

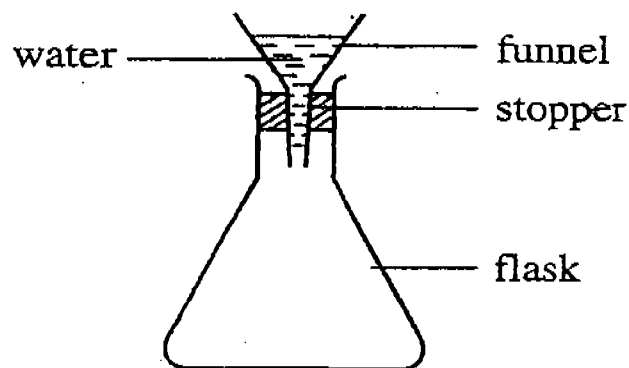
Name : _____ ()

Class: _____

Section A : MCQ (30 Questions x 2 marks = 60 marks)

Choose the most suitable answer and shade its number in the OAS provided.

1. Linda set up an experiment as shown below. When she poured water into the funnel, it did not flow into the flask. After a while she did the same experiment again but this time the water could flow in. What could she have done which caused her result to be different?

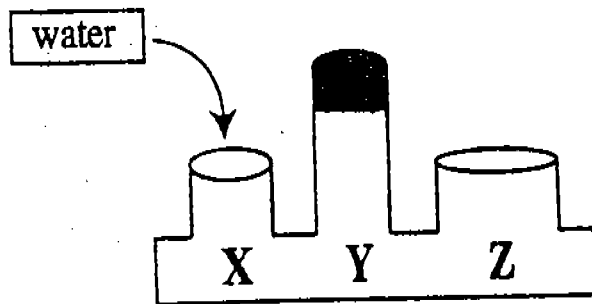


- (1) The water was hot.
- (2) The stopper was loose
- (3) She poured water in slowly
- (4) She did the experiment in an air-conditioned room.

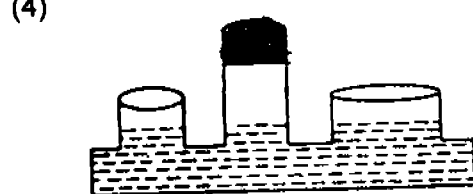
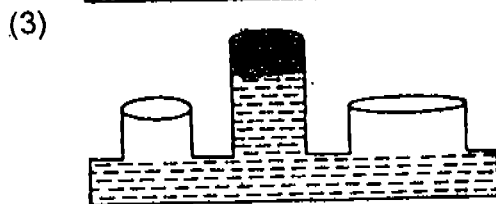
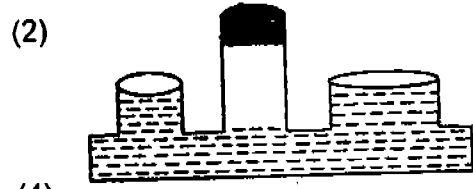
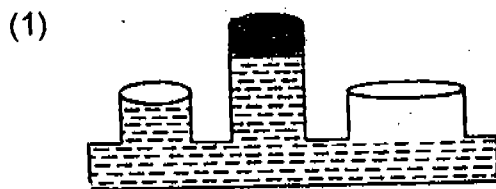
2. A metal cylinder has a capacity of 2000 cm^3 . Which of the following examples given below can be stored in the metal cylinder?

- A: 1000 cm^3 of nitrogen
 - B: 2050 cm^3 of oxygen
 - C: 500 cm^3 of sand
 - D: 2010 cm^3 of water
- (1) A and B
 - (2) A, B and C only
 - (3) A, C and D only
 - (4) A, B, C and D

3. Tracy poured water in the communicating vessels shown below. The opening of Y was sealed with some plasticine.

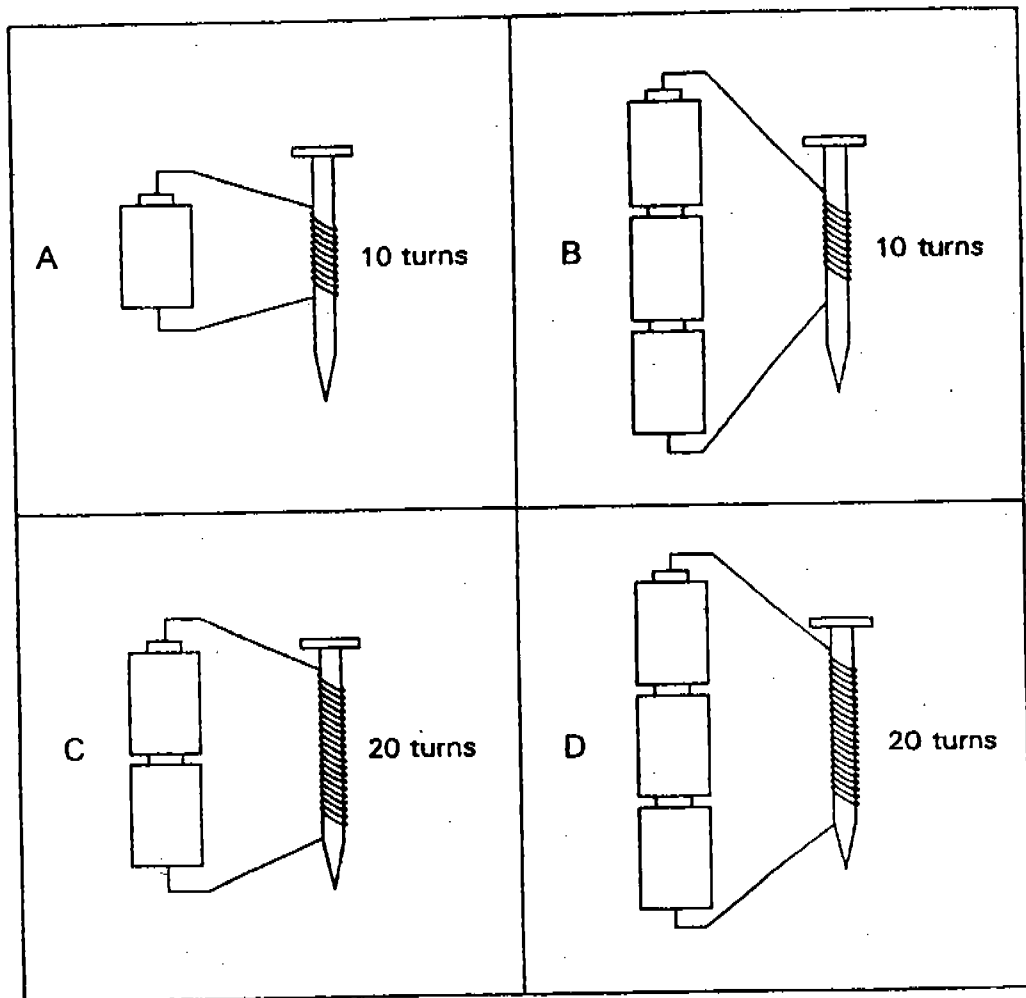


Which diagram shows the water level correctly?



