



RED SWASTIKA SCHOOL

SCIENCE 2023 END YEAR EXAMINATION PRIMARY 5

Name : _____ ()

Class : Primary 5/ _____

Date : 27 October 2023

BOOKLET A

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

Booklet A: 28 questions (56 marks)

Note:

1. Do not open the booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the booklet.
3. Do not waste time. If the question is too difficult for you, go on to the next question.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
 - a. Page 1 to Page 14
 - b. Questions 1 to 28

For Questions 1 to 28, choose the most suitable answer and shade its number in the OAS provided.

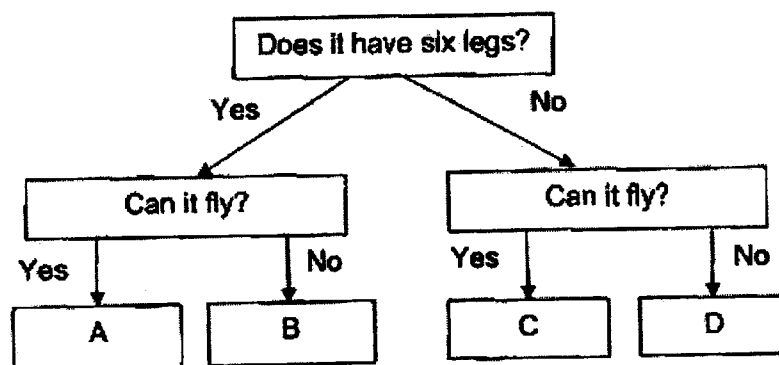
1. Study the table below carefully.

Group X	Group Y
mould mushroom	dog elephant

Which of the following can be classified into Group X and Y?

	Group X	Group Y
(1)	apple plant	bat
(2)	rose plant	fish
(3)	bacteria	giraffe
(4)	yeast	cat

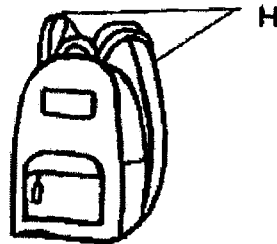
2. Study the chart below carefully.



Which of the following is possible?

- (1) A is a reptile.
- (2) B is an insect.
- (3) A and C are birds.
- (4) B and D are mammals.

3. Mr Lee was designing a school bag for children.



Which properties should he consider when choosing the material for part H?

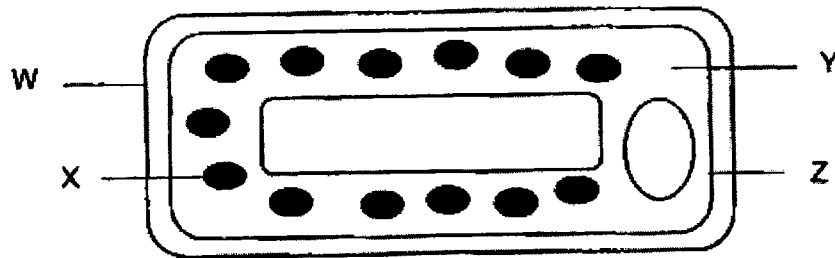
- A: strong
- B: elastic
- C: waterproof
- D: able to float on water

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

4. Which of the following shows the correct movement of food through the human digestive system?

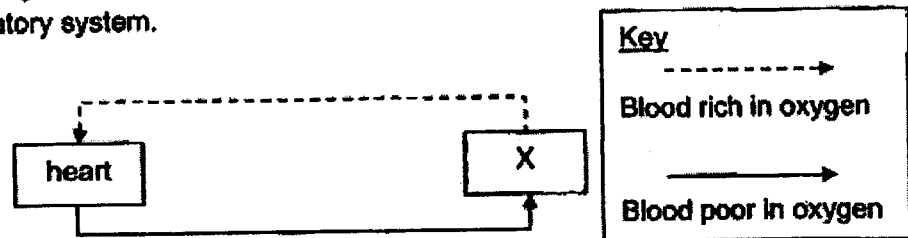
- (1) mouth → gullet → stomach → large intestine → small intestine
- (2) mouth → gullet → stomach → small intestine → large intestine
- (3) mouth → small intestine → gullet → stomach → large intestine
- (4) mouth → large intestine → gullet → small intestine → stomach

5. The diagram below shows a plant cell.



Which parts of the plant cell can also be found in an animal cell?

- (1) W and X
 - (2) X and Y
 - (3) Y and Z
 - (4) W and Z
6. The diagram below shows the transport of oxygen in the blood in the human circulatory system.



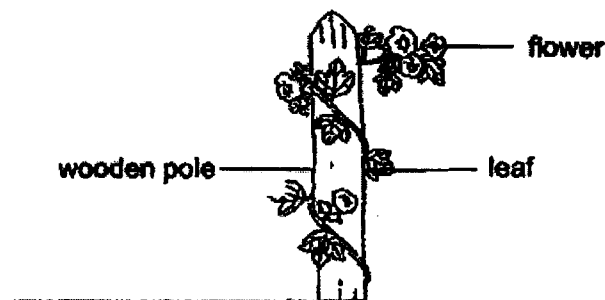
What organ(s) could X be?

- A: lung
 - B: stomach
 - C: leg muscles
 - D: small intestine
- (1) A only
 - (2) A and C only
 - (3) B and D only
 - (4) A, B, C and D only

7. Which of the following correctly shows the substances transported by the water carrying tube and food carrying tube in a plant?

Substances being transported in		
	water carrying tubes	food carrying tubes
(1)	water only	sugar and mineral salts only
(2)	water only	sugar and oxygen only
(3)	water and mineral salts only	sugar only
(4)	water, mineral salts, and sugar	sugar only

8. The diagram below shows a plant.



Based on the diagram above, which of the following statements is/are correct?

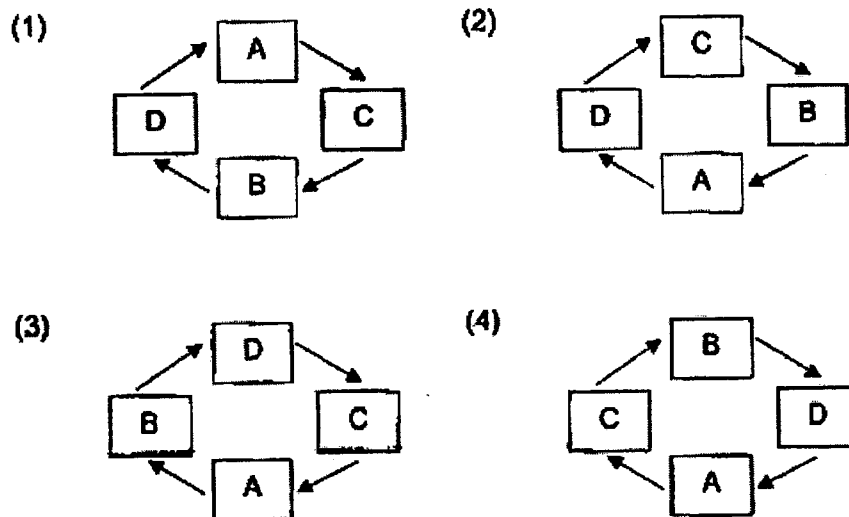
- A: The plant has spore bags.
- B: The plant has a strong stem.
- C: The plant can make its own food.

