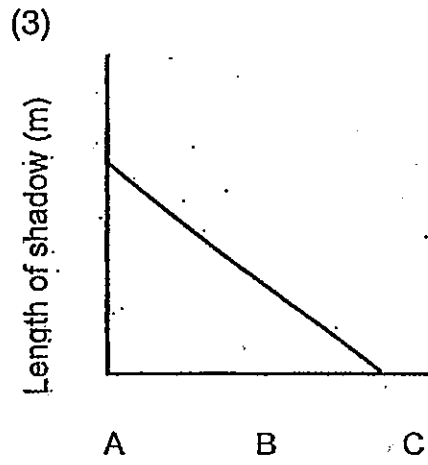
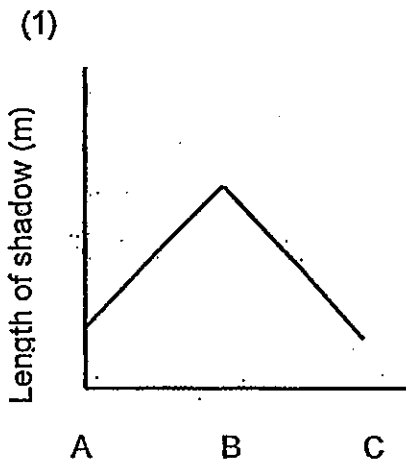
Which of the following set-ups will result in the smallest shadow on the screen?

	Position of torch	Position of object
(1)	C	E
(2)	C	D
(3)	A	D
(4)	A	E

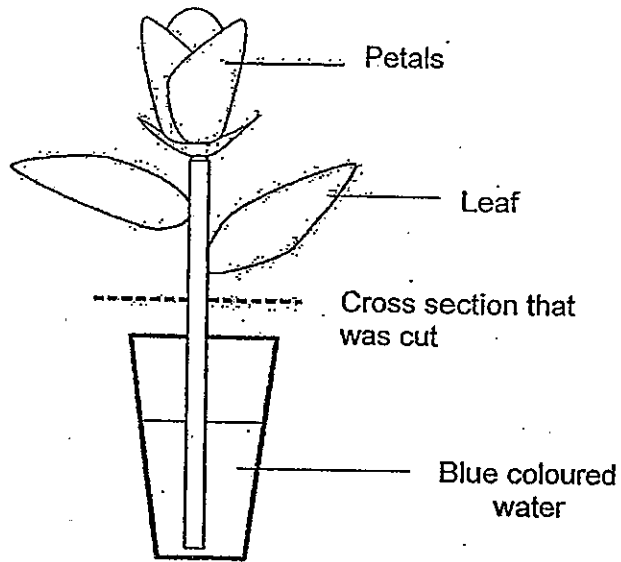
22. One night, Derek walked along a pavement and he passed under a street lamp.



Which one of the following graphs show the change in the length of his shadow as he walked from point A to B and then to C?

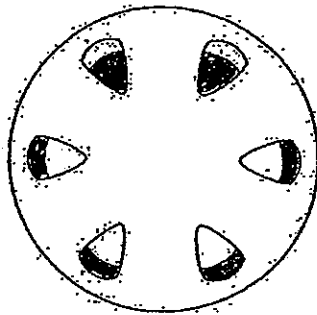


23. A stalk of tulip was placed in coloured water as shown below.

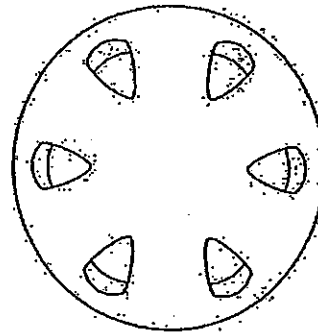


After two days, the stem was cut. Which one of the following cross section of the stem would be observed?

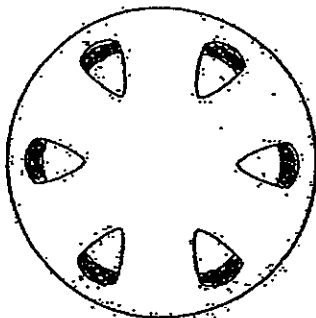
(1)



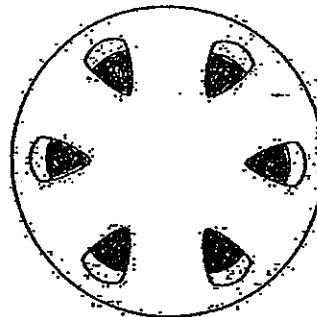
(3)



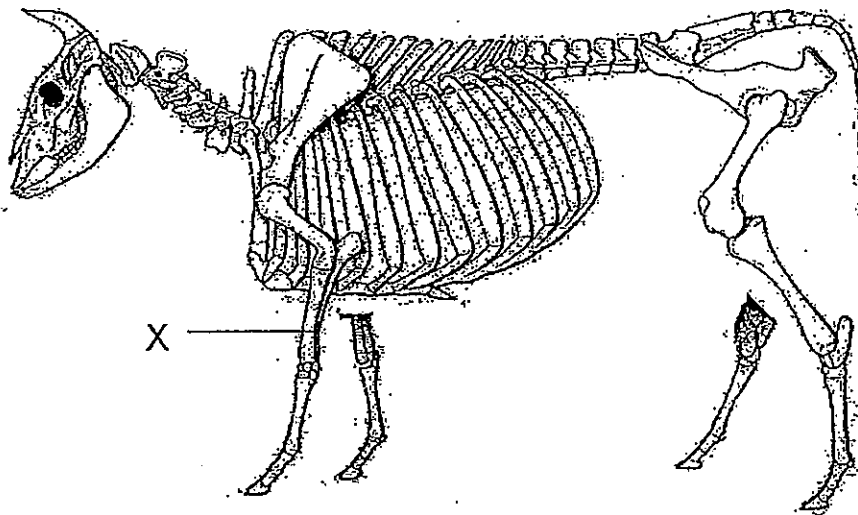
(2)



(4)