4. An iron nail becomes a magnet when it is placed in a coil of wire joined to batteries.

Jonathan wants to test whether the strength of a magnet is determined by the number of turns of coil around the nail.



Which two arrangements should he set up to conduct a fair test?

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

5. Which of the following statements are true?

- A: A gram of gold and a gram of cotton wool have the same mass
- B: A gram of gold and a gram of cotton wool have different masses.
- C: A gram of gold and a gram of cotton wool have the same volume.
- D: A gram of gold and a gram of cotton wool have different volumes.

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

6. Tom noticed that the basketball did not increase in size as he continued pumping air into it. This shows that _____.



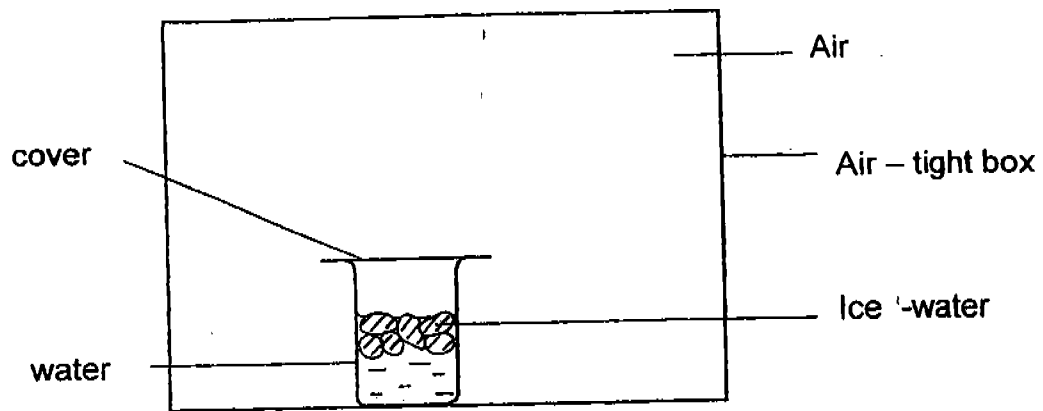
- (1) air has mass
- (2) air takes up space
- (3) air can be compressed
- (4) air has a definite volume

7. In 1989, an oil tanker hit sharp rocks and the oil it was carrying spilled into the sea. Which of the following probably occurred as a result of that?

- A: Water plants could not photosynthesize and died.
- B: Oxygen could not reach the animals and plants living in the water.
- C: Oil dissolved in the water and there were more water plants growing in the water.
- D: The feathers of seabirds clumped together and they could no longer swim, fly or float.

- (1) B and C only
- ~~(2) A, B and C only~~
- (3) A, B and D only
- (4) All of the above

8. A beaker of ice-water is placed in an air-tight box as shown in the diagram below.

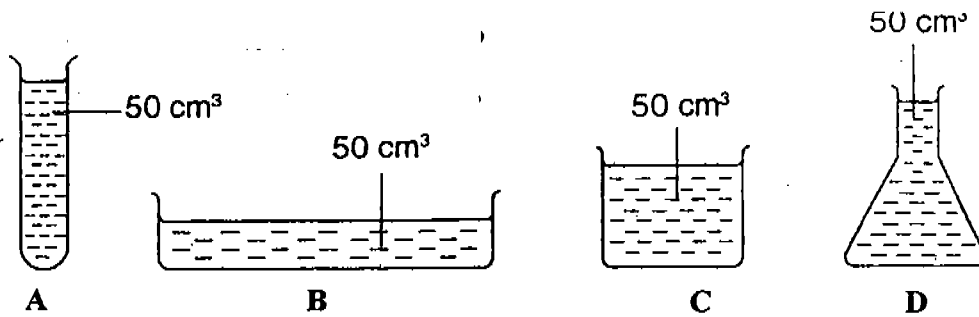


What will happen to the air in the box after a few minutes?

The air in the box will _____

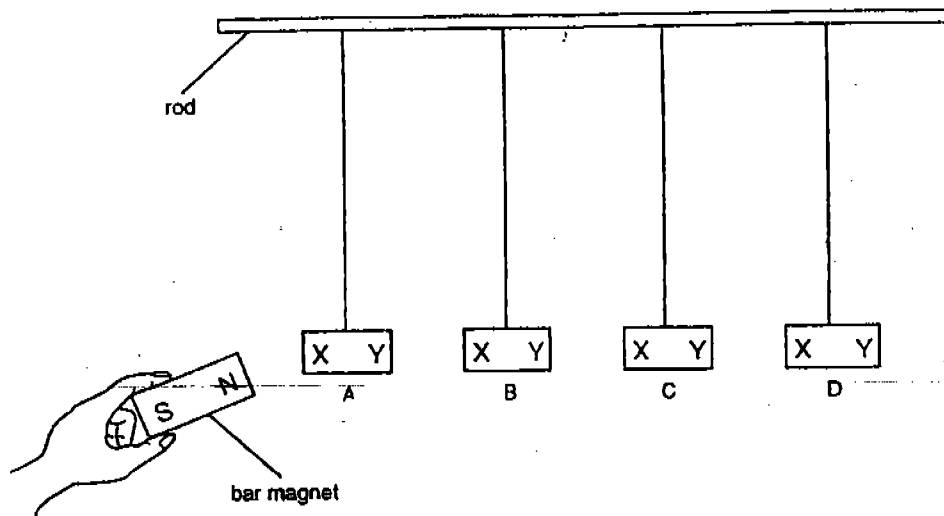
- A: become cooler
 - B: contain more oxygen
 - C: contain more water vapour
- (1) A only
 - (2) B and C only
 - (3) A and C only
 - (4) A, B and C

9. The following containers below which contain the same volume of water are placed in the open under the same conditions. What could be the possible volume of water in each container after 24 hours?



	A	B	C	D
(1)	45 cm ³	40 cm ³	20 cm ³	35 cm ³
(2)	35 cm ³	20 cm ³	40 cm ³	45 cm ³
(3)	40 cm ³	20 cm ³	35 cm ³	45 cm ³
(4)	40 cm ³	20 cm ³	45 cm ³	35 cm ³

10. Four metal bars, A, B, C and D are hung from a horizontal rod as shown below. The north pole of a bar magnet is brought near X and then Y of each metal bar.



