



**CATHOLIC HIGH SCHOOL
PRIMARY 4
SEMESTRAL ASSESSMENT 2
2006**

SCIENCE

Class : Primary 4

Date : 31 October 2006

BOOKLET A

30 Questions
60 Marks

Total Time for Booklets A & B : 1 hour 30 minutes

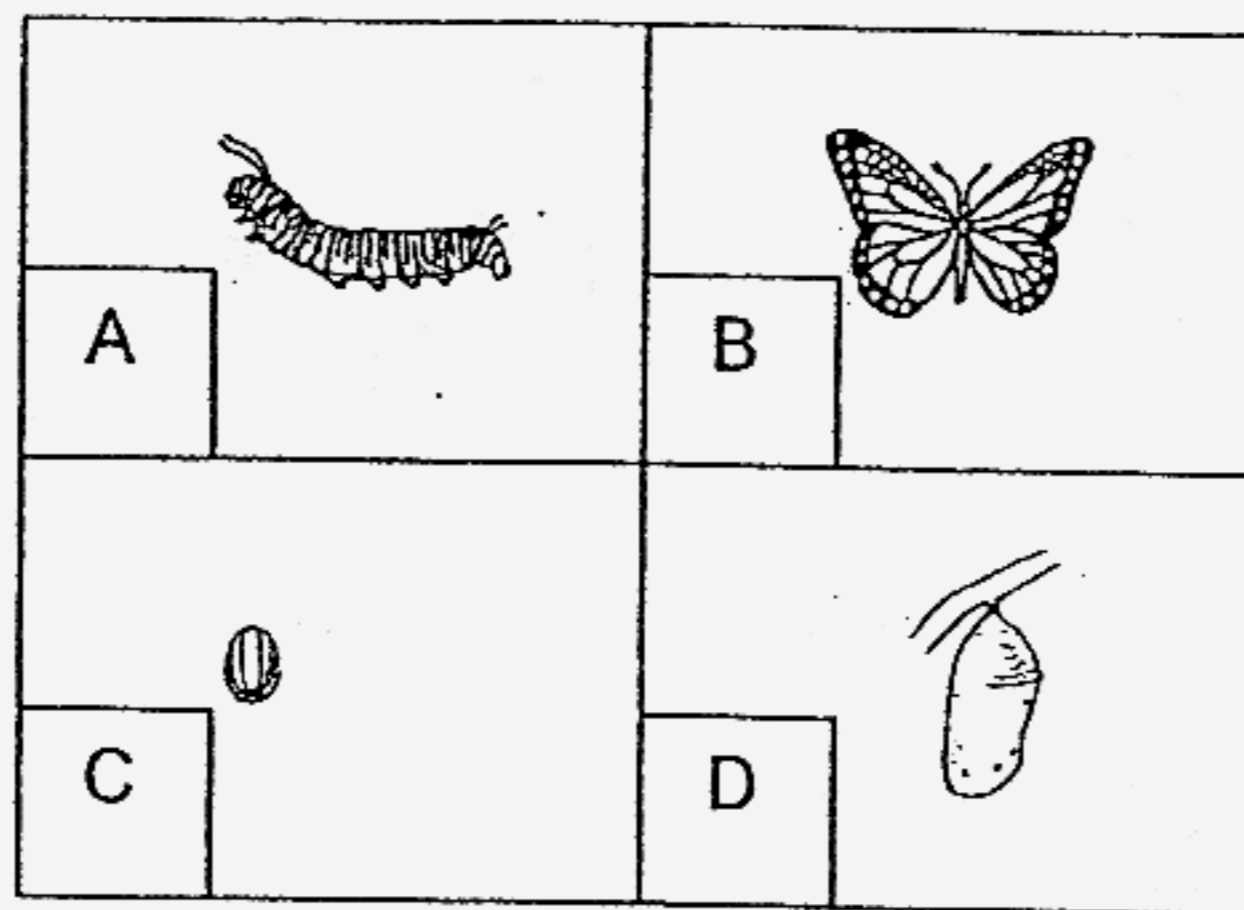
Instructions to Candidates

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

Section A: Multiple Choice Questions (60 marks)

For each question from 1 to 30, four options are given. One of them is the most suitable answer. Make your choice (1, 2, 3 or 4) on the Optical Answer Sheet.