24. The picture shows a skeleton of an animal.

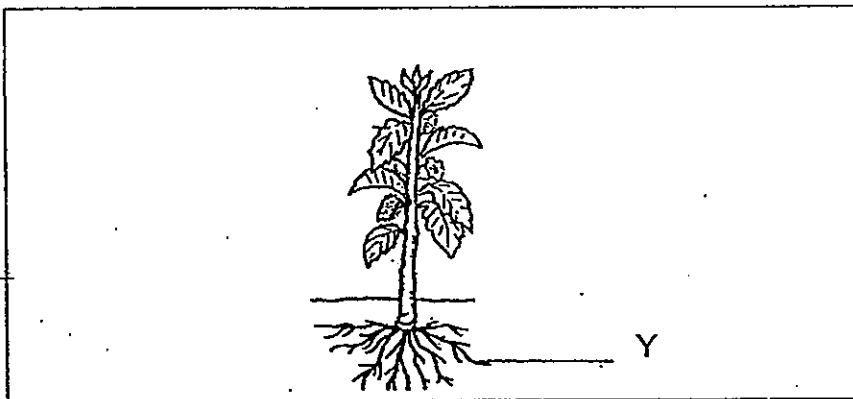


Which one of the other following systems must work together with 'X' to enable it to move?

- (1) Muscular system
- (2) Digestive system

- (3) Circulatory system
- (4) Respiratory system

25. Look at the plant below.

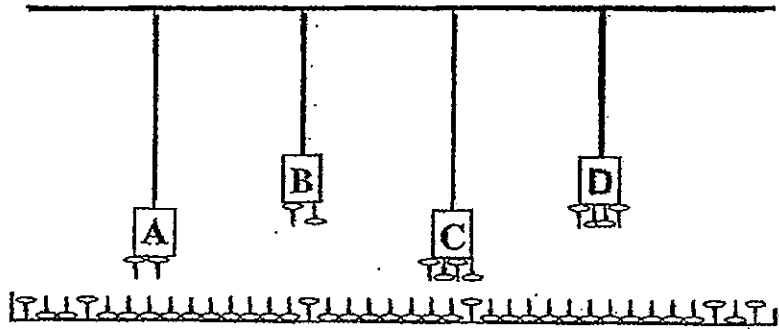


What is the function of part Y?

- (1) It keeps the plant upright.
- (2) It provides food for the plant.
- (3) It holds the plant firmly to the ground.
- (4) It transport water to other parts of the plant.



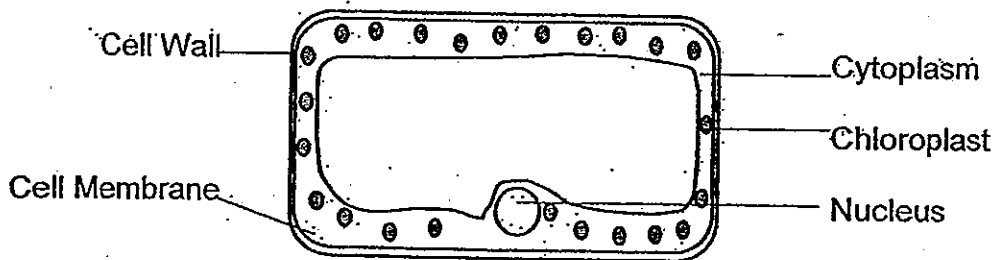
26. Vivienne wanted to test the strength of different magnets. She set up an experiment as shown below.



From the above results of her experiment, what can Vivienne conclude from her experiment?

- (1) Magnet C is weaker than magnet A.
- (2) Magnet D is stronger than Magnet C.
- (3) Magnet C is the strongest and Magnet B is the weakest.
- (4) Since the magnets are hung at different length, she is unable to find which is the strongest magnet.

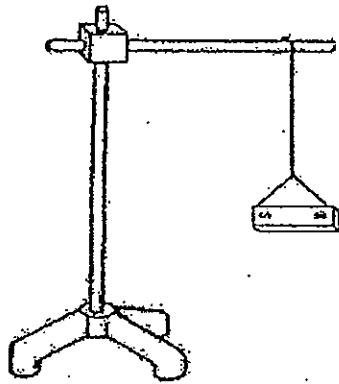
27. The diagram below shows a picture of a cell.



The cell is likely to be taken from a \_\_\_\_\_

- (1) plant
- (2) mammal
- (3) fungi
- (4) fish

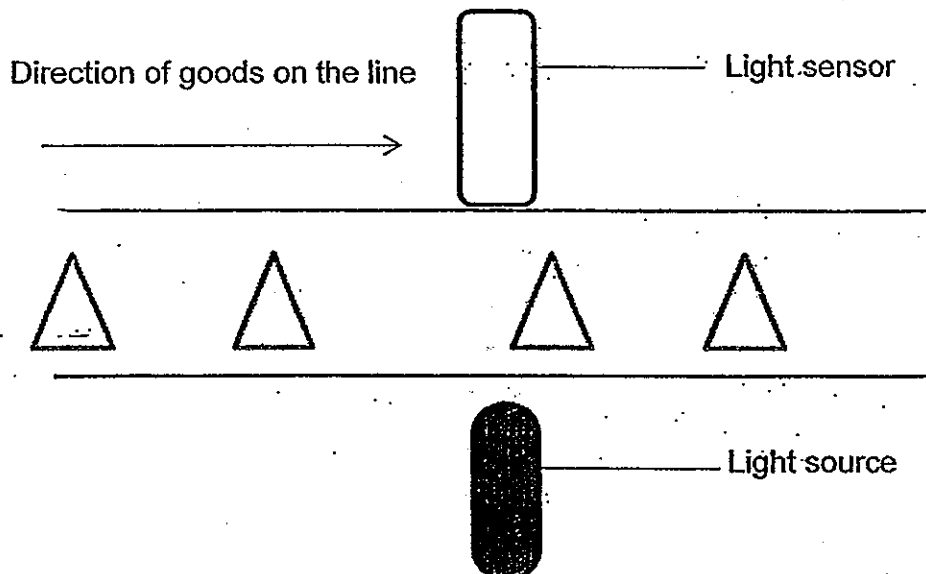
28. Sharon hung a magnet as shown in the diagram below and gave it a spin.