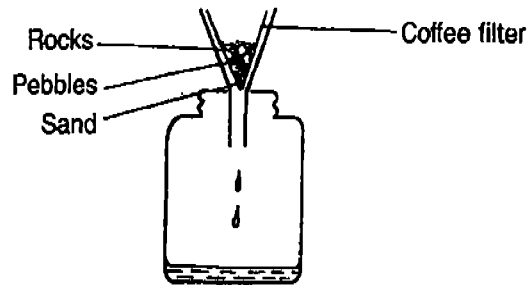
The table below shows the observations made during the experiment.

Metal Bar	Observations	
	North Pole and X	North Pole and Y
A	Repelled	Attracted
B	Nothing happened	Nothing happened
C	Attracted	Attracted
D	Attracted	Repelled

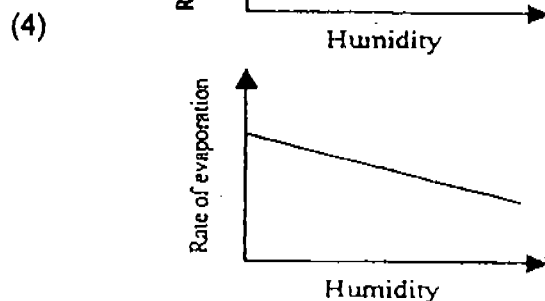
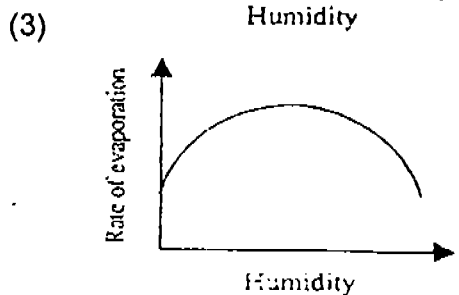
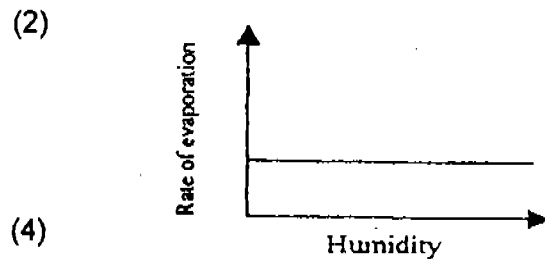
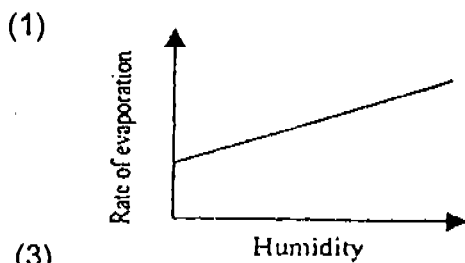
Which of the metal bars are magnets?

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

11. Some dirty water was poured into the funnel that was lined with filter paper as shown in the diagram below. It contained solid particles of dirt. The dirty water will be _____.



- (1) filtered and become clean.
(2) filtered but remained dirty.
(3) absorbed by the coffee filter.
(4) dirty with particles like in the beginning of the experiment.
12. Which one of the following graphs correctly shows the effect of increased humidity on the rate of evaporation of water?

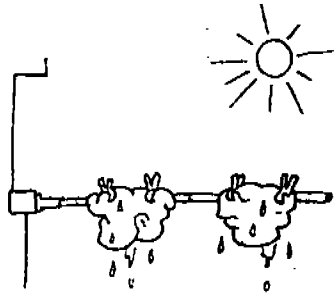


13. How do we get sufficient water supply to meet the high demands in Singapore?

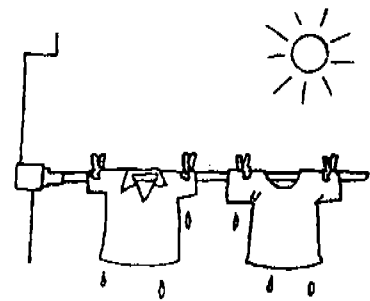
- A: We buy water from neighbouring countries.
 - B: We get water after rain water collected in reservoir is treated.
 - C: We get water from recycling waste water.
- (1) A and B only
 - (2) A and C only
 - (3) B and C only
 - (4) A, B and C

14. Teri has to hang out the clothes she just washed. Which of the following conditions would allow Teri's clothes to dry the fastest?

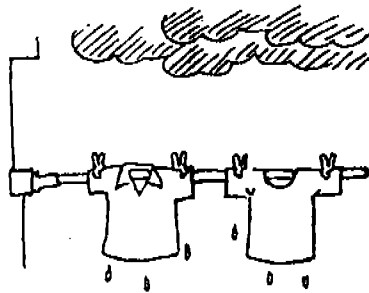
(1)



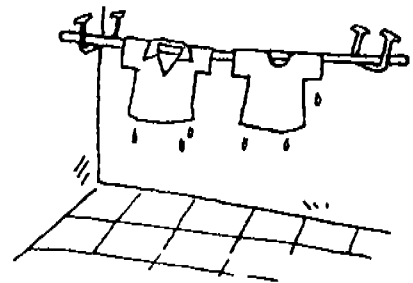
(2)



(3)



(4)



15. A class carried out an experiment to find out if water flows faster than other liquids. The variables that should be kept the same are _____.

- A : the types of liquid
- B : the amount of liquid used
- C : the temperature of the liquid
- D : the angle in which the container should be held.

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

16. When a person exercises, _____.

- A: her breathing rate increases
- B: her heartbeat increases
- C: more blood goes to her brain
- D: more blood goes to her muscles

- (1) A and B only
- (2) B and C only
- (3) B, C and D only
- (4) All of the above

17. What happens to food in our mouth?

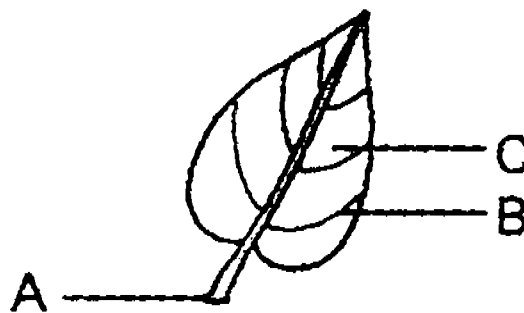
A: It is chewed or ground into smaller pieces.

B: It is mixed with saliva, a digestive juice.