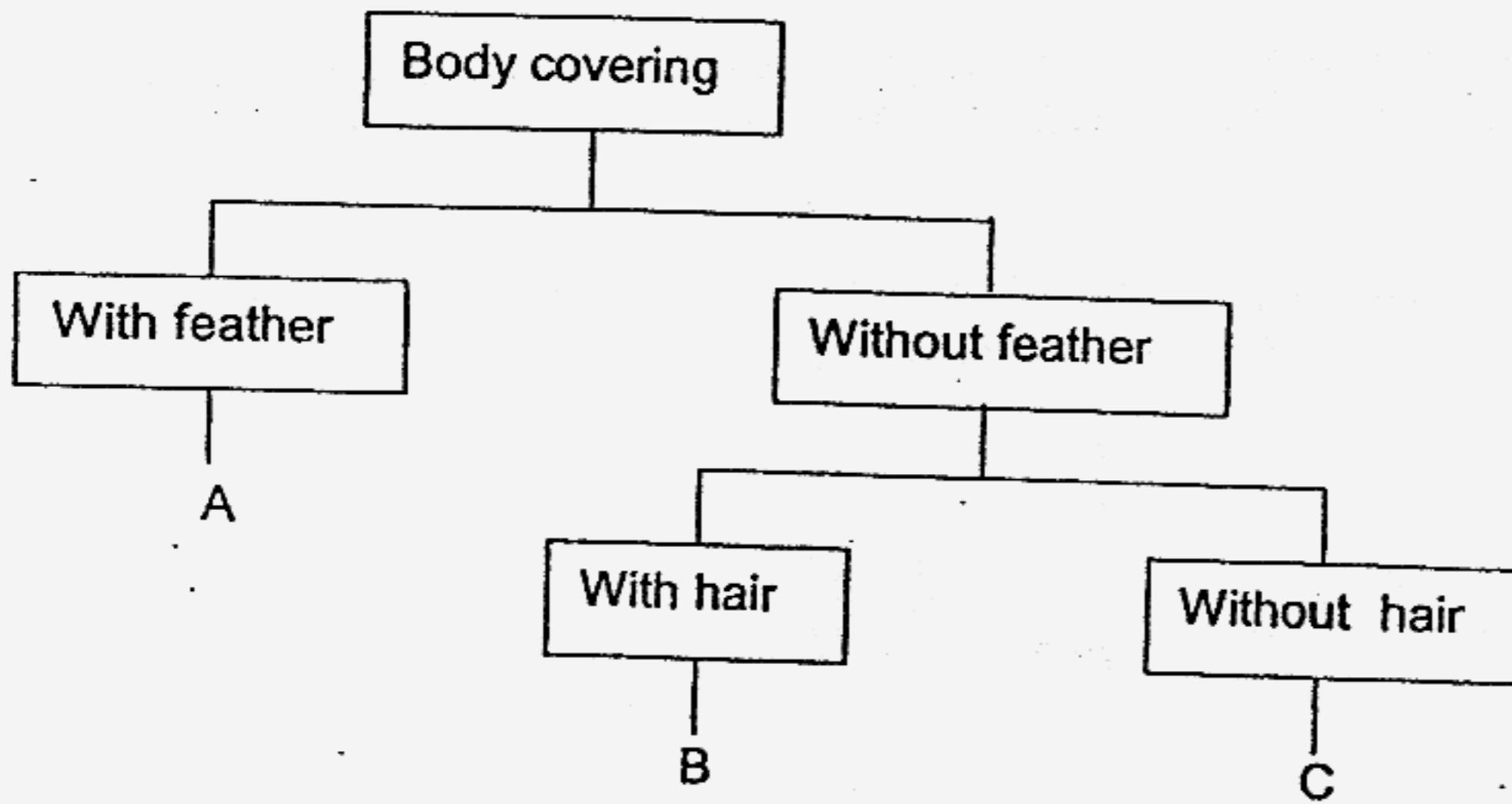
1. The following pictures, A, B, C and D show the different stages in the life cycle of a butterfly. The pictures are not arranged in order.



Which of the following is the correct order of the stages in the life cycle of a butterfly?

- (1) B, D, C, A
 - (2) D, B, A, C
 - (3) A, C, B, D
 - (4) C, A, D, B
2. Which of these organisms have the same number of stages in their life cycles?
- (1) Moth and bird
 - (2) Fish and mosquito
 - (3) Grasshopper and moth
 - (4) Mealworm beetle and mosquito

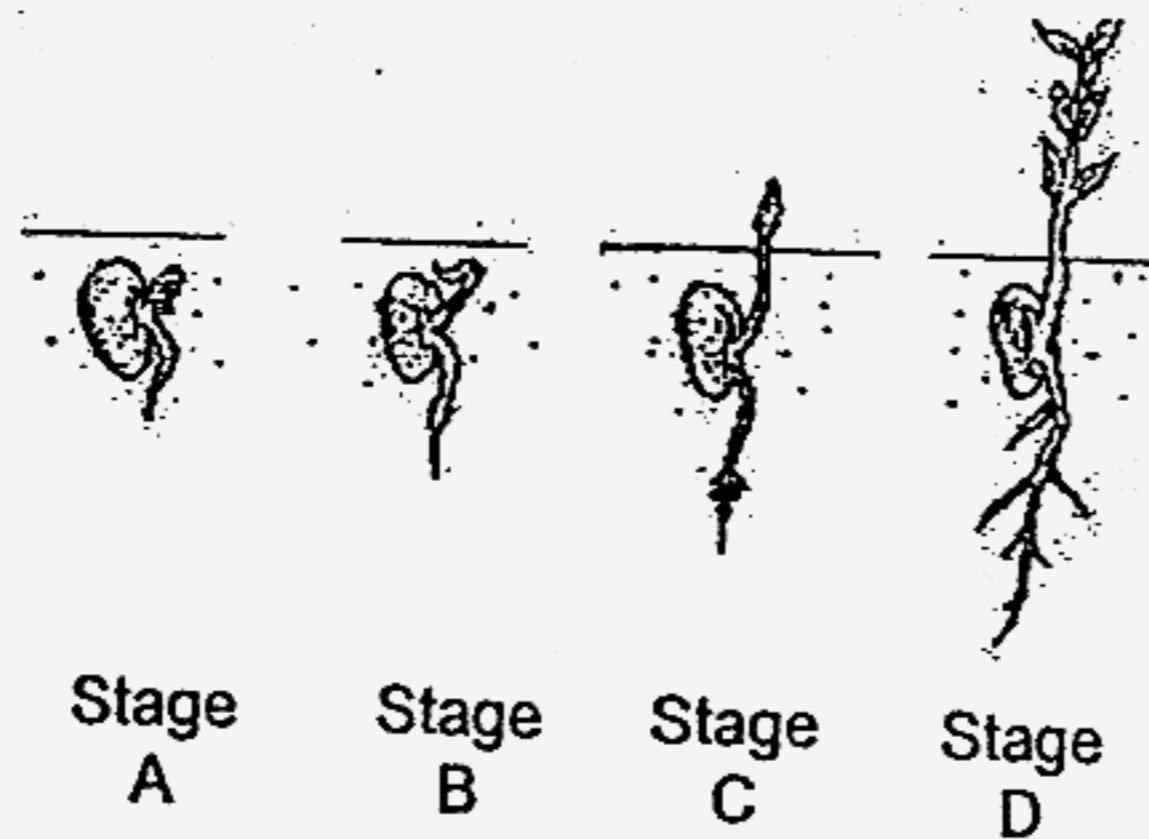
3. Study the chart below.