After 1 minute, which one of the following observation will she make?

- (1) The bar magnet will spin continuously.
- (2) The bar magnet will stop spinning and rest itself at the East-West direction.
- (3) The bar magnet will stop spinning and rest itself at the North-East direction.
- (4) The bar magnet will stop spinning and rest itself at the North-South direction.

29. At Mr Tan's factory, the goods are counted when the lights are completely blocked. Mr Tan later discovered that some of his goods were not counted for.



Which one of the following is a possible reason why the items were not accounted for?

- (1) The light source was too bright.
- (2) The goods were made of clear glass.
- (3) The goods were placed too close to the light sensor.
- (4) The goods were placed at unequal distances from each other.

SINGAPORE CHINESE GIRLS' SCHOOL  
FIRST SEMESTRAL ASSESSMENT 2013

SCIENCE  
PRIMARY FIVE

NAME: \_\_\_\_\_ ( )

DATE: \_\_\_\_\_

CLASS: PRIMARY 5 SY / C / G / SE / P

Booklet A		60
Booklet B		40
Total		100

Parent's Signature  
\_\_\_\_\_

BOOKLET B

14 questions

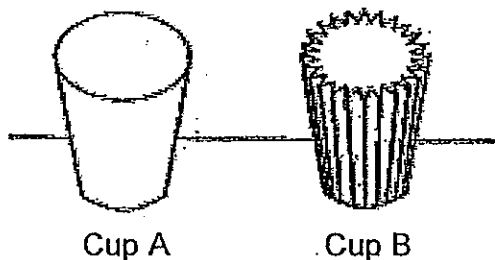
40 marks

Total time for Booklets A & B: 1 h 45 min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

30. Dee poured hot water into 2 cups made of the same material as shown in the diagram below.



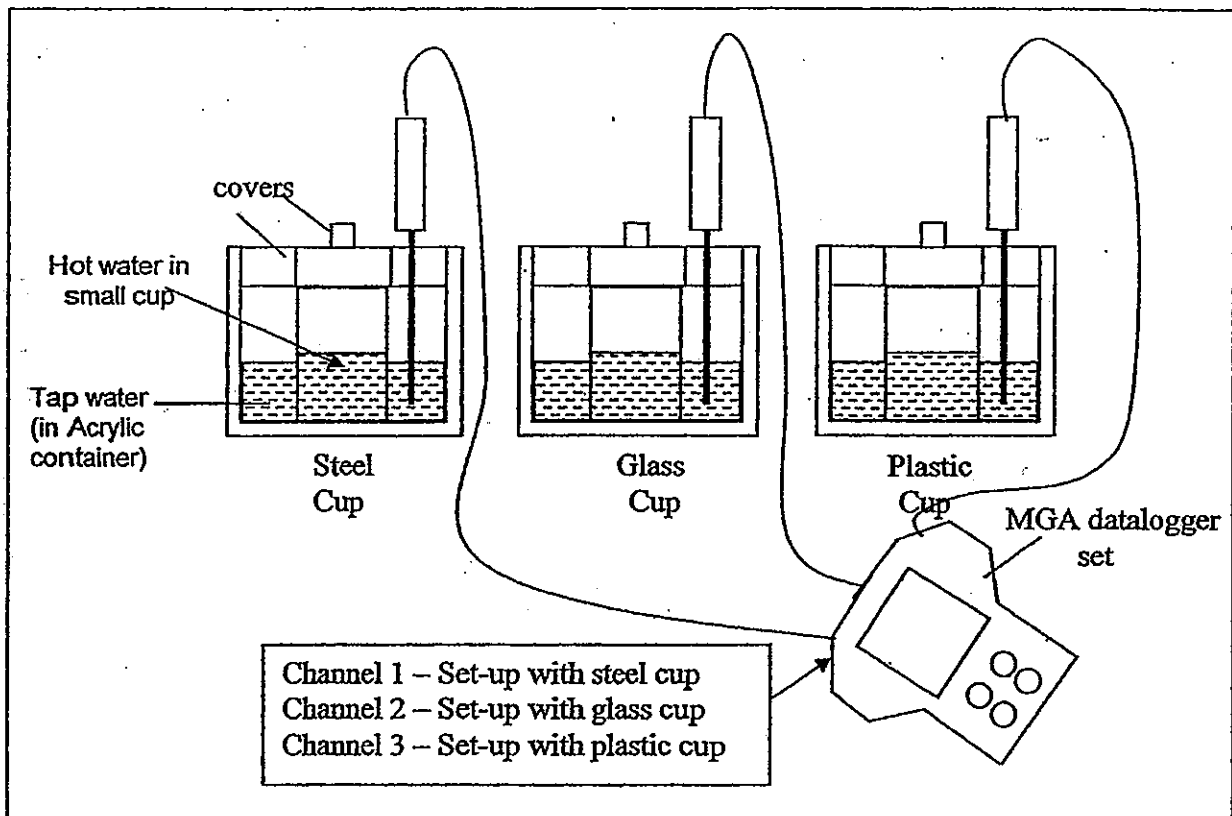
She realized that she could hold Cup B for a longer time as compared to cup A. Which one of the following best explains this?

- (1) Cup A is a better conductor of heat than cup B
- (2) Cup B is a better conductor of heat than cup A.
- (3) Dee's hand was in contact with a larger surface area for cup B than A.
- (4) Dee's hand was in contact with a smaller surface area for cup B than A.

**Part II (40 marks)**

Answer all the following questions.

31. Iskandar set up the following experiment in his classroom.



After 3 minutes, he recorded the temperature of water in each acrylic container as shown in the table below.

	Steel Cup	Glass Cup	Plastic Cup
Temperature of water in the acrylic containers	50°C	45°C	40°C

(a) Explain why the temperature of water in the acrylic container that has the steel cup is higher than the water in the other acrylic containers? (2m)

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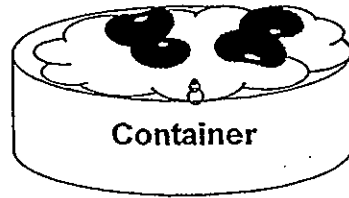


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(b) From the results above, which material would Iskandar use to transport ice? (1m)

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32. Toby observed and recorded changes in some beans placed on moist cotton wool in the container shown below.