C: It is softened so that it can be swallowed easily.

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

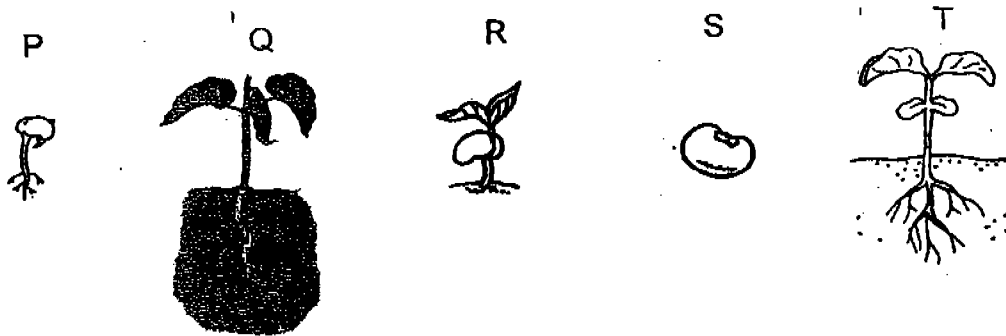
18. Study the picture below.



What are A, B and C?

	A	B	C
(1)	leaf blade	leaf stalk	vein
(2)	leaf blade	vein	leaf stalk
(3)	leaf stalk	vein	leaf blade
(4)	leaf stalk	leaf blade	vein

19. Study the diagrams below of the life cycle of a bean plant. They are not arranged in order.



At which stage/s is sunlight needed ?

- ~~(1) P and S only~~
(2) Q and T only
(3) P, R and S only
(4) Q, R and T only

20. We can swing our arms in circles because _____.

- (1) our arms are made up of long and straight bones.
(2) we have ball and socket joints at our shoulders.
(3) we have a strong skeleton.
(4) we have elbows.

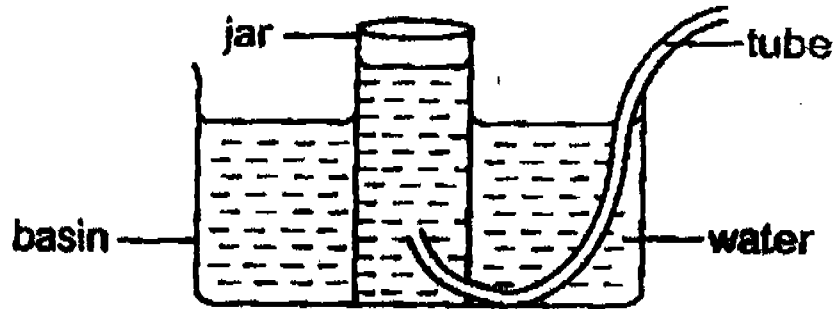
21. Mouth-to-mouth resuscitation is being carried out to save the boy.



Which of the following statements is not true?

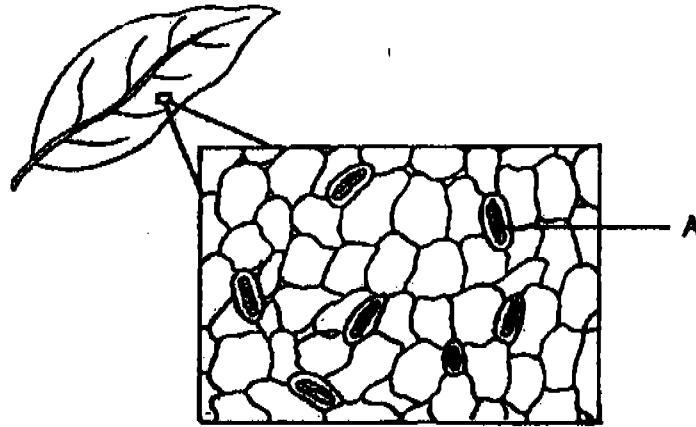
- (1) The lady is sucking up the water that has entered into the boy's lungs.
- (2) Oxygen has to get into the boy's lungs as soon as possible.
- (3) Air containing oxygen is being blown into the boy's lungs.
- (4) The lady is trying to help the boy breathe again.

22. What happens when a girl takes a deep breath and blows into the tube?



- A: Air bubbles can be seen.
B: Air displaces some water in the jar.
C: The air the girl breathes out is collected in the jar.
- (1) A and B only
(2) A and C only
(3) B and C only
(4) A, B and C
23. Which of the following shows the path in which oxygen travels when a person's nose is completely blocked?
- (1) nose → gullet → stomach → small intestine → heart
(2) mouth → windpipe → lungs → heart
(3) mouth → gullet → stomach → heart
(4) nose → windpipe → lungs → heart

The diagram below shows part of a leaf viewed under a microscope. Answer questions 24 and 25 with reference to the diagram.



24. What is the structure 'A'?

- (1) Blood vessel
- (2) Nostril
- (3) Stoma
- (4) Gill

25. Why is structure 'A' found on the underside of the leaf?

- (1) This is to make it more convenient to absorb water.
- (2) This is to increase the rate of evaporation of water.
- (3) This is to allow air to move in and out of it with ease.
- (4) This is to avoid direct sunlight and thus reducing the evaporation of water.

26. Which of the following states the differences between plant and human transport system?

	Plant Transport System	Human Transport System
(1)	Has tubes that transport water only.	Does not have tubes at all.
(2)	Transports only mineral salts to other parts of the plant.	Transports oxygen, digested food, carbon dioxide, water and other waste materials.
(3)	Has a pump to push materials through the tubes.	Has the heart to pump blood through the blood vessels.
(4)	Transports food produced by the leaves away from the leaves.	Transports food that has been digested by the small intestines away from the small intestines.

27. What are the factors that will affect a person's heart rate?

A: The activity that is being carried out

B: Health condition

C: Age

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

28. Why are capillaries in the human circulatory system important?
- A: They have very thin walls so that oxygen and digested food can pass through their walls and get into the surrounding body cells easily.
- B: They transport only oxygen and carbon dioxide around the body.
- C: They connect arteries and veins.

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

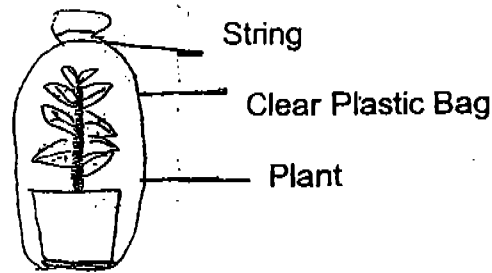
29. Michelle spread a layer of oil on the stem, leaf stalks and both surfaces of the leaves of a plant. The plant was then placed in the sun and watered every day. After a week, the plant wilted.