- (1) C only
 - (2) B only
 - (3) A and C only
 - (4) A, B and C
9. Which of the following statements about reproduction in both humans and flowering plants is correct?
- (1) Both involve fertilisation of the ovules.
 - (2) Pollination must take place before fertilisation.
 - (3) The male reproductive cell in both humans and plants is the sperm.
 - (4) The male reproductive cell will fuse with the female reproductive cell.

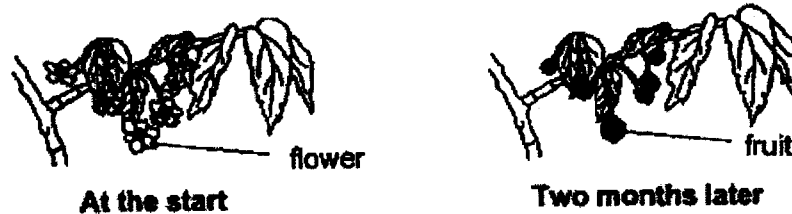
10. The diagram below shows the stages of a life cycle of a butterfly.



Which of the following correctly shows the life cycle of the butterfly?



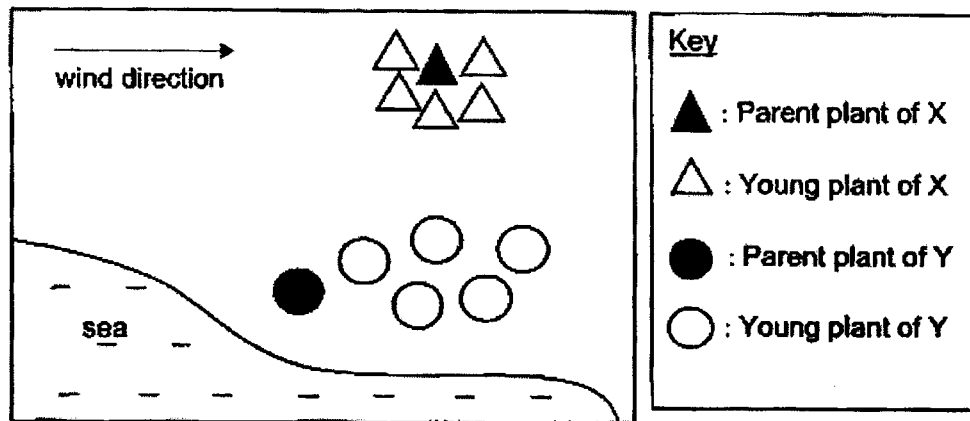
11. Janice kept a flowering plant in her garden. After two months, she observed some changes in her plant as shown in the diagram below.











Which of the following process(es) had taken place?

- (1) fertilisation
- (2) fertilisation and pollination
- (3) dispersal, fertilisation and pollination
- (4) dispersal, fertilisation and germination

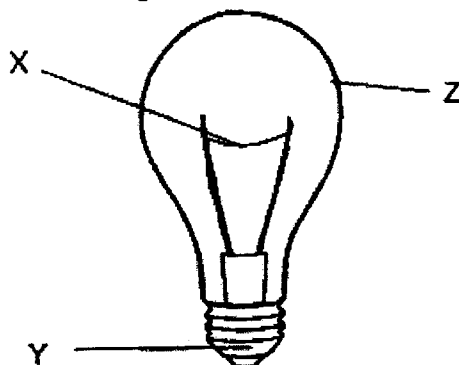
12. The diagram below shows the dispersal of seeds by plants X and Y.



Which of the following correctly represents the fruit of plants X and Y?

	X	Y
(1)	wing-like structure 	dry pod with seeds 
(2)	dry pod with seeds 	juicy flesh 
(3)	dry pod with seeds 	wing-like structure 
(4)	juicy flesh 	wing-like structure 

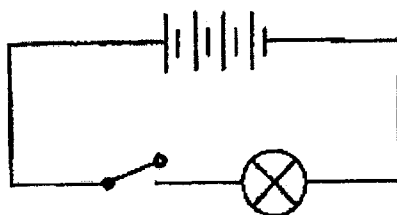
13. The picture below shows a light bulb with parts labelled X, Y and Z.



Which of the following correctly represents the materials used to make parts X, Y and Z?

	X	Y	Z
(1)	glass	metal	plastic
(2)	metal	rubber	glass
(3)	plastic	metal	metal
(4)	metal	metal	glass

14. Zach set up the circuit as shown in the diagram below.



When he closed the switch, the bulb fused. Which of the following could have prevented the bulb from fusing?

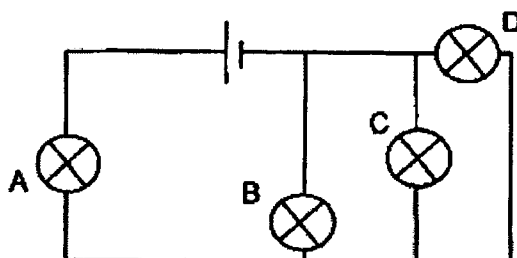
- (1) using fewer batteries
- (2) adding another switch
- (3) closing the switch slowly
- (4) changing the direction of all batteries

15. Shawn wanted to find out if bulbs connected in series are brighter than bulbs arranged in parallel.

A: type of bulbs
B: number of bulbs
C: brand of batteries
D: arrangement of bulbs

Which of the following variables should he keep the same for the experiment to be a fair one?

- (1) B and C
(2) C and D
(3) A, B and C
(4) A, B, C and D
16. Study the circuit below.



When one of the bulbs fused, the other bulbs could not light up. Which bulb had fused?

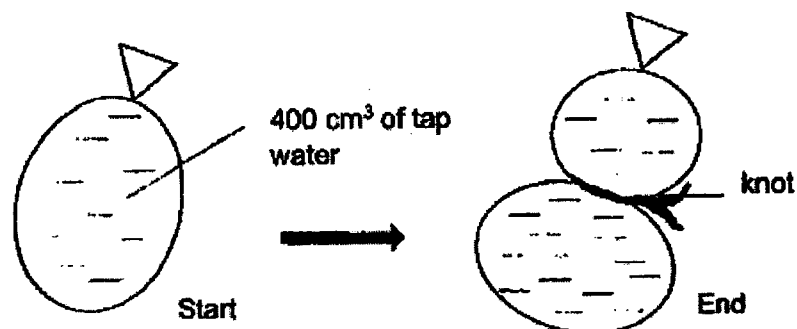
- (1) A
(2) B
(3) C
(4) D
17. Which of the following correctly represents the different states of matter?

	Solid	Liquid	Gas
(1)	snow	apple juice	clouds
(2)	clouds	coffee	water vapour
(3)	plasticine	clouds	carbon dioxide
(4)	cupboard	honey	clouds

18. Which of the following statements about the water cycle is true?

- (1) Animals and plants are not involved in the water cycle.
- (2) The water cycle only happens during the day when it is bright.
- (3) The water cycle ensures a continuous supply of fresh air on Earth.
- (4) The Sun provides the energy required for the processes in the water cycle.

19. Tommy filled a plastic bag with 400 cm^3 of tap water at the start. He tied a knot at the middle of the plastic bag.



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

- A: The shape of water has changed.
- B: The mass of water did not change.
- C: The total volume of water has become greater.