(a) In the boxes below, arrange in order of appearance Toby's observation. (1m)

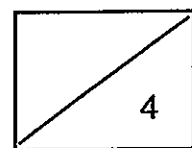
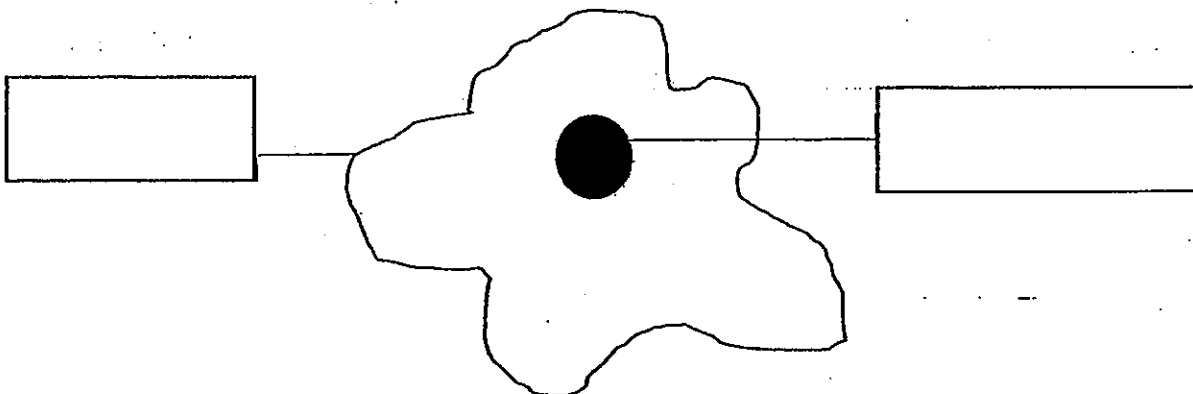
- A: A tiny shoot grows upwards.
- B: A root grows downwards for water.
- C: The bean absorbs water, swells and the seed coat cracks open.



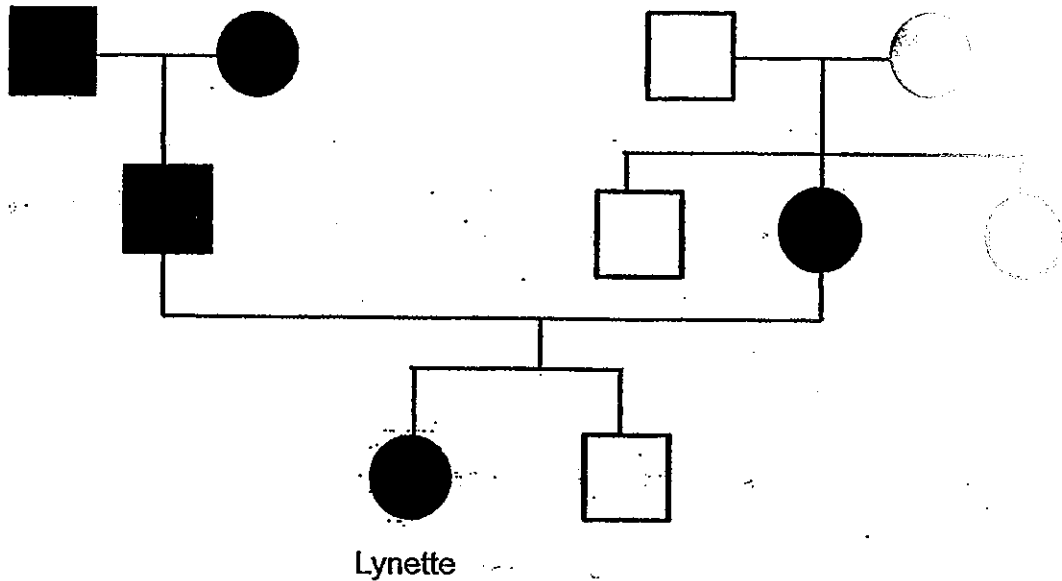
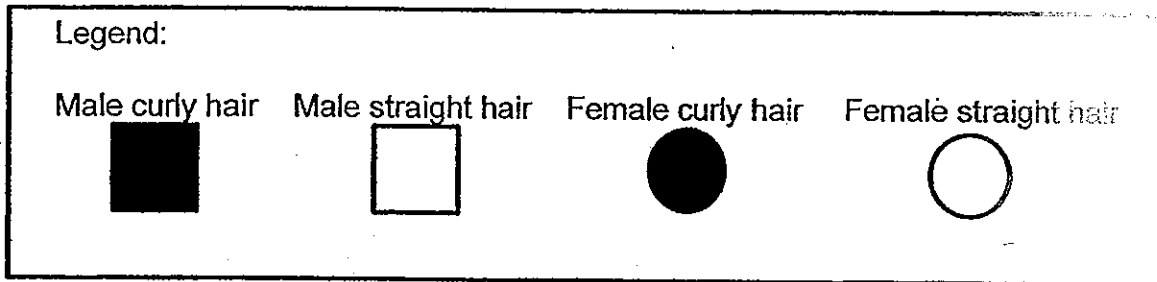
(b) What are the conditions necessary for germination to take place?(1m)

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33. Below is an amoeba which is a single-cell organism. Label the parts of the cell in the boxes provided in the diagram below. (2m)



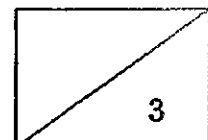
34. Study the family tree below.