Which of the following set of animals best represents A, B and C?

	A	B	C
(1)	Duck	Crocodile	Fish
(2)	Hen	Dog	Lizard
(3)	Swan	Cat	Rat
(4)	Goose	Snake	Tiger

4. The diagram below shows a young plant that has germinated from a seed. At which stage will the young plant start making its own food?



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

5. How are the seeds of an apple and spores of the fern similar?

- (1) They grow into flowers.
- (2) They can grow into new plants.
- (3) They provide nutrients for the plants.
- (4) They are produced by flowering plants.

6. How does the tongue and saliva help us to swallow food easily?

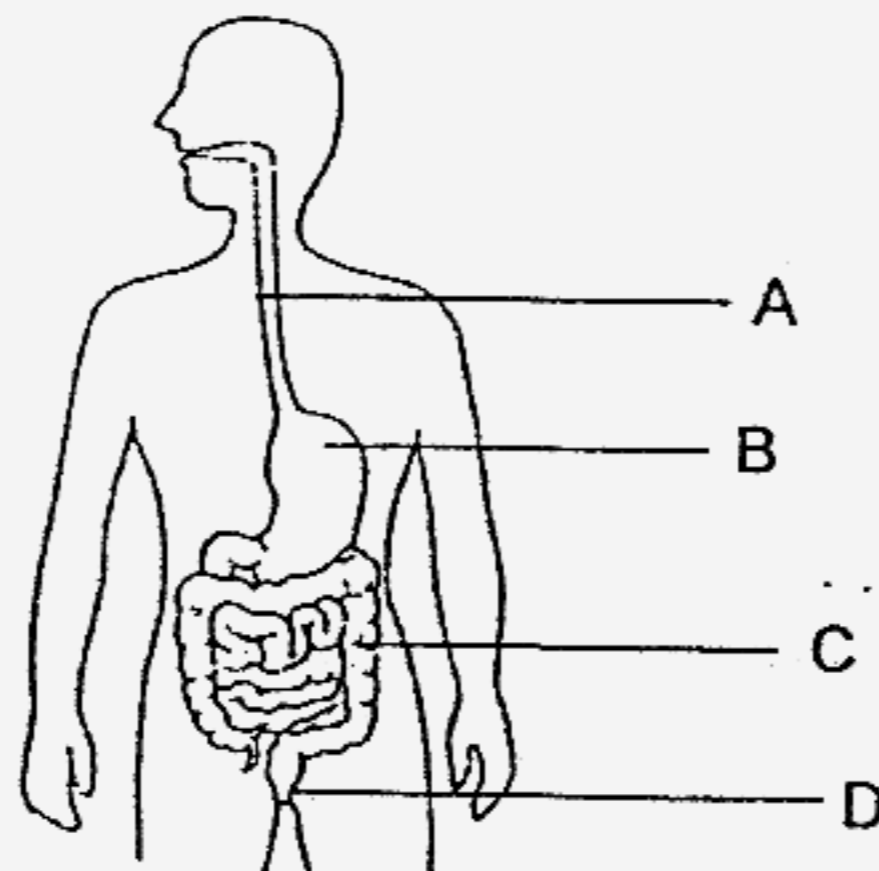
- (1) Both of them grind the food into smaller pieces.
- (2) Both of them help to break down the food into smaller pieces.
- (3) Both of them dissolve the food into simpler substances before entering the gullet.
- (4) Both of them make the pieces of food moist and shape the smaller pieces of food.

7. Which of the following actions involve using our joints?

- A Smelling your food
- B Swallowing your food
- C Snapping your fingers
- D Clapping of your hands

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

8. The diagram below shows the human digestive system.



Which one of the following statements is true?

- (1) Digestion only starts at B.
- (2) A is known as the windpipe.
- (3) There are digestive juices at D.
- (4) Water is removed from undigested food in C.

9. The table below shows how the types of joints found at different parts of the human body are grouped. Study the 2 groups and answer the question that follows.

Group A	Group B
elbow	hip
knee	shoulder

The suitable headings for Groups A and B should be _____ and _____.