Which of the following processes could not take place?

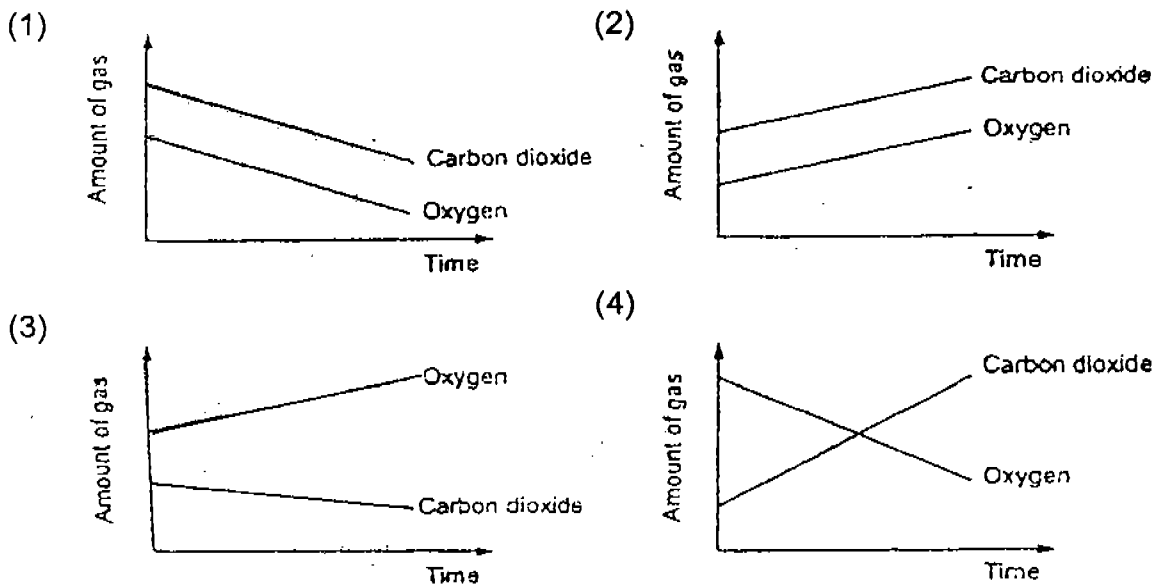
- A: Photosynthesis
- B: Respiration
- C: Transpiration

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

30. One night Jane put a plant into a clear plastic bag. She tied the bag with a string. The plant was well-watered.



Which of the following graphs below shows the relationship between the amount of carbon dioxide and oxygen in the plastic bag during that period of time?



Methodist Girls' School (Primary)

Primary 4

Science

Semestral Assessment 1

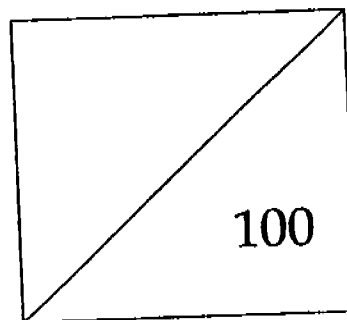
2005

Section B

Name : _____ ()

Class : P4 . _____

Marks :



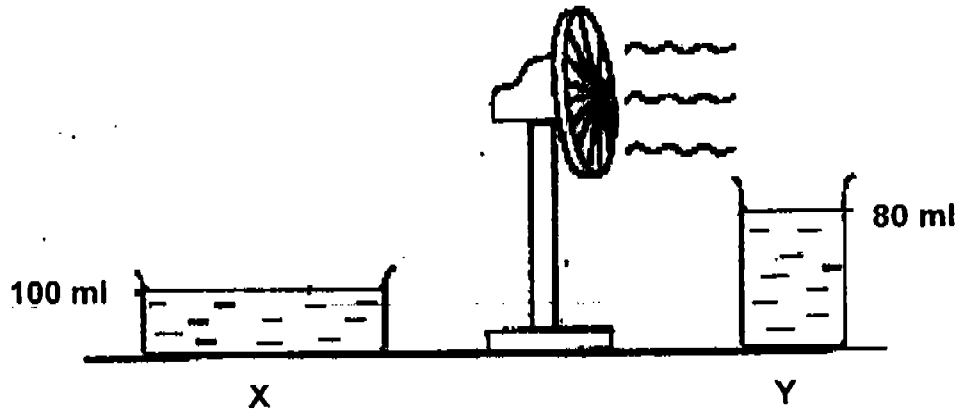
Section A : / 60

Section B : / 40

Section B (40 marks)

Read each question carefully and fill in the blanks with the answers.

31. Sharon set up an experiment with 2 containers X and Y containing water. She wants to find out whether the fan will cause an increase in the rate of evaporation.



Suggest two ways Sharon can improve on the set up of the experiment.

(2 m)

(i)

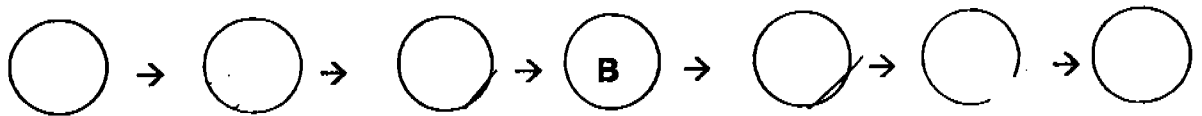
(ii)

32. The statements A-G describe the steps that lead to the formation of rain.

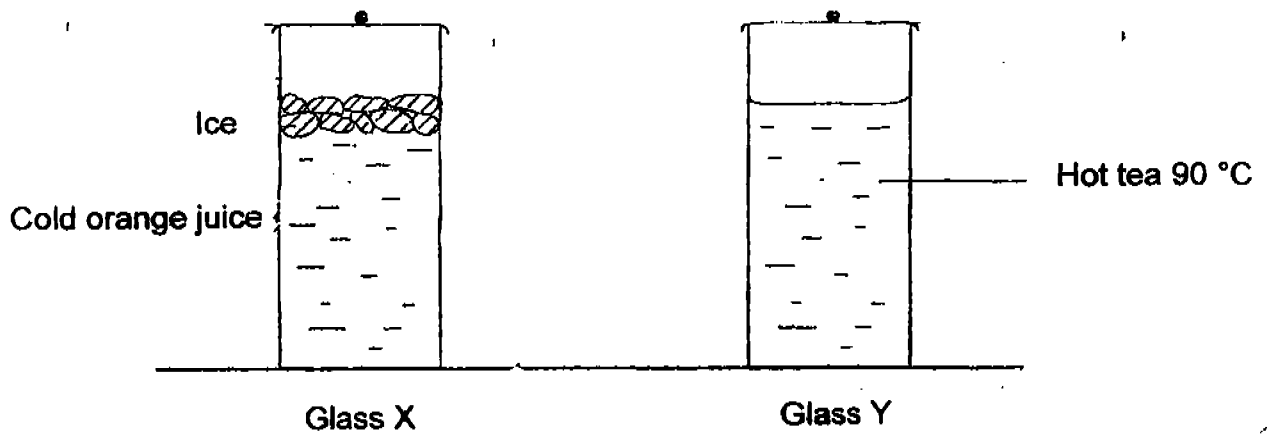
They are not in the correct order.