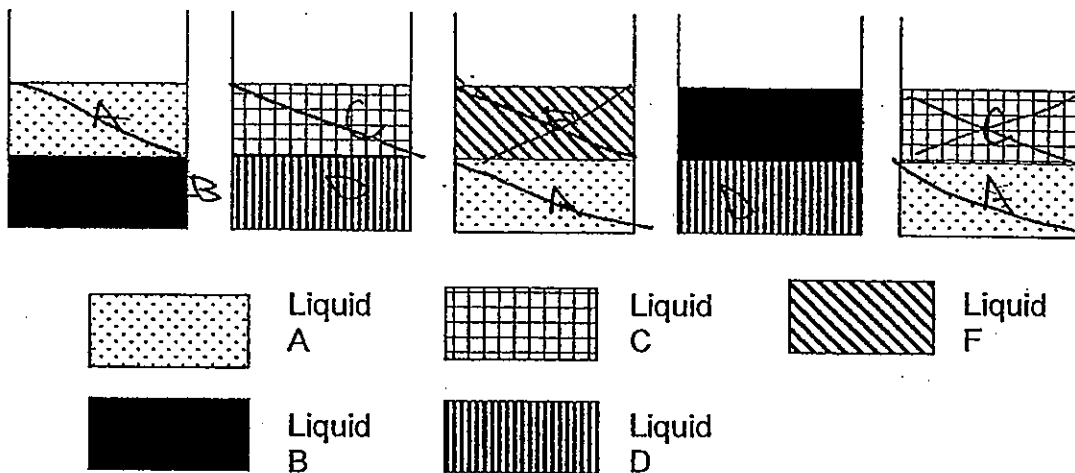
(a) Who did Lynette's brother inherit his type of hair from? (1m)

(b) Read the following statements. For each, tick the correct boxes 'True', 'False' or 'Not Possible to Tell' in the table below. (2m)

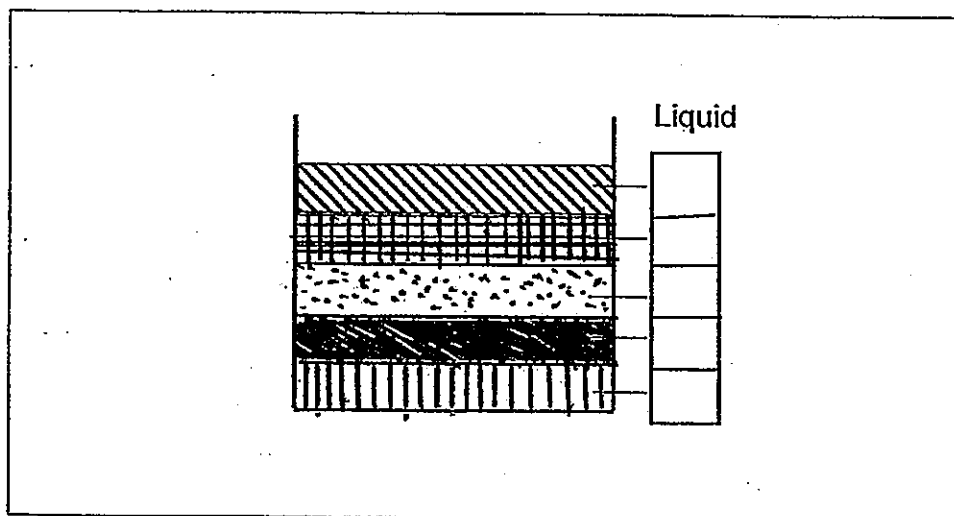
		True	False	Not Possible to tell
(i)	Lynette's grandmothers have curly hair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii)	If Lynette had children of her own, they will all have curly hair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



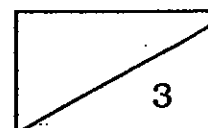
35. Henry wanted to test if different liquids could float on top of each other. The diagram below shows the results of his experiment.



(a) Henry then poured all the different liquids into 1 container. In the box below, write the letter of the different liquids in the correct position when they are put together. The topmost letter has already been written for you. (2m)

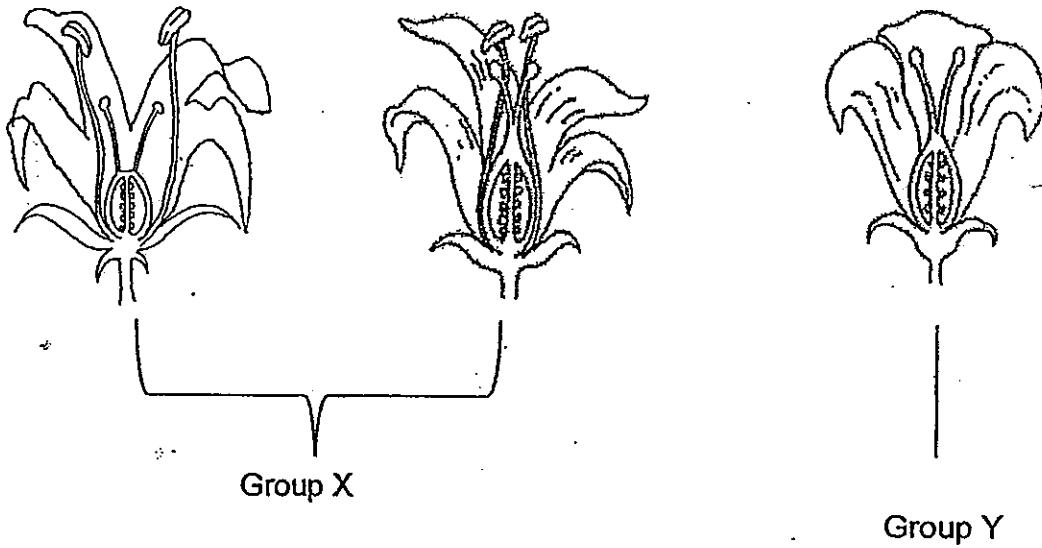


(b) Henry placed the container undisturbed in his balcony. After a week he noticed that the liquid level had decreased. Explain his observation. (1m)