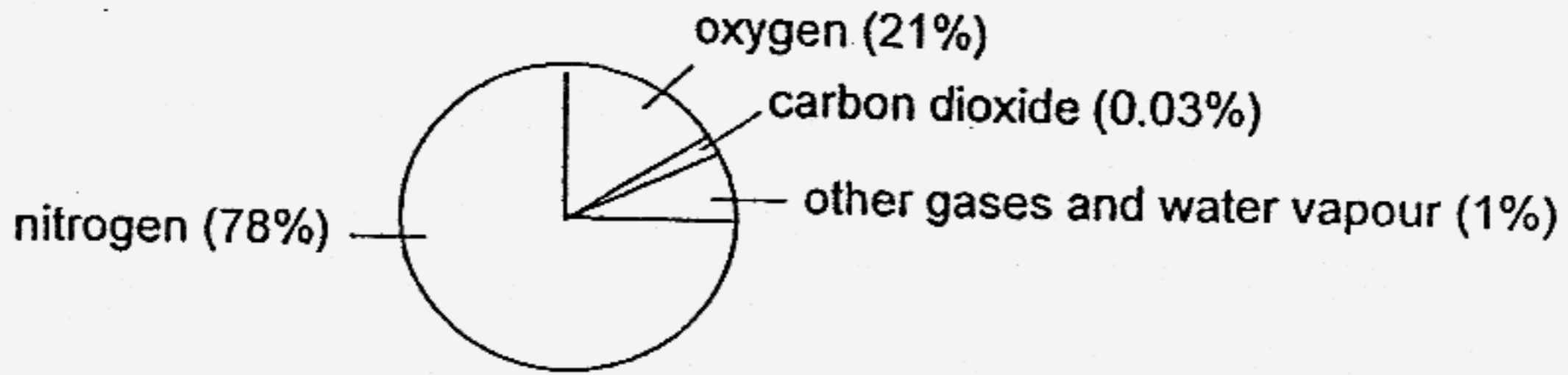
	Group A	Group B
(1)	Joints	Muscles
(2)	Skeleton	Organs
(3)	Hinge Joints	Ball and Socket Joints
(4)	Ball and Socket Joints	Hinge Joints

10. Which of the following statements describe what happens to your body when you exercise?

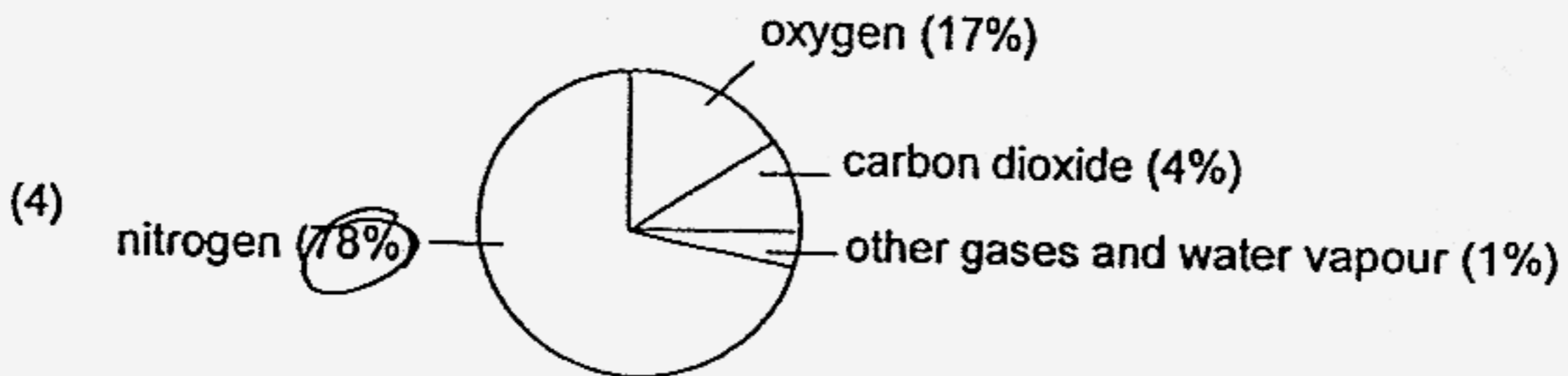
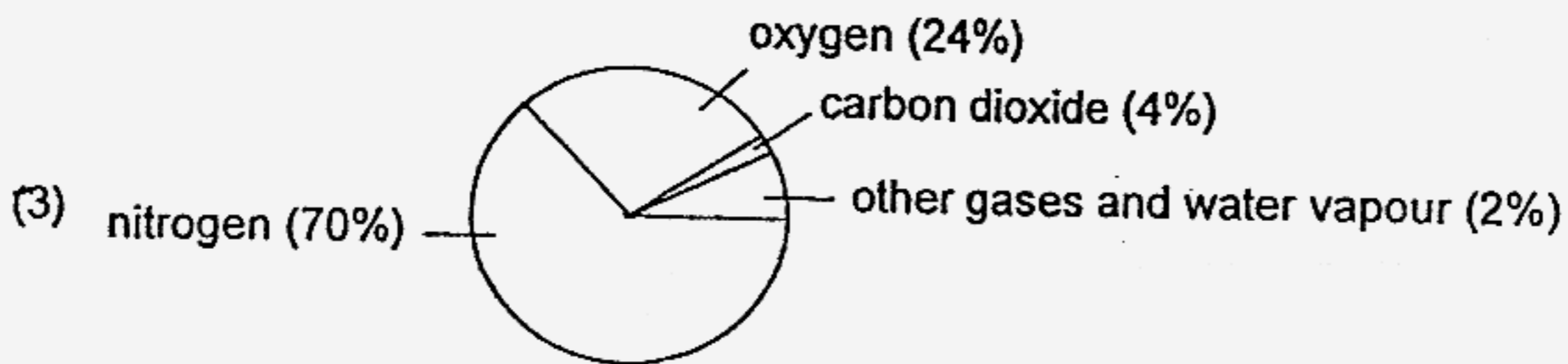
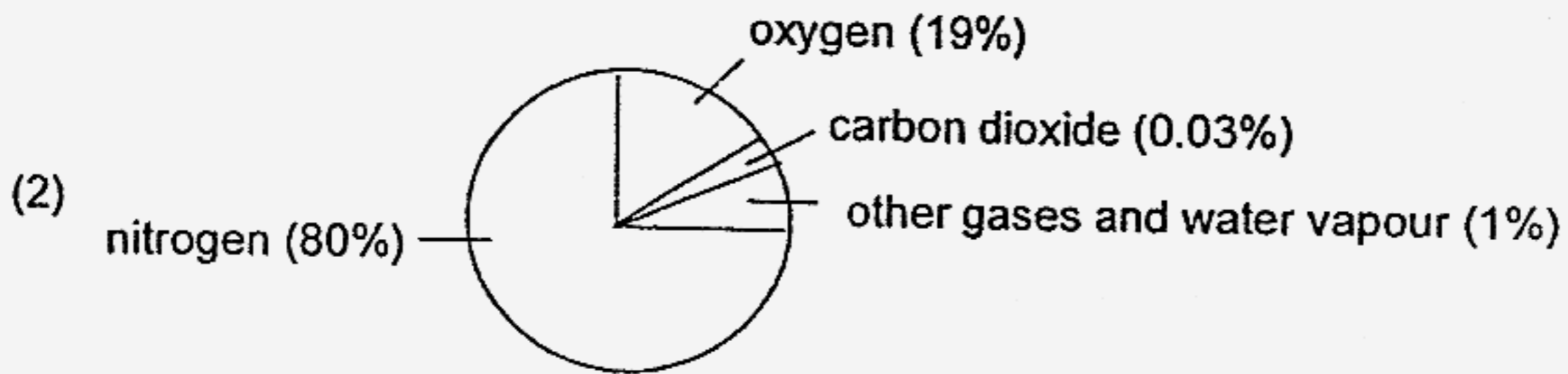
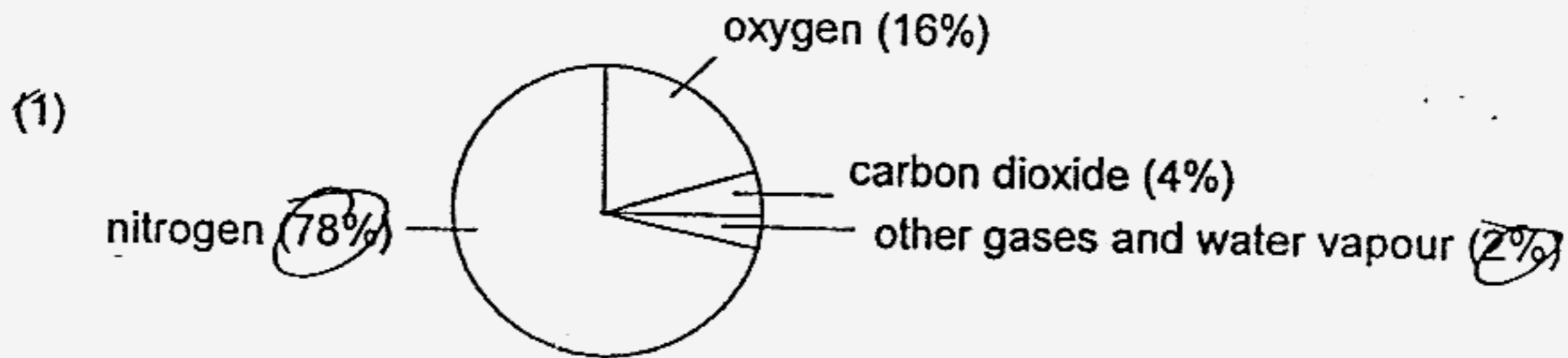
- A Your heart beats faster.
- B Your breathing rate slows down.
- C Your body needs more stored food and oxygen.