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

20. Substance X is a liquid at 50°C and a gas at 80°C .

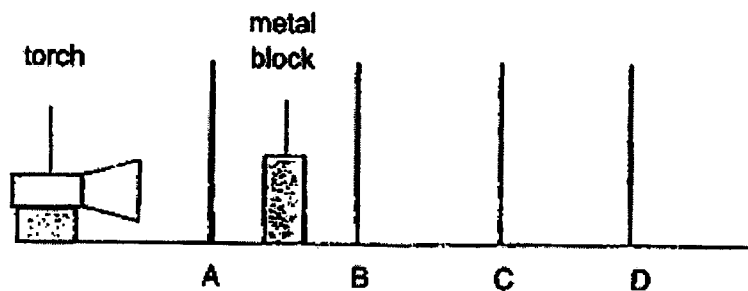
Which of the following correctly represents the melting and boiling point of Substance X?

	Melting Point ($^\circ\text{C}$)	Boiling Point ($^\circ\text{C}$)
(1)	40	85
(2)	45	75
(3)	55	80
(4)	0	100

21. Susan is looking for a container to store her ice cream for a picnic.

Which material is the least suitable to store the ice-cream?

- (1) metal
 - (2) glass
 - (3) plastic
 - (4) rubber
22. Study the setup below carefully. A metal block is placed between material A and material B. Materials C and D are arranged as shown in the diagram below. A dark shadow of the metal block could be seen on material C.

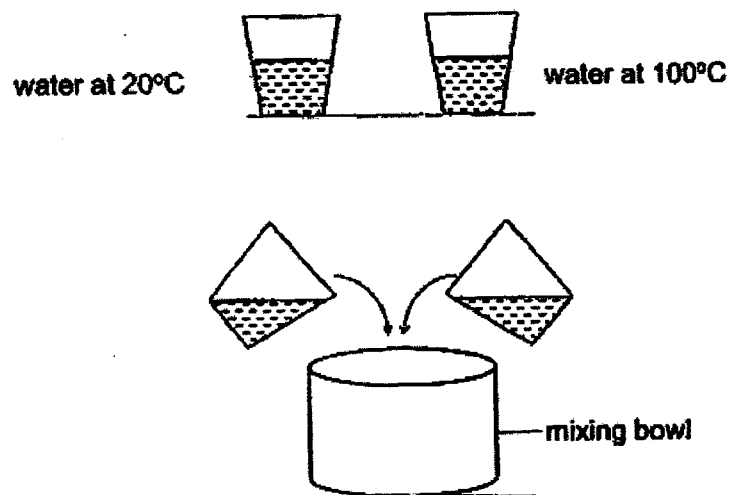


Which of the statements below is true?

- (1) Material A must be wood.
- (2) Material B must be clear glass.
- (3) Material C must be clear plastic.
- (4) Material D must be tracing paper.

23. An experiment was conducted in a room of temperature 32°C .

Two cups, A and B, were filled with an equal amount water of different temperatures as shown in the diagram below. All the water in both cups were then poured into a large mixing bowl.

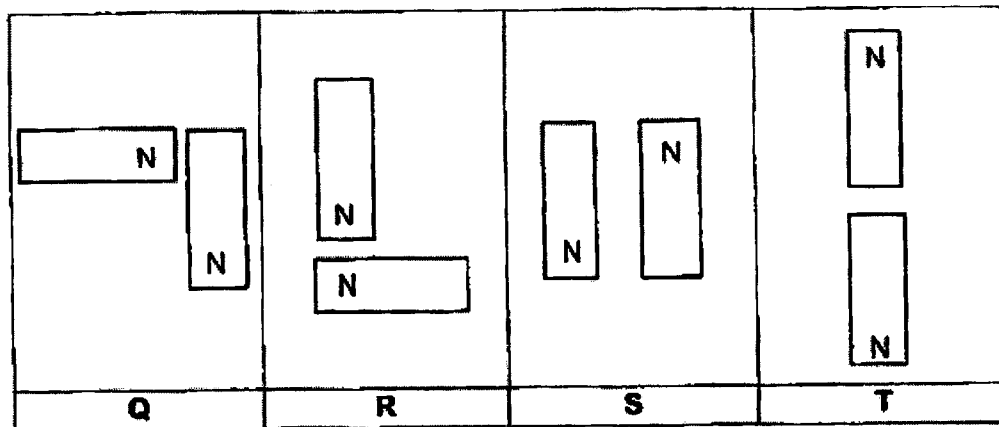


The temperature of water in the mixing bowl was taken immediately.

Which of the following statements is correct?

- (1) The temperature of water in the mixing bowl is around 32°C .
- (2) The temperature of water in the mixing bowl is lower than 20°C .
- (3) The temperature of water in the mixing bowl is higher than 100°C .
- (4) The temperature of water in the mixing bowl is between 20°C to 100°C .

24. Study the set-ups of the magnets below.



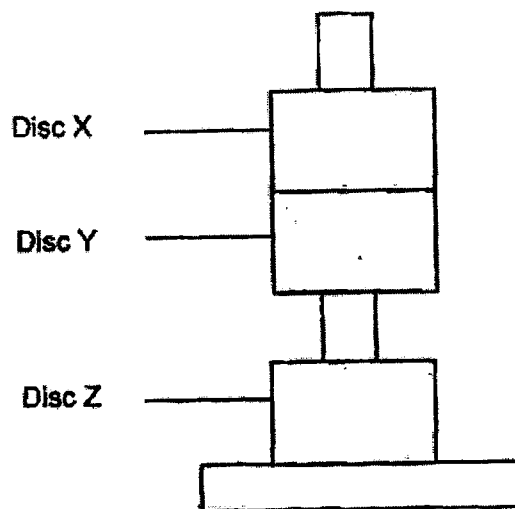
In which set-ups will the magnets attract each other?

- (1) Q and T
- (2) R and S
- (3) Q and S
- (4) S and T

25. Which of the following is false?

- (1) A force can change the mass of a moving soccer ball.
- (2) A force can change the shape of a moving soccer ball.
- (3) A force can change the speed of a moving soccer ball.
- (4) A force can change the direction of a moving soccer ball.

26. Ramli placed three discs, X, Y and Z, through a holder as shown below. The discs remained as shown in the diagram below.



Which of the following is true?