36. The flowers below have been grouped into 2 groups – X and Y:

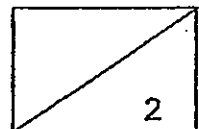
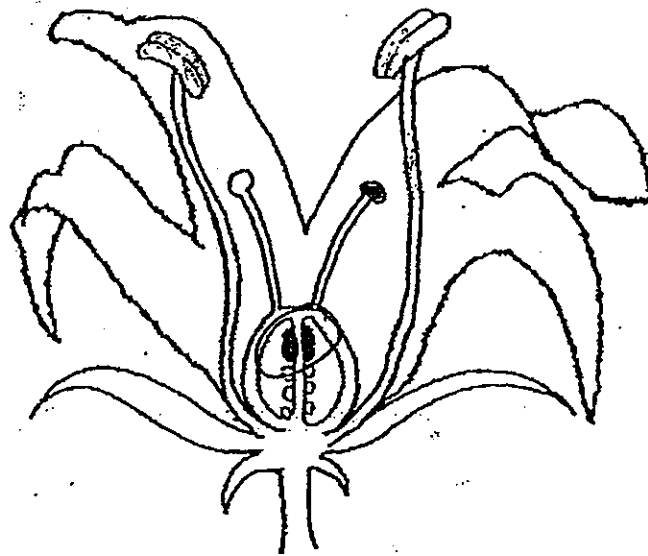


(a) Write down a suitable heading for Group X and Group Y. (1m)

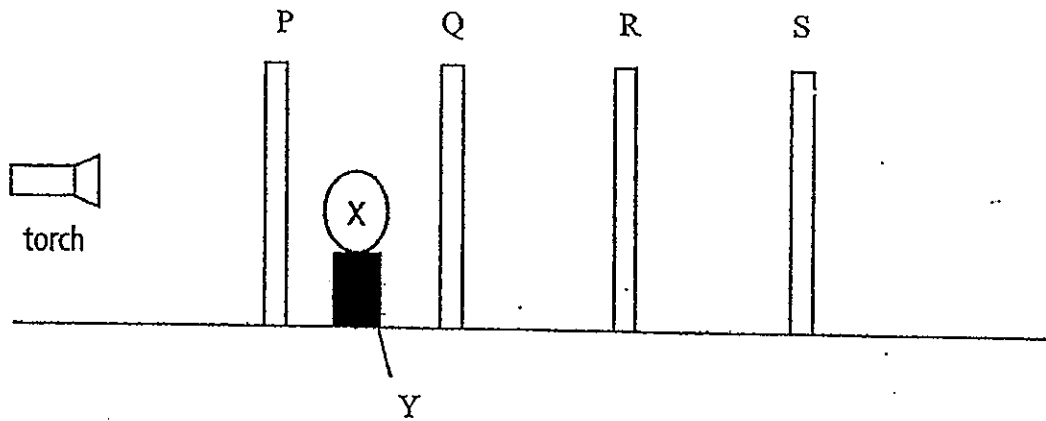
Group X: \_\_\_\_\_

Group Y: \_\_\_\_\_

(b) The flower below has been pollinated. In the diagram below draw <sup>using</sup> the symbol '●' to represent pollen grains on the correct part of the flower to show pollination. (1m)



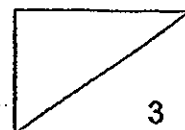
37. Edward set up an experiment in a dark room as shown below.



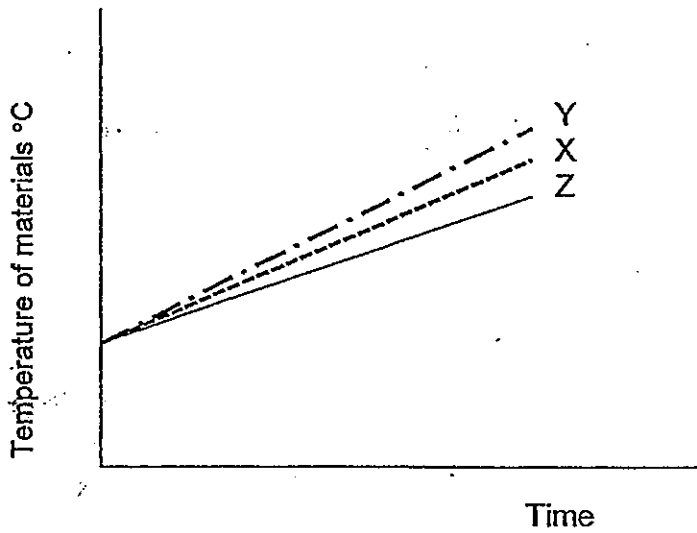
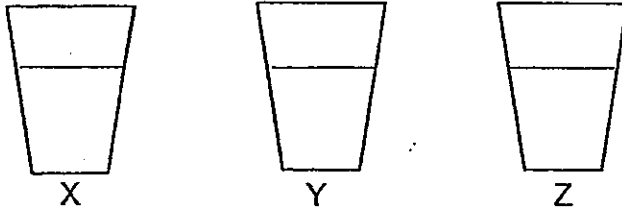
On Screen S, a dark shadow was formed for Object Y and a lighter shadow was formed for Object X.

Based on this observation put a tick (✓) in the correct boxes. (3m)

		True	False	Not Possible to tell
(a)	Only Screens Q and R allowed light to pass through.			
(b)	Object Y is made of wood.			
(c)	Object X allowed some light to pass through it.			



38. Emily filled 3 containers made of different materials with hot water. After 5 minutes, she plotted the temperature of the materials in the graph below.



- (a) Arrange the material from the best to the poorest conductor of heat. (1m)

---

- (b) What would happen to the temperature of all 3 materials after 5 hours? (1m)

---

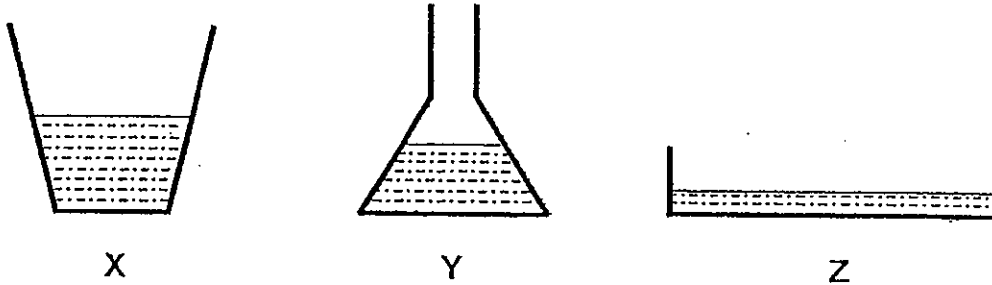
---

- (c) Which material would allow hot coffee to cool the fastest? Explain your answer. (2m)

---

---

39. Bertie wanted to find out if the exposed surface area of a container would affect the rate of evaporation. She placed containers X, Y, Z filled with water on a table as seen in the diagram below.