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

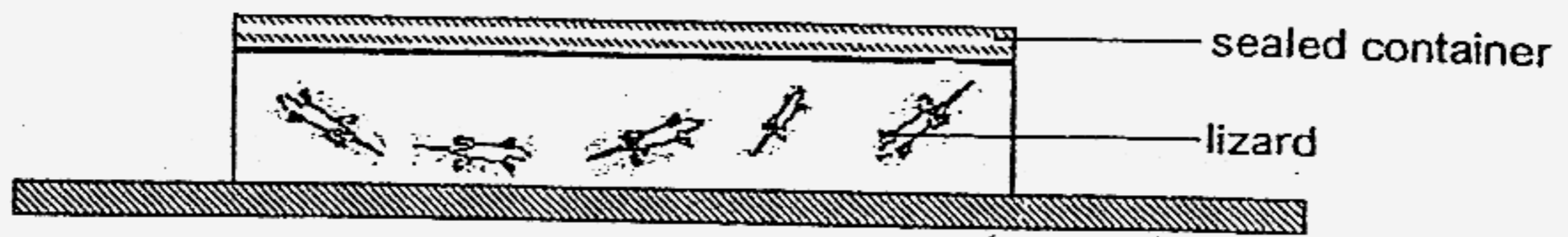
11. We breathe in air with the composition as shown below.