	X must be a magnet	Y must be a magnet	Z must be a magnet
(1)	No	No	No
(2)	Yes	No	Yes
(3)	No	Yes	Yes
(4)	Yes	Yes	No

27. Which of the force(s) can act on an object from a distance?

- A: Gravity
- B: Friction
- C: Magnetic force
- D: Elastic spring force

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

28. Which of the statements show the effects of a force?

- A: Rain falling on the ground
- B: Leaves on a plant turning brown
- C: A metal spoon bent when pushed down
- D: Water from the ground evaporated after some time

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

End of Booklet A



RED SWASTIKA SCHOOL

SCIENCE 2023 END YEAR EXAMINATION PRIMARY 5

Name : _____ ()

Class : Primary 5/ _____

Date : 27 October 2023

BOOKLET B

12 Questions
44 Marks

In this booklet, you should have the following:

- a. Page 15 to Page 27
- b. Questions 29 to 40

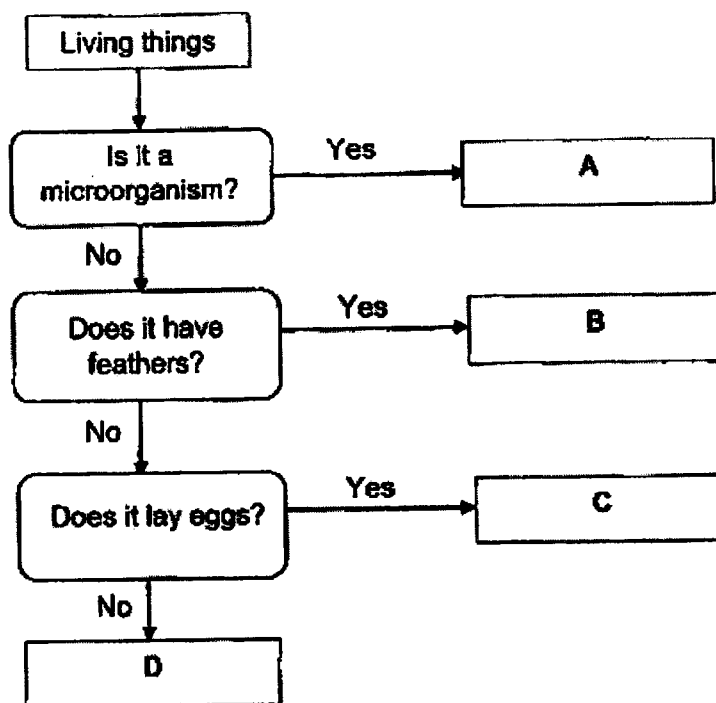
MARKS

	OBTAINED	POSSIBLE
BOOKLET A		56
BOOKLET B		44
TOTAL		100

Parent's Signature : _____

Answer all the questions in the spaces provided.

29. Study the flow chart below carefully.



(a) Which group of living things does organisms A and B belong to? (2m)

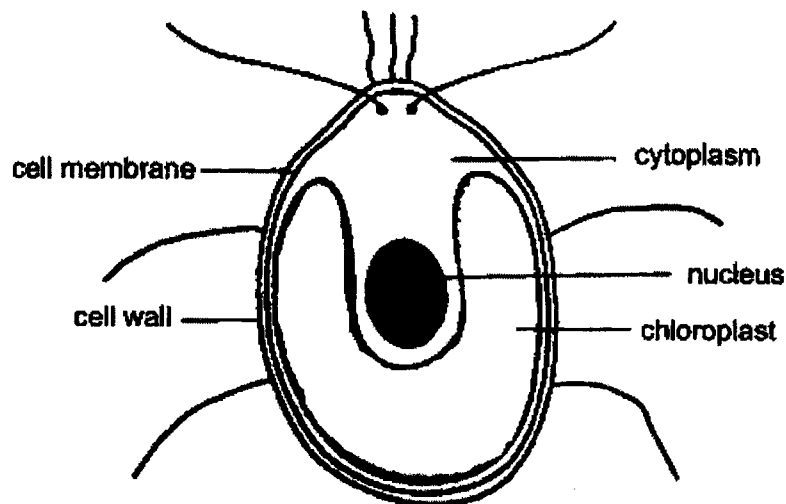
A: _____

B: _____

(b) State one similarity between organism C and D. (1m)

(c) Mike concluded that organism D is a mammal as it does not lay eggs. State one other way to determine that organism D is a mammal. (1m)

30. A scientist found a single-celled organism in a pond. He observed the organism closely under a microscope and labelled parts of the cell.



- (a) Name two parts of the cell that suggest it could be a plant cell. (2m)

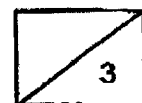
- (b) The scientist discovered that the organism can make its own food. Explain how the organism is able to make its own food. (1m)

31. Cedric wanted to find out if the number of jumps affected his heart rate. He measured his heart rate before and after he did 20 and 40 jumping jacks respectively. He rested for five minutes before each attempt. The table below shows the results.

	heart rate before any jump (beats/min)	heart rate after 20 jumps (beats/min)	heart rate after 40 jumps (beats/min)
1 st attempt	64	79	95
2 nd attempt	62	75	93
3 rd attempt	63	76	92

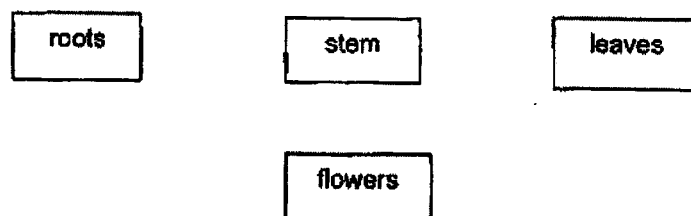
- (a) What is the relationship between Cedric's heart rate and the number of jumps that he did? (1m)

- (b) Explain your answer in (a). (2m)

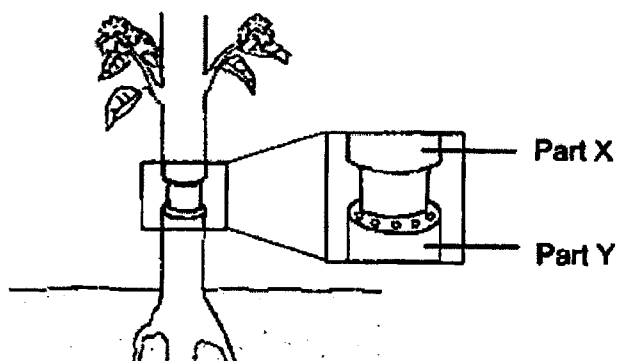


32. The diagram below shows parts of a plant.

- (a) Draw three arrows (—————>) in the diagram below to show how water is being transported to parts of the plant. (1m)



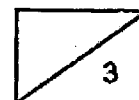
- (b) Some food carrying tubes were removed from the stem of the plant as shown in the diagram below.



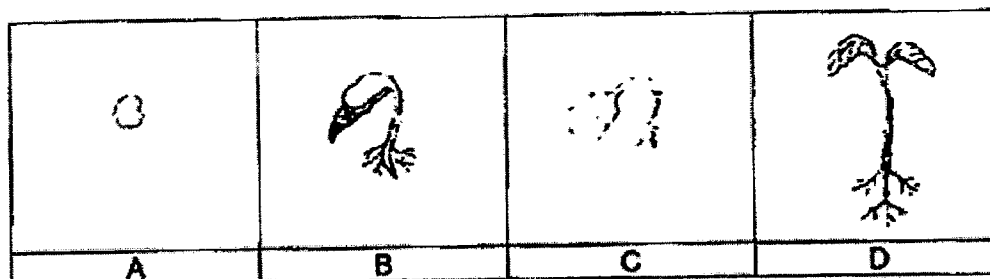
Ting Zhan measured the thickness of the stems at Part X and Part Y over 10 days and recorded the measurements in the table below.