- (a) Besides the location, state 2 control variables to ensure a fair test. (2m)

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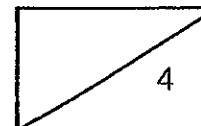
- (b) What must Bertie measure at the end of her experiment? (1m)

---

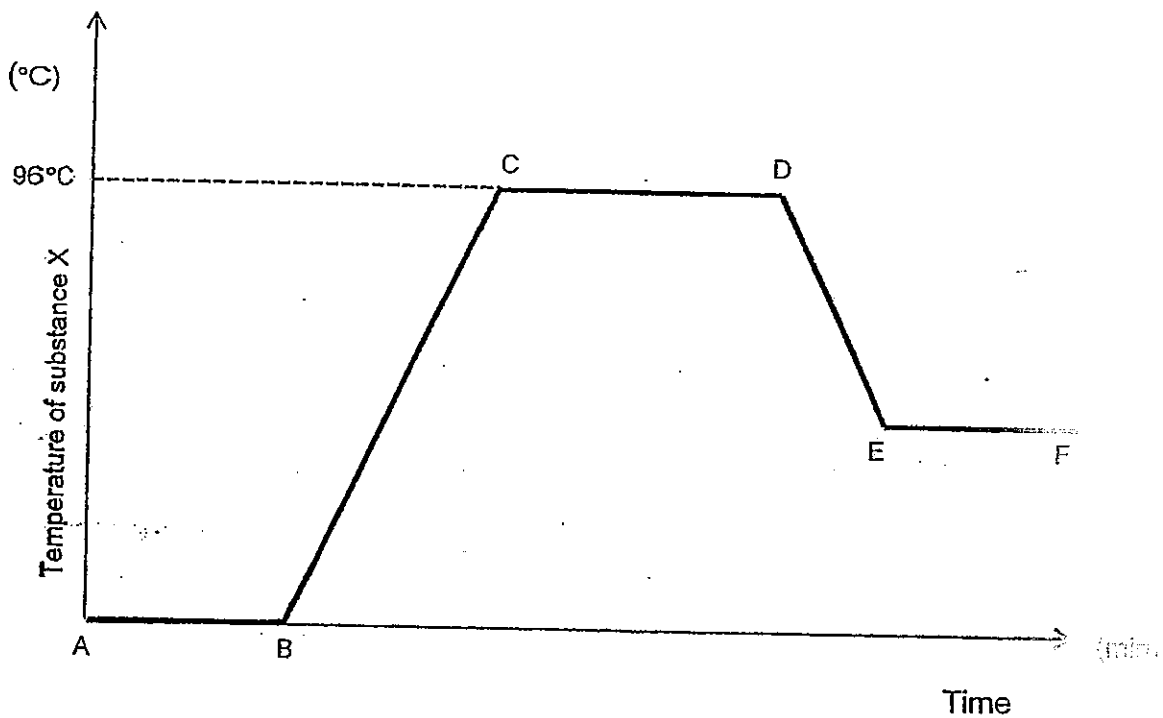
---

- (c) Arrange the beakers in order, starting with the least amount of water left in it after one week. (1m)

---



40. Substance X was heated and then left to cool to room temperature. The graph below recorded its temperature over time.



(a) What process is taking place from A to B? (1m)

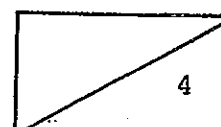
\_\_\_\_\_

(b) What state/s of matter is/are Substance X in at CD? (1m)

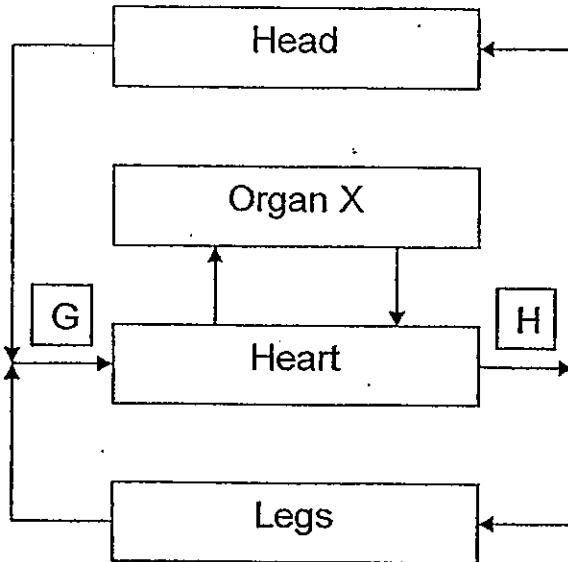
\_\_\_\_\_

(c) Tick the correct boxes on whether substance X gained or lost heat to the surroundings. (2m)

	AB	BC	CD	DE
Heat gain				
Heat loss				



41. The diagram below is a model of our circulatory system. The arrows represent blood vessels.



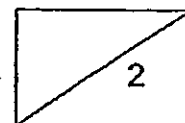
- (a) State the difference between the level of oxygen in the blood at G and H. (1m)

---

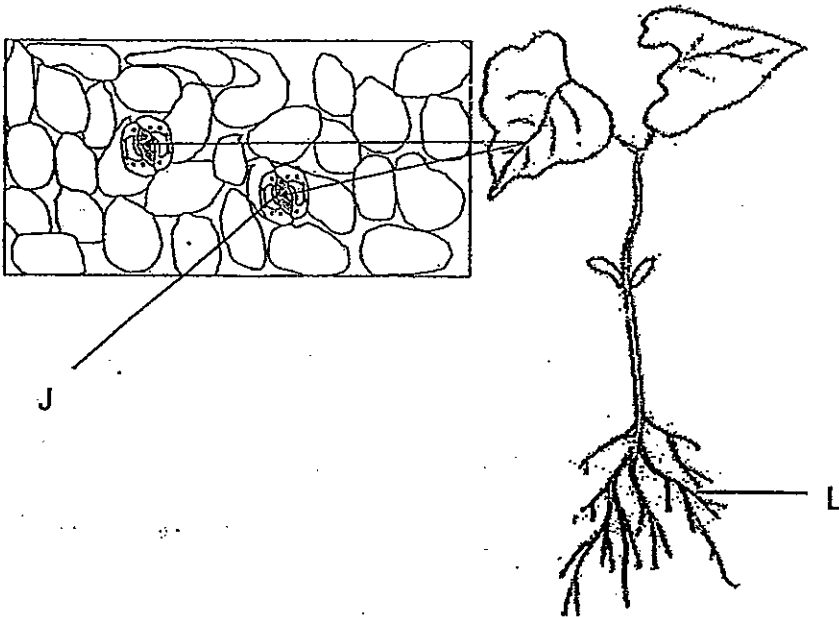
---

- (b) Organ X is also part of our respiratory system. What is Organ X? (1m)