- A: Water evaporates.
- B: Condensation happens.
- C: Warm air rises and then cools.
- D: Droplets of water form clouds.
- E: Heat energy from the Sun warms the Earth.
- F: When the water droplets become bigger, rain falls.
- G: Water collects in rivers, lakes and reservoirs.

Arrange the statements in the correct order in the diagram below. (3 m)



33. In the diagram below, the glass of orange juice and the glass of hot tea are covered with lids.



After a few minutes, water droplets were formed glasses.

- (a) Draw how the water droplets will look like on glass X and Y (1 m)

- (b) Describe how water droplets are formed on glass X.

(2 m)

34. Joanne collected some water from four different ponds, P, Q, R and S. She also collected some healthy duckweeds. Then she placed the duckweeds into the different containers of water according to the table below.

Source of water	P	Q	R	S
Amount of Water	500 ml	500 ml	500 ml	500 ml
Initial number of healthy duckweeds	10	10	10	10
Number of duckweeds 2 days later	10	6	8	0
Number of healthy duckweeds 4 days later	10	3	6	0

- (a) Which pond is the most suitable for the survival of the duckweeds?

(1 m)

- (b) What are two possible reasons why the duckweeds did not survive in the other ponds.

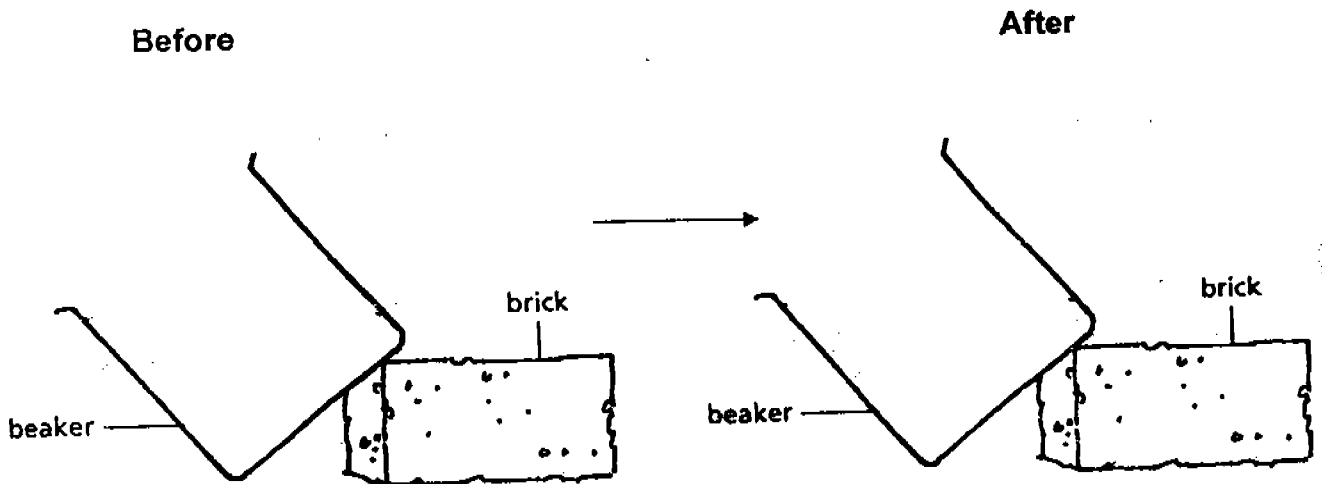
(2 m)

35. Ron took a beaker of water and put it in the freezer overnight.

(a) What would happen to the beaker of water the next day? (1 m)

(b) What change of state took place? (1 m)

(c) Ron tilted a beaker of water with a brick. He then removed the brick and placed the beaker of water in the freezer. In the diagram below, draw what he would observe in the beaker before and after he put it in the freezer. (2 m)



36. When a marble is put into a beaker of water, the water level is as shown in Diagram A. When two or more marbles of the same size are added, the new water level is as shown in Diagram B.

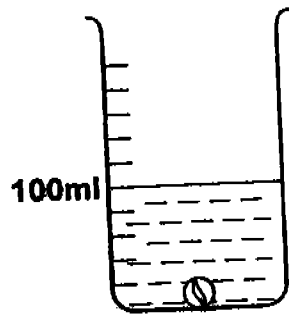


Diagram A

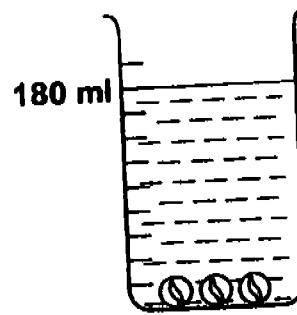
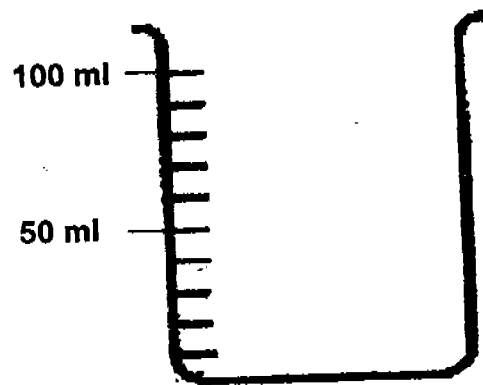