Part	Day 1	Day 5	Day 10
X	16cm	18cm	20cm
Y	16cm	16cm	16cm

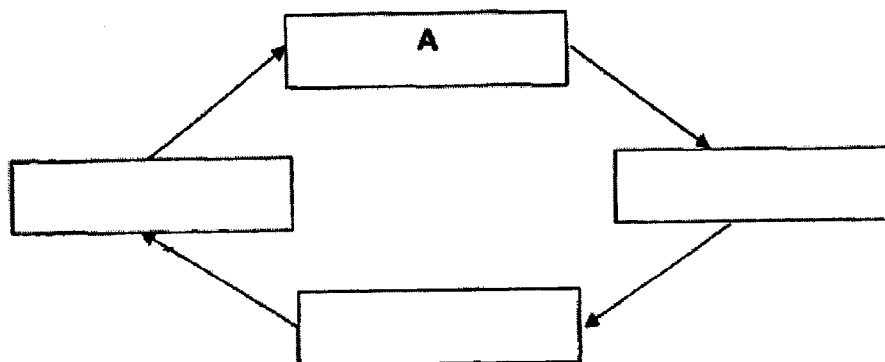
Explain why Part Y remained the same but Part X grew bigger. (2m)



33. Maggie grew some green bean seeds. She observed the seeds for two weeks and drew her observations of the different stages of its life cycle.



- (a) Fill in the blanks below with the letters, B, C and D, to show the correct order of the stages of the life cycle of the green bean plant accordingly. (1m)

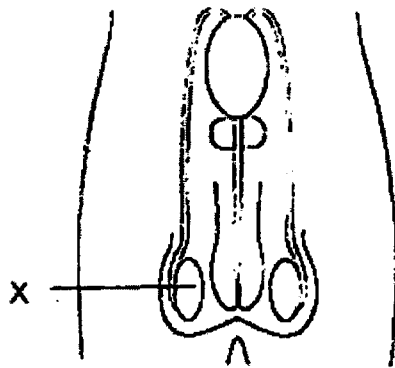


- (b) Compare how the young plant obtains food in stages C and D. (2m)

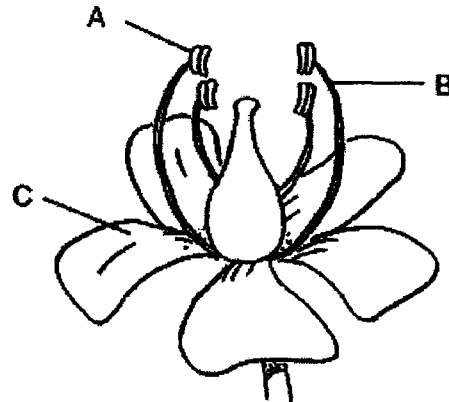
- (c) Maggie wants to carry out another experiment to find out if the young plant requires sunlight to grow. She listed some variables in the table below. Put a tick (✓) next to the variables that Maggie should keep the same. (1m)

Variables	Keep the same
Type of plant	
Location of plant	
Amount of water given	

34. The diagram below shows the human male reproductive system and the plant reproductive system.



human male reproductive system

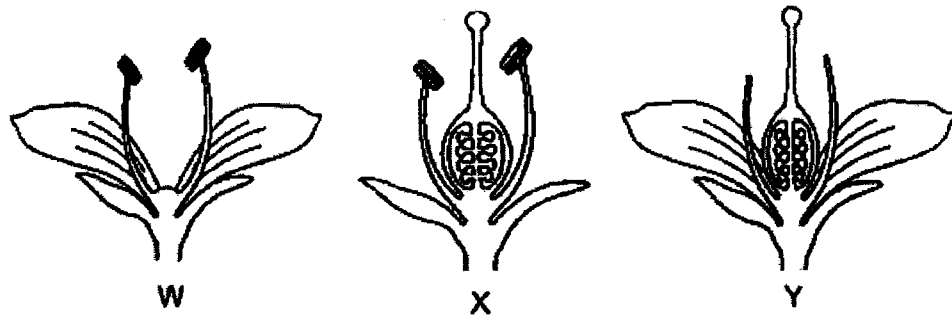


plant reproductive system

- (a) Which part of the plant reproductive system, A, B or C, has the same function as part X of the male reproductive system? (1m)

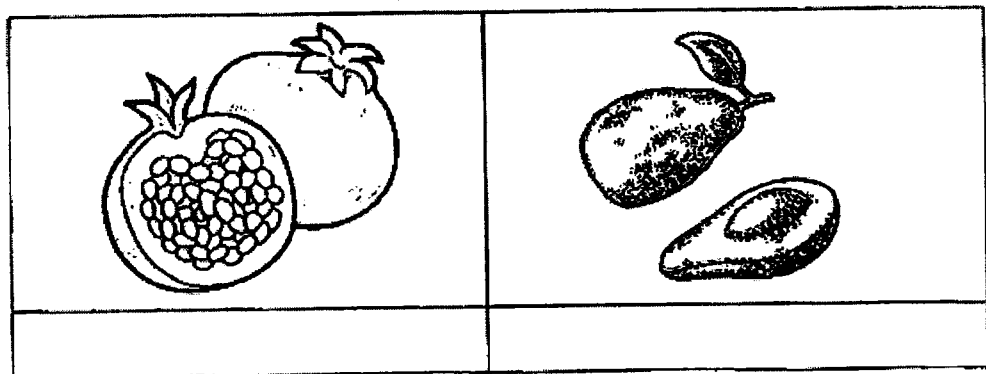
- (b) State one function of part C of the plant. (1m)

34. The diagrams below show three flowers, W, X and Y. Some parts of the flowers have been removed.

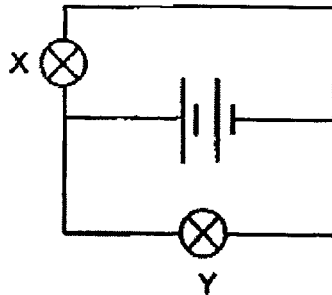


- (c) Which flower will still be able to develop fruits? Explain your answer. (2m)

- (d) Based on the diagram above, which of the following fruit is likely to develop from flower X? Put a tick (✓) in the correct box. (1m)



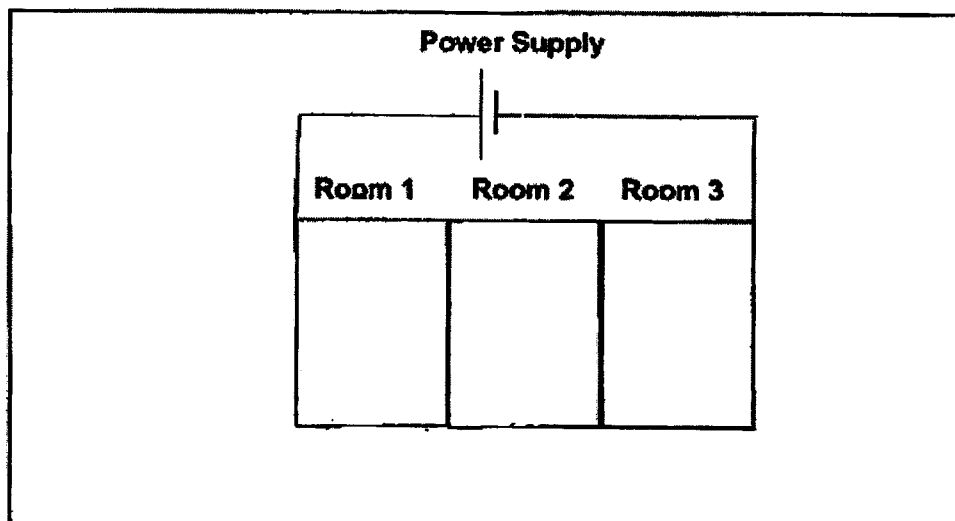
35. An electrician set up an electrical circuit as shown below.