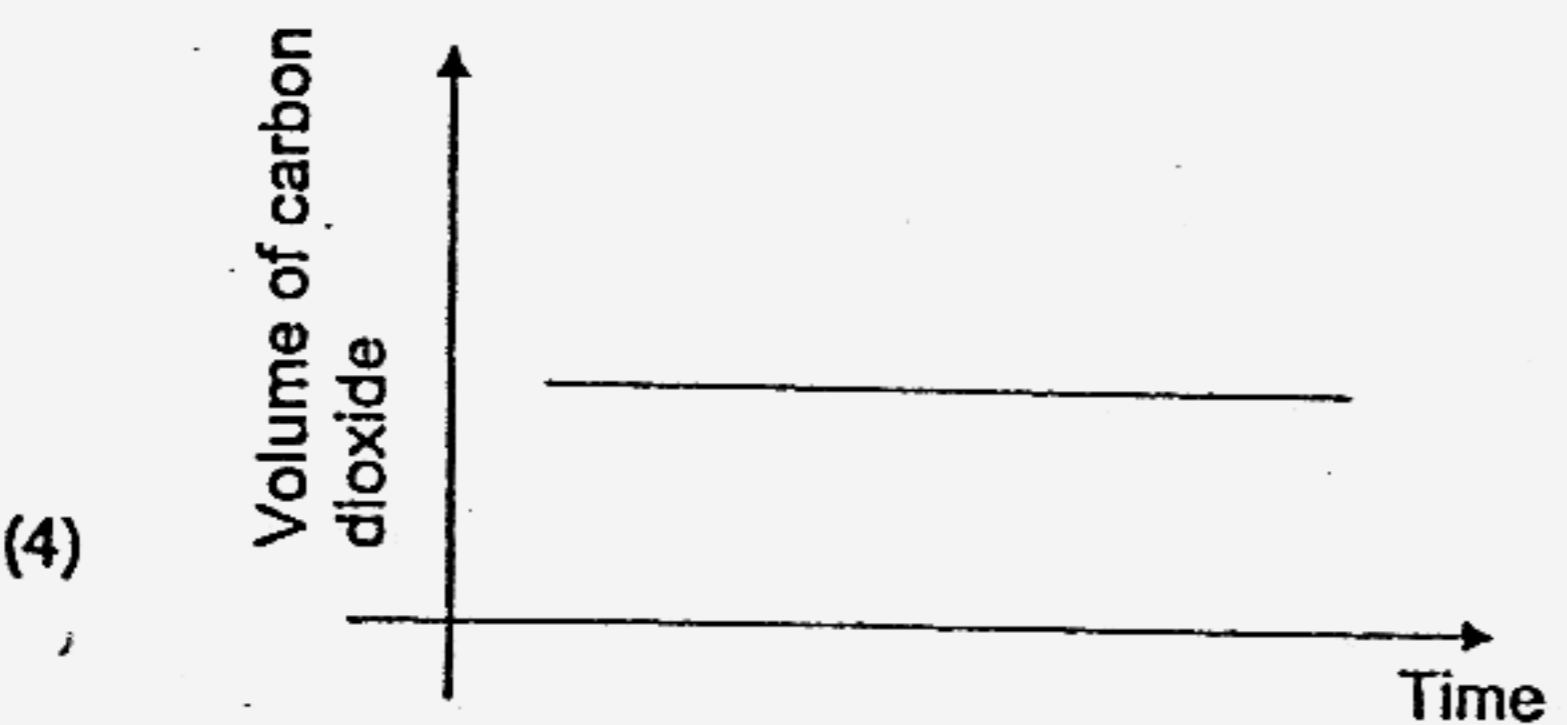
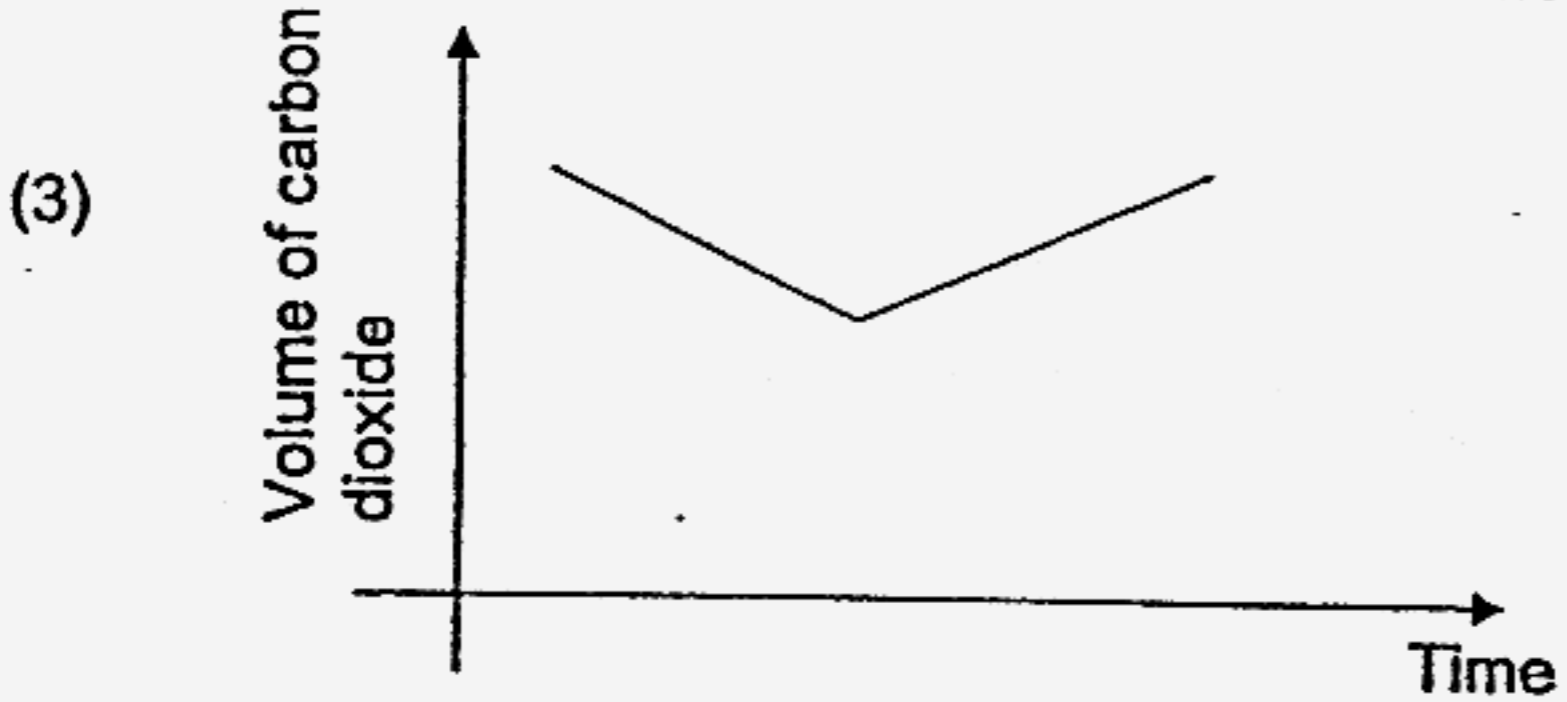
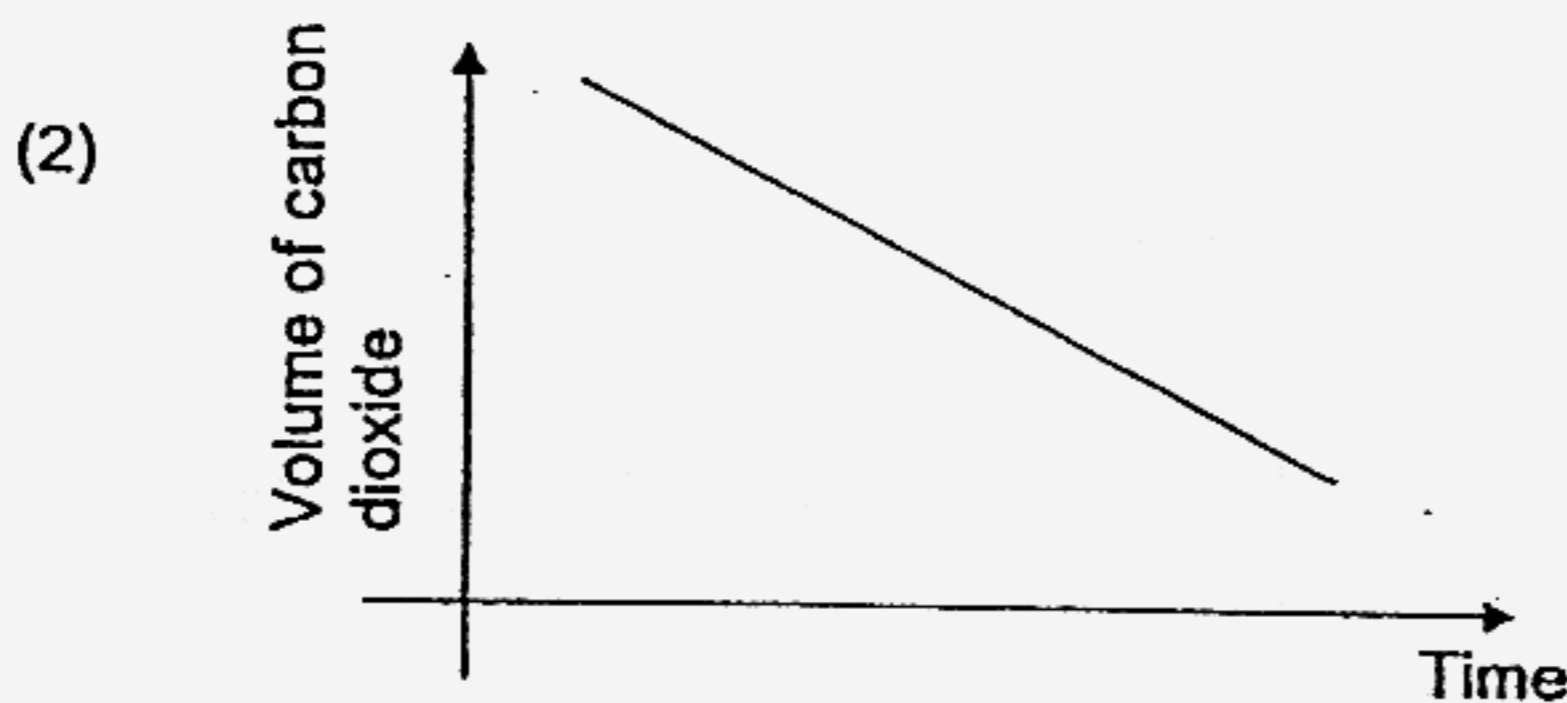