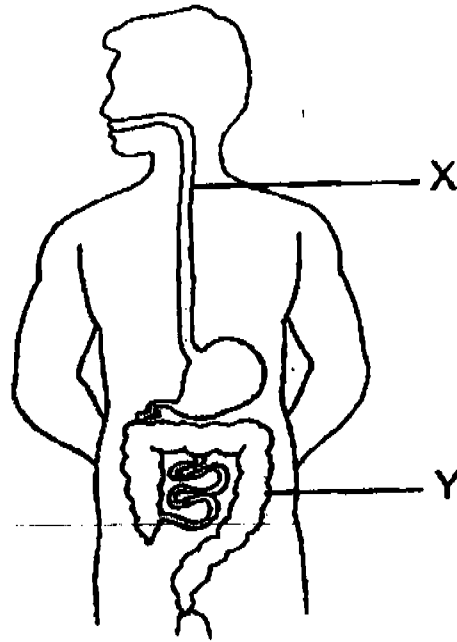
Diagram B

- (a) Draw in the beaker below, what the water level would be if all the marbles are removed? (1 m)



- (b) When the marbles were added into the beaker of water, the water level rose. What property of matter does this show? (1 m)

37. The diagram below shows the human digestive system.



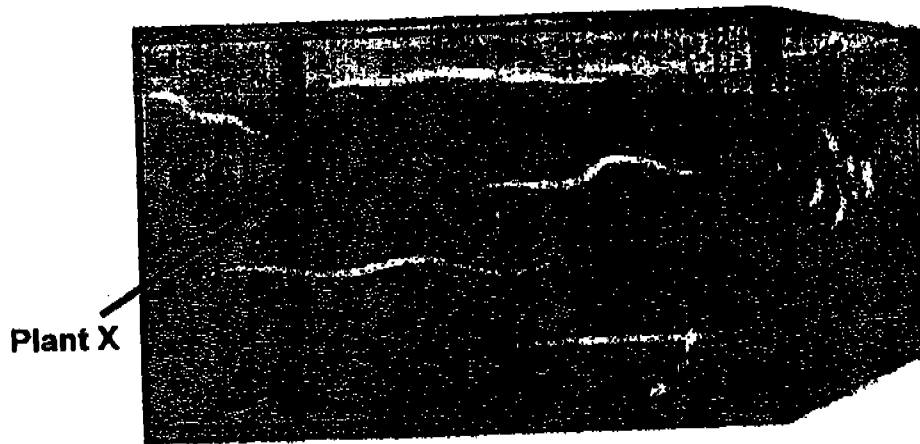
(a) Identify the parts labelled X and Y. (2 m)

X: _____

Y: _____

(b) What is the function of the part labelled Y? (1 m)

38. The diagram below shows a group of living things living in a fish tank.

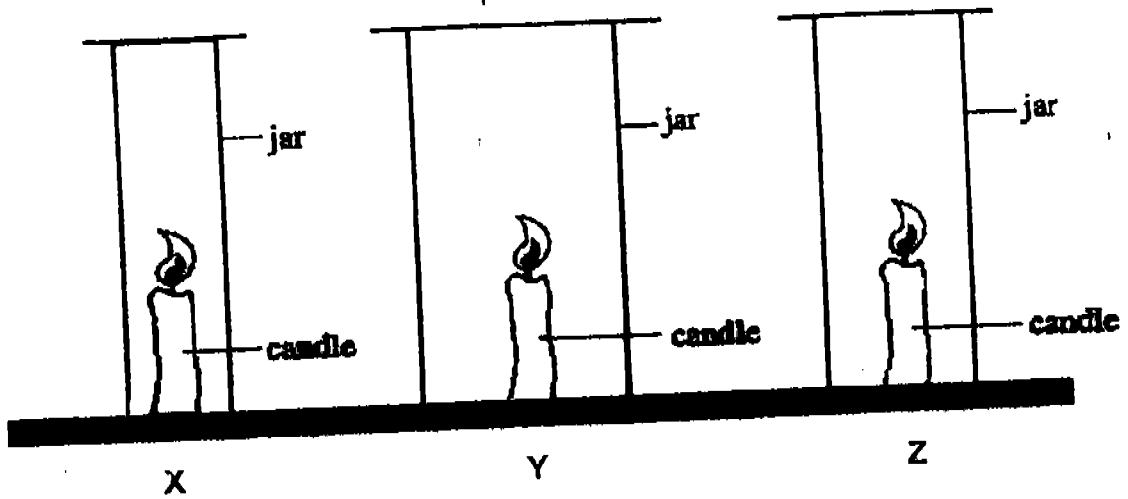


(a) Where does plant X get most of its carbon dioxide to make food?

(1 m)

(b) State one way in which plant X is helpful to the aquatic animals living in the fish tank.

(1 m)



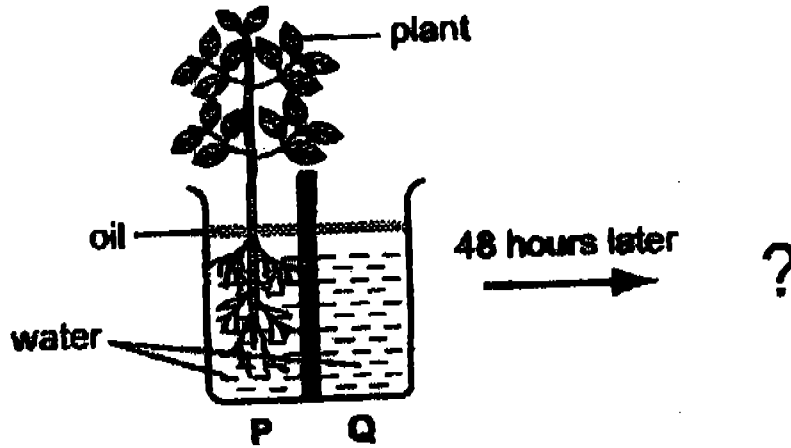
A burning candle was placed in each of the three jars of different sizes – X, Y and Z. The time taken for the flame to go off in each jar was recorded in the table below.

Jar	Time taken (seconds)
X	6
Y	18
Z	12

(a) What pattern do you notice between the size of the jar and the time taken for the candle to go off? (2 m)

(b) Explain why there is such a pattern. (2 m)

40. A container is divided into 2 compartments. Each compartment contains equal volume of water and a layer of oil was added onto its surface.