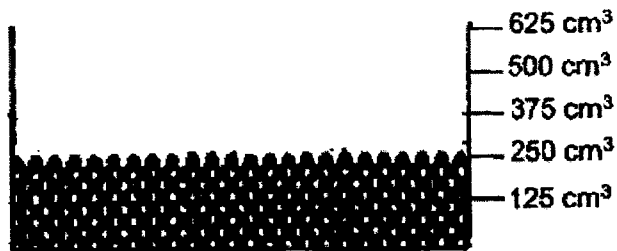
- (a) How are the bulbs in the circuit above arranged?
State one advantage of arranging the bulbs as such in the circuit above. (2m)

- (b) The electrician was tasked to draw an electrical circuit for a three-room apartment. The requirements are:
- The lights for rooms 1 and 2 must be able to be turned on and off at the same time.
 - The light for room 3 must be able to be turned on and off independently.

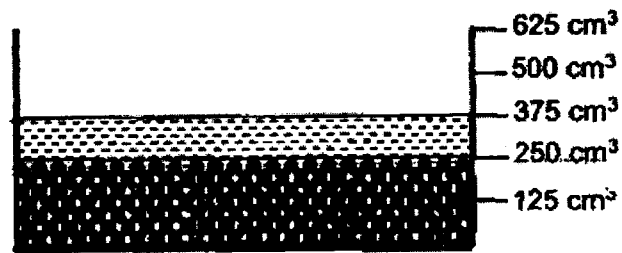
Using 2 switches and 3 bulbs, help the electrician draw the electrical circuit.
The power supply has been drawn for you. (3m)



36. A basin is filled with marbles as shown below.



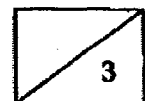
300cm³ of water was poured in and the water level reached 375cm³.



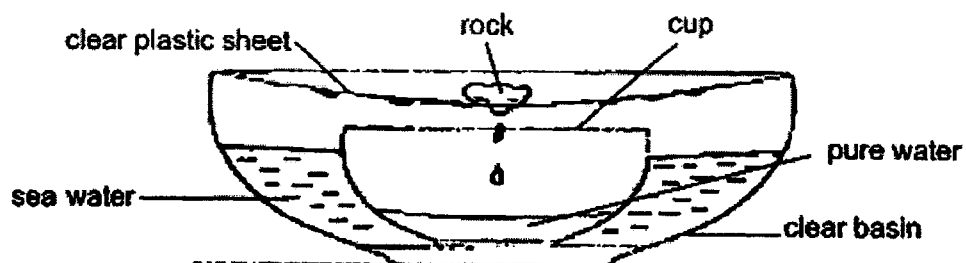
- (a) Based on the set-up above, state one property of water. (1m)

- (b) Explain why the water level reached 375 cm³ and not 550cm³. (1m)

- (c) Another 100cm³ of water was then added into the basin.
What is the new water level? (1m)



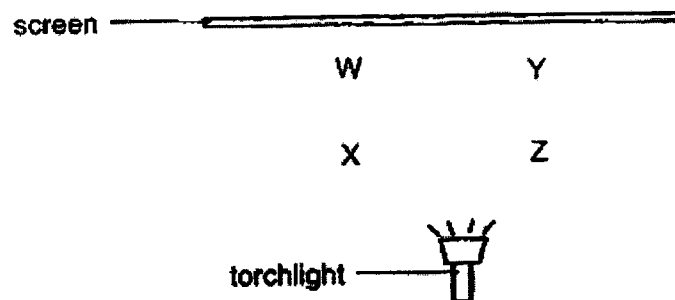
37. Bob used the setup below to obtain pure water from sea water, which contains salt.







- (a) What processes are involved in the set up above in order to obtain pure water? (1m)

- (b) Bob wants to collect pure water at a faster rate. Should he use a cup with a wider or narrower opening? Explain why. (2m)

38. Sammy was at a puppet show. W, X, Y and Z shows the possible positions of Puppet A and B.



Puppets A and B are made from different materials. Their shadows are cast as shown below.

Actual Size of Puppet A and B	Shadows of Puppet A and B
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>5 cm</p> <p>A</p> </div> <div style="text-align: center;">  <p>5 cm</p> <p>B</p> </div> </div>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>9 cm</p> <p>A</p> </div> <div style="text-align: center;">  <p>6 cm</p> <p>B</p> </div> </div>

- (a) Where do you think Puppets A and B are placed (W, X, Y or Z)? Explain your answer. (2m)

Puppet A: _____

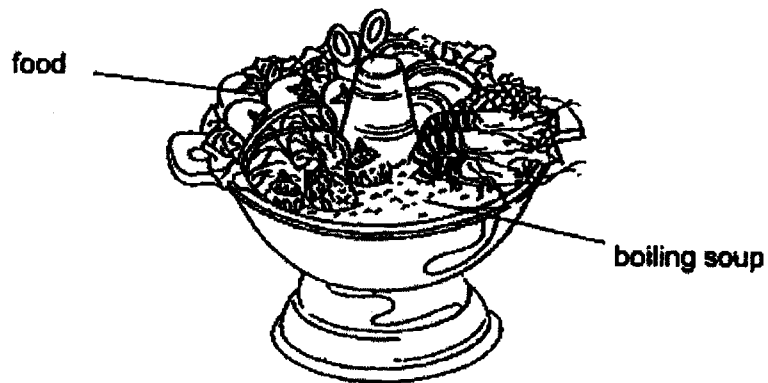
Puppet B: _____

- (b) Sammy observed that the shadow of Puppet B was darker than that of A. Why is that so? (1m)

39.

- (a) What is the difference between boiling and evaporation? (1m)

- (b) Mrs Tan prepared a hotpot for her family. Soup is placed in the hotpot and a fire is lit to heat up the soup until it boils. Food is then placed in the boiling soup to be cooked.



Mrs Tan noticed that when she placed some cold and uncooked food into the hotpot containing boiling soup, the temperature of the soup dropped. Explain why. (2m)

40. A speeding car collided into a tree. It came to a sudden stop and the front part of the car was badly crushed.



- (a) Write down an effect of the force of the collision on the car. (1m)

- (b) What are two other effects of a force? (2m)

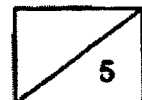
(i) _____

(ii) _____

- (c) Read the statements below carefully and identify the type of force exerted. Put a tick (✓) in the correct column. (2m)

	Statement	Push	Pull
(i)	Lifting a bag off the ground.		
(ii)	Like poles of a magnet facing each other.		

End of Booklet B
Please check your work.