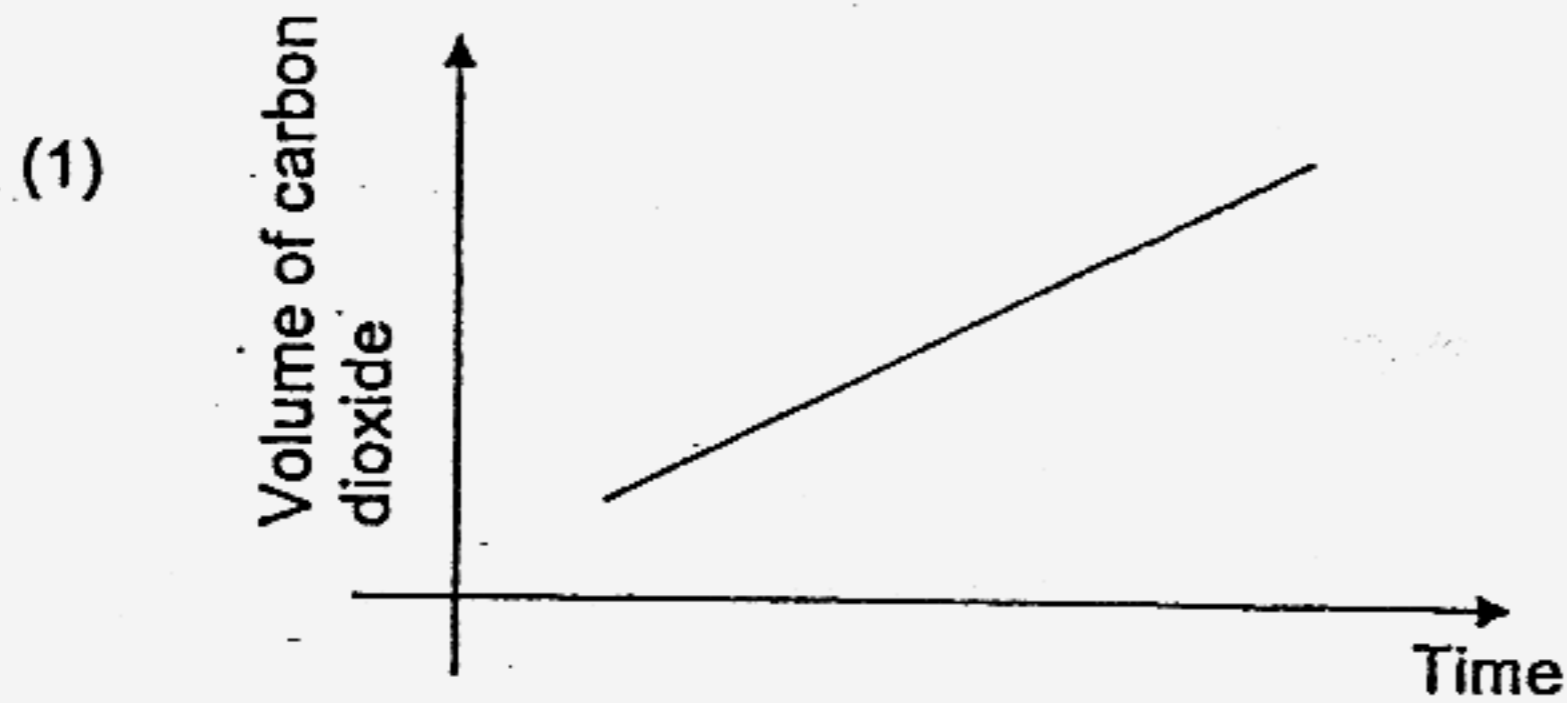
Which one of the following shows the composition of air that has been breathed out?