---



42. Below is a picture of a plant.



(a) What would happen to the plant if Part L was removed? Explain your answer. (2m)

---

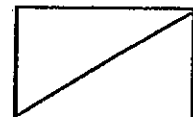
---

(b) Part J was observed under the microscope. List the main function of J. (1m)

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(c) Draw the life cycle of the plant in the box below. (1m)



43. Study the table below.

Characteristics	Animal X	Animal Y
Moults	✓	
Lays eggs		✓
Has hair		✓
Has wings		✓

(a) Based on the table above, describe Animal Y. (1m)

---

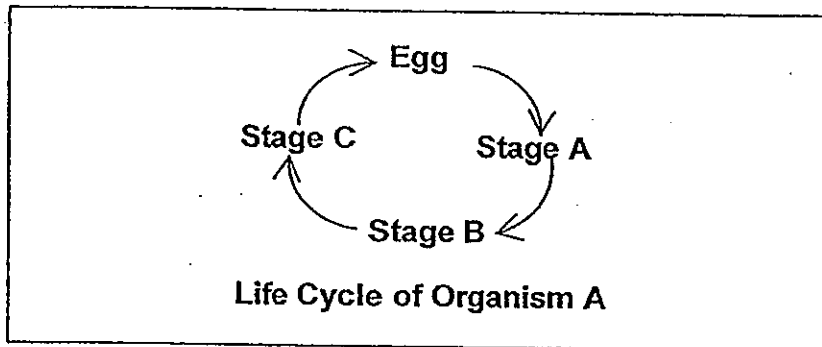
---

(b) Harold was asked by his teacher to give an example of animal X. He gave 'butterfly' as his answer. Is Harold correct? Explain your answer. (1m)

---

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44. Study the life cycle of organism A below.

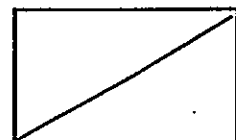


(a) Organism A is a pest and can fly at Stage C. Spencer wants to reduce the number of Organism A but he was told that killing them at stage C was not the best solution to his problem. Besides the ability to fly, state another reason why killing them at Stage C is not the best solution. (1m)

(b) Suggest what Spencer should do to solve the problem. (1m)

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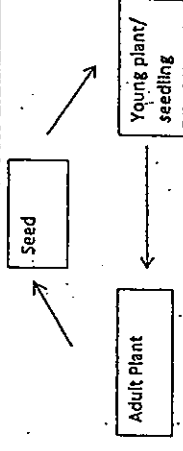




SCGS Primary P5 SA1 Science Answers

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

Qn.	Answer (Does not include all possible answers)						
31a	The steel cup is the best conductor of heat / is a better conductor of heat than glass and plastic. Thus, heat was conducted from water in the steel cup to the water in the acrylic container fastest.						
31b	Plastic						
32a	C, B, A.						
32b	Air, water and warmth						
33							
34a	Maternal Grandfather (1m)						
34b	<table border="1"> <tr> <td>True</td> <td>False</td> <td>Not Possible to tell</td> </tr> <tr> <td>✓</td> <td></td> <td>✓</td> </tr> </table>	True	False	Not Possible to tell	✓		✓
True	False	Not Possible to tell					
✓		✓					
35a	F, C, A, B, D						
35b	The liquid had evaporated						
36a	X - Flower with male and female reproductive parts Y - Flower with only female reproductive parts						
36b							

37	<table border="1"> <tr> <td>True</td> <td>False</td> <td>Not Possible to tell</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> <tr> <td></td> <td></td> <td>✓</td> </tr> <tr> <td></td> <td>✓</td> <td></td> </tr> </table>	True	False	Not Possible to tell		✓				✓		✓				
True	False	Not Possible to tell														
	✓															
		✓														
	✓															
38a	Y, X, Z															
38b	Their temperature would be the same which is the room temperature.															
38c	Material Y. it is the best conductor of heat and thus the hot coffee can lose heat fastest to the surroundings through Material Y.															
39a	The amount of water placed in the beaker at the start of the experiment. The amount of time/ duration for the water to evaporate. Temperature of the water at the start of the experiment.															
39b	She must measure the amount of water left in each container at the end of the experiment.															
39c	Z, X, Y															
40a	Melting															
40b	Liquid and gaseous.															
40c	<table border="1"> <tr> <td></td> <td>AB</td> <td>BC</td> <td>CD</td> <td>DE</td> </tr> <tr> <td>Heat gain</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> </tr> <tr> <td>Heat loss</td> <td></td> <td></td> <td></td> <td>✓</td> </tr> </table>		AB	BC	CD	DE	Heat gain	✓	✓	✓		Heat loss				✓
	AB	BC	CD	DE												
Heat gain	✓	✓	✓													
Heat loss				✓												
41a	H has more oxygen than G.															
41b	Lungs															
42a	The plant will grow weaker and eventually die. It will not be able to absorb water for the plant without L. OR: It will topple over. The plant can't be held firmly to the ground without L.															
42b	Allows for gaseous exchange to take place															
42c																
43a	Animal Y does not moult, has hair, wings and lays eggs															
43b	No. Butterflies has wings and lay eggs.															
44a	They would already be able to reproduce/ breed/ lay eggs.															
44b	Kill them at stage B. A or Egg stage before they are able to reproduce.															

what does not