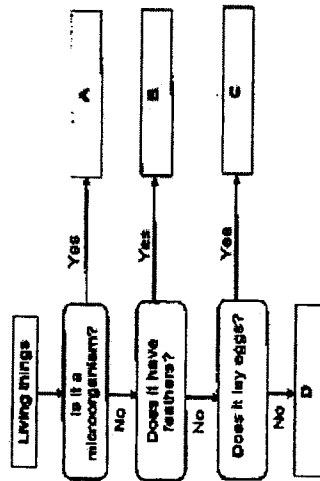


Name: _____ PS EYE SCI Corrections

Section A: Multiple Choice Questions (MCQ) (56 marks)

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

29. Study the flow chart below carefully.



(a) Which group of living things does organisms A and B belong to? (2m)

A: Bacteria / Fungi

B: Birds / Animals

(b) State one similarity between organism C and D. (1m)

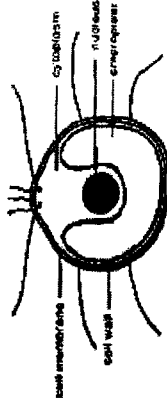
Both C and D are not microorganisms. / Both C and D do not have feathers. / Both are living things.

(c) Mike concluded that organism D is a mammal as it does not lay eggs. State one other way to determine that organism D is a mammal. (1m)

Mammals have hair. / Mammals produce milk to feed their young.

Note: Insects also do not have feathers. Insects are not microorganisms too.

30. A scientist found a single-celled organism in a pond. He observed the organism closely under a microscope and labelled parts of the cell.



(a) Name two parts of the cell that suggest it could be a plant cell. (2m)

(b) The scientist discovered that the organism can make its own food. Explain how the organism is able to make its own food. (1m)

The organism has chloroplast which contains chlorophyll that can trap light to make food through photosynthesis.

31. Cedric wanted to find out if the number of jumps affected his heart rate. He measured his heart rate before and after he did 20 and 40 jumping jacks respectively. He rested for five minutes before each attempt. The table below shows the results.

	Heart rate before any jump (beats/min)	Heart rate after 20 jumps (beats/min)	Heart rate after 40 jumps (beats/min)
1 st attempt	64	75	85
2 nd attempt	63	76	83
3 rd attempt	63	76	82

(a) What is the relationship between Cedric's heart rate (effect) and the number of jumps that he did (cause)? (1m)

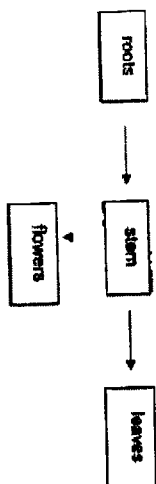
As the number of jumps Cedric did increases, his heart rate in beats/s

(b) Explain your answer in (a). (2m)

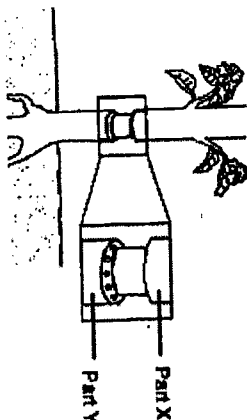
His heart had to pump blood ^{faster} to transport more oxygen and digested food to all parts of his body.

32. The diagram below shows parts of a plant.

(a) Draw three arrows (→) in the diagram below to show how water is being transported to parts of the plant. (1m)



- (b) Some food carrying tubes were removed from the stem of the plant as shown in the diagram below.



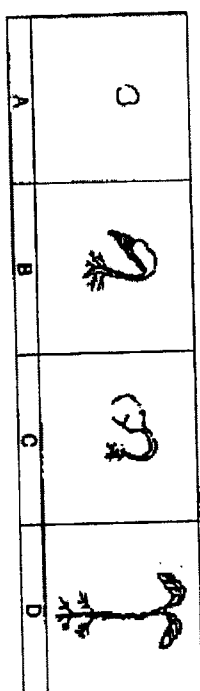
Ting Zhan measured the thickness of the stems at Part X and Part Y over 10 days and recorded the measurements in the table below.

Part	Day 1	Day 5	Day 10
X	16cm	18cm	20cm
Y	16cm	16cm	16cm

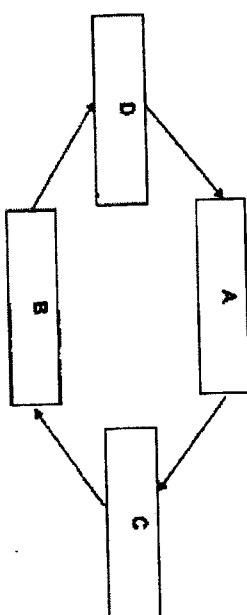
Explain why Part Y remained the same but Part X grew bigger. (2m)

Without the food-carrying tubes, food made by the leaves cannot be transported to Y, hence the food is stored at X.

33. Maggie grew some green bean seeds. She observed the seeds for two weeks and drew her observations of the different stages of its life cycle.



- (a) Fit in the blanks below with the letters, B, C and D, to show the correct order of the stages of the life cycle of the green bean plant accordingly. (1m)



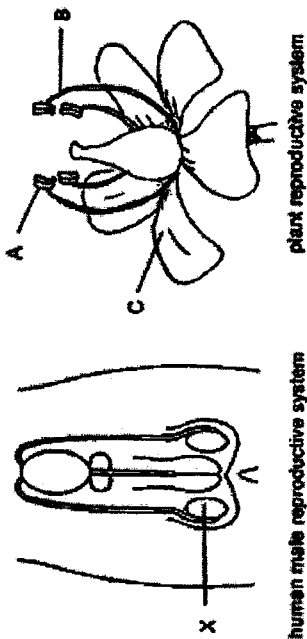
- (b) Compare how the young plant obtains food in stages C and D. (2m)

In Stage C, the seed obtains its food from the seed leaves but in Stage D, the young plant has leaves to produce its own food.

- (c) Maggie wants to carry out another experiment to find out if the young plant requires sunlight to grow. She listed some variables in the table below. Put a tick (✓) next to the variables that Maggie should keep the same. (1m)

Variables	Keep the same
Type of plant	✓
Location of plant	✓
Amount of water given	✓

34. The diagram below shows the human male reproductive system and the plant reproductive system.



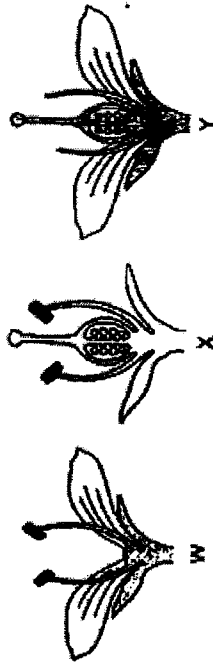
- (a) Which part of the plant reproductive system, A, B or C, has the same function as part X of the male reproductive system? (1m)

A

- (b) State one function of part C of the plant. (1m)

C helps to attract insects/animals/birds so that pollination can take place.

34. The diagrams below show three flowers, W, X and Y. Some parts of the flowers have been removed.

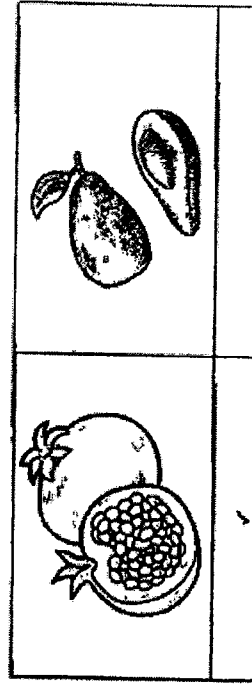


- (c) Which flower(s) will still be able to develop fruits? Explain your answer. (2m)

X and Y. Both have stigma so that pollination can take place.