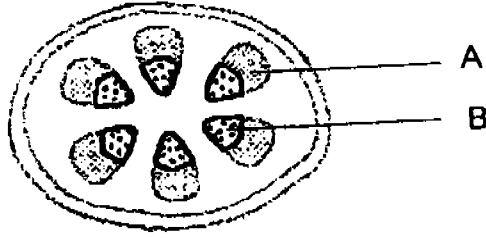


(a) What will you observe 48 hours later? (2 m)

(b) What does the experiment show? (1 m)

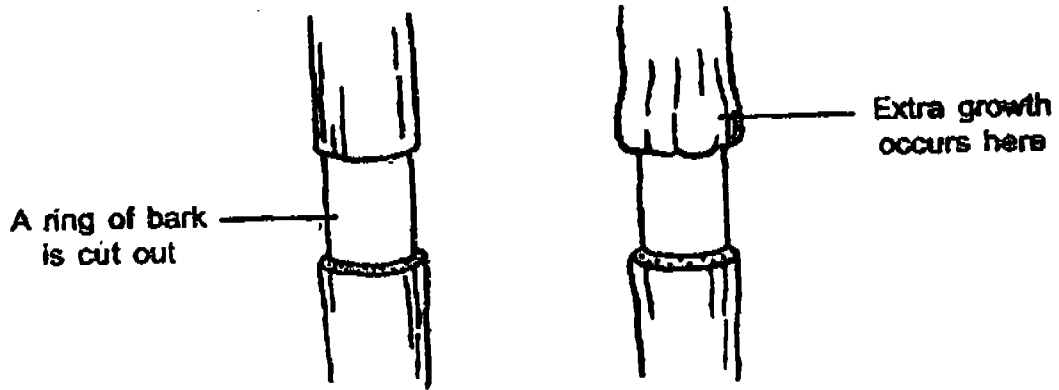
(c) What is the function of the layer of oil? (1 m)

41. Siti cut off a section of a branch and the cross-section is shown below. The outer ring was labelled A and the inner ring was labelled B.

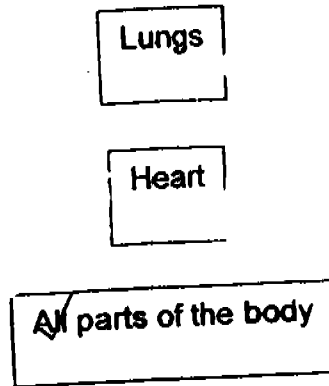


Cross-section of branch

- (a) What does the part marked A and B transport respectively? (1 m)

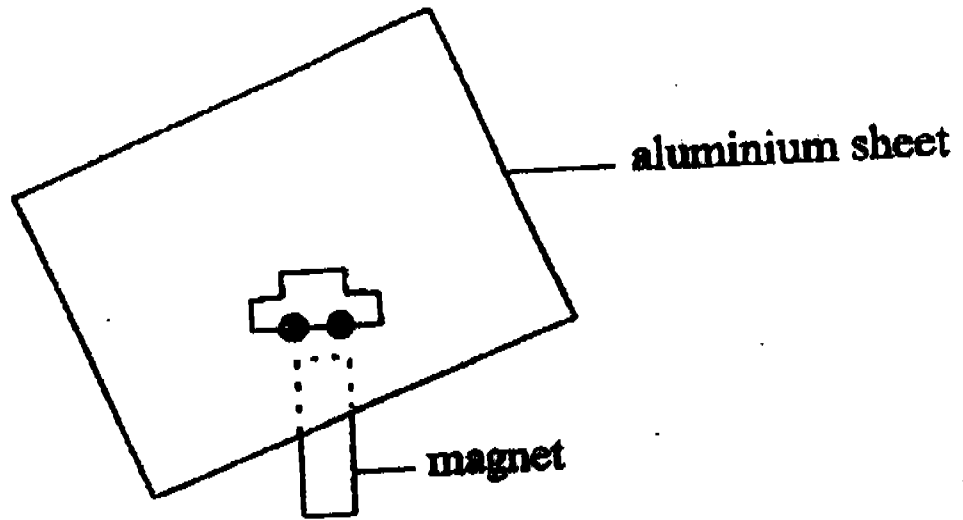


- (b) A ring of bark was cut out from a tree trunk. A bulge was observed above the ring for a few days and eventually the tree died. Why did the tree die after a ring of bark was cut out from its trunk?



- (a) Draw 2 arrows to represent the flow of oxygenated blood. Label them A and B. (1 m)
- (b) Draw 2 arrows to represent the flow of deoxygenated blood. Label them C and D. (1 m)
- (c) Name the thick blood vessels that carry blood away from the heart. (1 m)
-
- (d) Name the thick blood vessels that carry blood to the heart. (1 m)
-

43. Janice puts a car on an aluminium sheet. She then placed a magnet under the aluminium sheet as show in the diagram below. When she moved the magnet, the car also moved.



- (a) Suggest ² possible materials the car can be made of. (2 m)

- (b) What conclusion can you draw from the above experiment? (2 m)

1) 2

28) 2

2) 2

29) 4

3) 2

30) 4

4) 3

31) i) She should use the same amount of water in each container.

5) 2

ii) The containers should be of the same type.

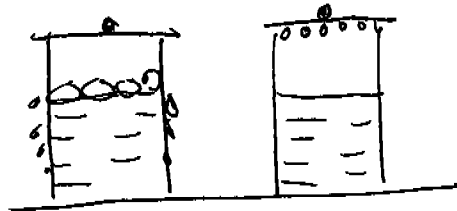
6) 3

7) 3

32) E A C D F G

8) 1

33) a)



9) 3

10) 3

11) 1

b) Water vapour from the surrounding air came in contact and condensed on the cool surface of the glass to form water droplets.

12) 4

13) 4

14) 2

34) a) Pond P

15) 4

b) The ponds were polluted and there were more predators that ate the duckweed.

16) 4

17) 4

35) a) The beaker of water would freeze into ice.

18) 3

b) Liquid to solid state.

19) 4

c)

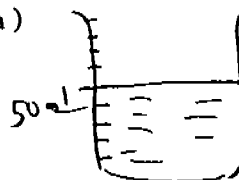


20) 2

21) 1

22) 4

36) a)



23) 2


24) 3

25) 4

b) Matter takes up space and has volume.

26) 4

27) 4

- 37) a) X : Gullet Y : Large intestine
 b) The large intestine absorbs water from the undigested food.
- 38) a) Plant X gets carbon dioxide from the fish in the tank.
 b) When plant X photosynthesizes, it gives out oxygen so the aquatic animals will have oxygen to breathe.
- 39) a) The larger the jar, the longer the time taken for the candle to go off.
 b) When the jar is larger, it can contain more air and oxygen and as oxygen supports burning, the candle will take longer time to go off.
- 40) a) There will be less water in P than in Q.
 b) The roots of plants absorb water.
 c) The layer of oil prevents the water from evaporating.
- 41) a) The part labelled A transports food.
 The part labelled B transports water
 b) When the ring of the bark was cut off, food could not be transported to other parts of the plant.
- 42) a) 
 b)
 c) Arteries d) Veinis
- 43) a) Iron and steel
 b) Magnetism can pass through a materials like aluminium sheet.