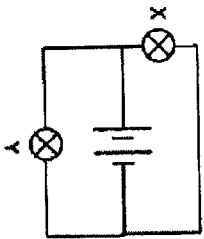
Both have ovules and ovaries as well, hence the ovary can develop into fruit after fertilisation.

- (d) Based on the diagram above, which of the following fruit is likely to develop from flower X? Put a tick (✓) in the correct box. (1m)



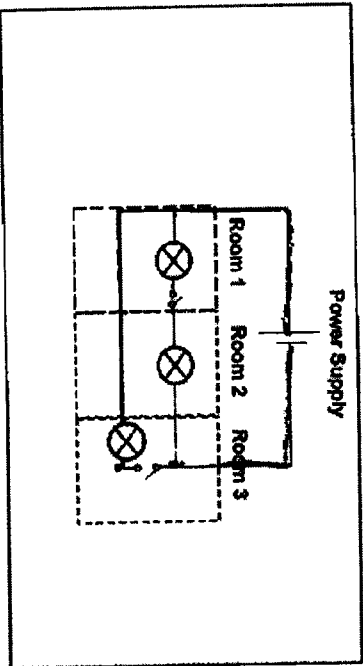
Note: The many ovules in X will develop into many seeds

35. An electrician set up an electrical circuit as shown below.



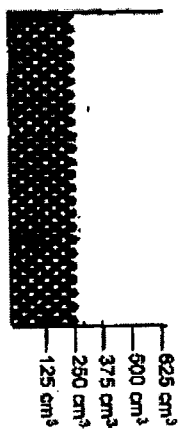
- (e) How are the bulbs in the circuit above arranged? State one advantage of arranging the bulbs as such in the circuit above. (2m)
- The bulbs are arranged in parallel. When one of the bulbs fuse, the other bulb can still light up.
- The electrician was tasked to draw an electrical circuit for a three-room apartment. The requirements are:

- The lights for rooms 1 and 2 must be able to be turned on and off at the same time.
 - The light for room 3 must be able to be turned on and off independently.
- Using 2 switches and 3 bulbs, help the electrician draw the electrical circuit. The power supply has been drawn for you. (3m)

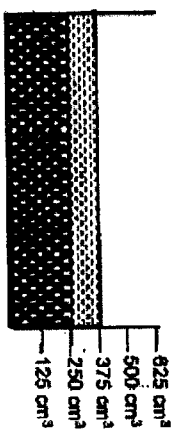


21

36. A basin is filled with marbles as shown below.



300cm³ of water was poured in and the water level reached 375cm³.

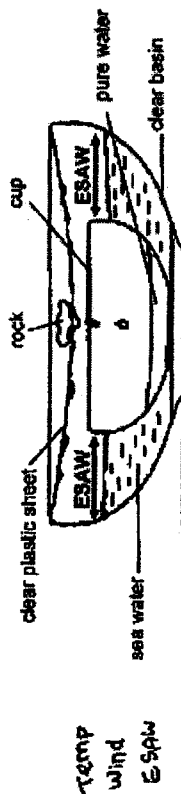


- (e) Based on the set-up above, state one property of water. (1m)
- Water has no definite shape.
- (b) Explain why the water level reached 375 cm³ and not 550cm³. (1m)
- Water occupy the space between the marbles that was previously occupied by the air.
- (c) Another 100 cm³ of water was then added into the basin. What is the new water level? (1m)

475 cm³

22

37. Bob used the setup below to obtain pure water from sea water, which contains salt.



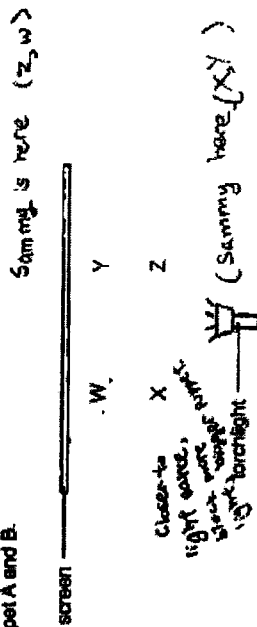
- (a) What processes are involved in the set up above in order to obtain pure water? (1m)

Evaporation and condensation

- (b) Bob wants to collect pure water at a faster rate. Should he use a cup with a wider or narrower opening? Explain why. (2m)

He should use a cup with narrower opening so as to increase the exposed surface area of water to increase the rate of evaporation of the water.

38. Sammy was at a puppet show. W, X, Y and Z shows the possible positions of Puppet A and B.



Puppets A and B are made from different materials. Their shadows are cast as shown below.

Actual Size of Puppet A and B		Shadows of Puppet A and B	
5 cm		9 cm	
	A B		A B

Where do you think Puppets A and B are placed (W, X, Y or Z)? Explain your answer. (2m)

- (a) Puppet A: X / Z

Puppet B: Y / W

Shadow of A is larger than B, so A must be closer to the light source than B to block more light.

- (b) Sammy observed that the shadow of Puppet B was darker than that of A. Why is that so? (1m)

B is opaque / blocks all (most) light / allows no light to pass through, while A is translucent / block some light / allows some light to pass through.

or
B blocks more light / allows less light to pass through than A or A block less light / allows more light to pass through than B

39. (a) What is the difference between boiling and evaporation? (1m)

at any
Evaporation happens when there is a temperature difference but boiling of water happens at 100 °C.

OR

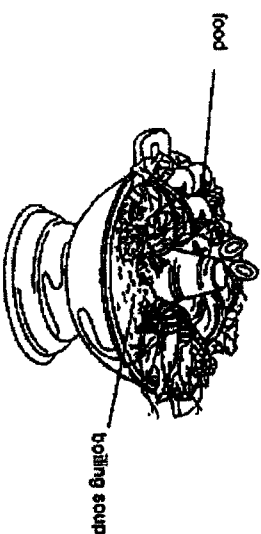
Evaporation takes place at the surface but boiling takes place throughout the liquid.

OR

Evaporation takes place at any temperature while boiling takes place at a fixed temperature/boiling point.

- (b)

Mrs Tan prepared a hotpot for her family. Soup is placed in the hotpot and a fire is lit to heat up the soup until it boils. Food is then placed in the boiling soup to be cooked.



Mrs Tan noticed that when she placed some cold and uncooked food into the hotpot containing boiling soup, the temperature of the soup dropped. Explain why. (2m)

The boiling soup loses heat to the cold uncooked food, hence the water has less heat left.

25

40. A speeding car collided into a tree. It came to a sudden stop and the front part of the car was badly crushed.



- (a) Write down an effect of the force of the collision on the car. (1m)

The car stopped moving ✓

The car changes its shape ✓

- (b) What are two other effects of a force? (2m)

- A force changes the direction of a moving object.
- A force increases/decreases the speed of a moving object.
- A force causes a stationary object to move.

Read the statements below carefully and identify the type of force exerted. Put a tick (✓) in the correct column. (2m)

- (c)

Statement	Push	Pull
(i) Lifting a bag off the ground.		✓
(ii) Like poles (repel) of a magnet facing each other.	✓	

26