12. An experiment was set up as shown below to find out how respiration affects the level of carbon dioxide.



Which one of the following graphs best represent the volume of carbon dioxide in the sealed container over a period of time?



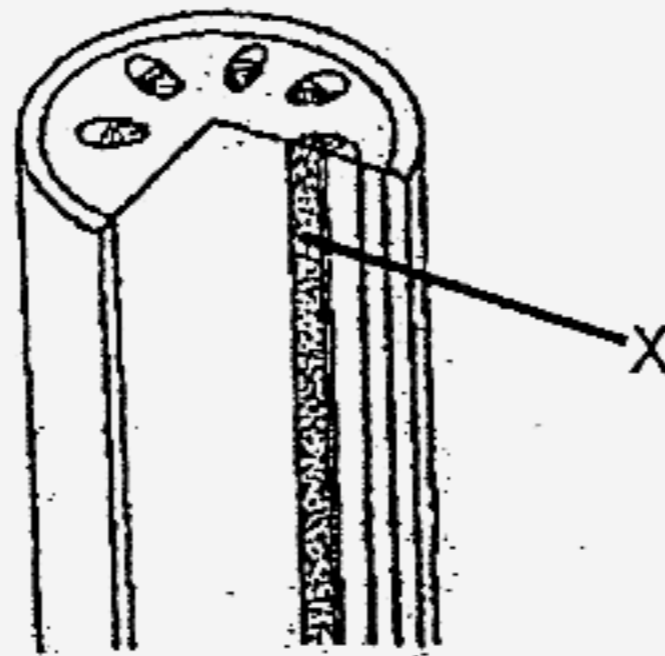
13. The circulatory system is made up of the _____.

- (1) heart-
- (2) blood, capillaries and veins -
- (3) arteries, blood, capillaries, veins and heart
- (4) arteries, blood, capillaries, veins, heart and lungs

14. Which of the following statements are functions of blood?

- A To keep the lungs breathing.
 - B To defend the body against germs and diseases.
 - C To transport oxygen and carbon dioxide in the body.
 - D To transport food substances from the small intestine to all parts of the body.
- (1) A and C only
 - (2) A, C and D only
 - (3) B, C and D only
 - (4) A, B and C only

15. The diagram below shows the cross section of a stem of a plant.



Which of the following statements are true for part X as shown in the diagram below?

- A They transport water from the roots to the leaves.
 - B They transport water from the leaves to the roots.
 - C They transport food from the leaves to other parts of the plant.
 - D They transport dissolved mineral salts from the roots to the leaves.
- (1) A and D only
 - (2) B and C only
 - (3) B, C and D only
 - (4) A, C and D only

16. The following table shows the properties of materials P and Q. A tick (✓) or cross (X) represents the presence or absence of the properties respectively.

Properties	P	Q
It is a natural product.	✓	X
It can be stretched.	✓	✓
It is a good conductor of heat.	X	X
It allows light to pass through.	X	✓

Which of the following materials are P and Q most likely to be?

	P	Q
(1)	Rubber	Clear Plastic
(2)	Clear Plastic	Wood
(3)	Clear Plastic	Rubber
(4)	Wood	Clear Plastic

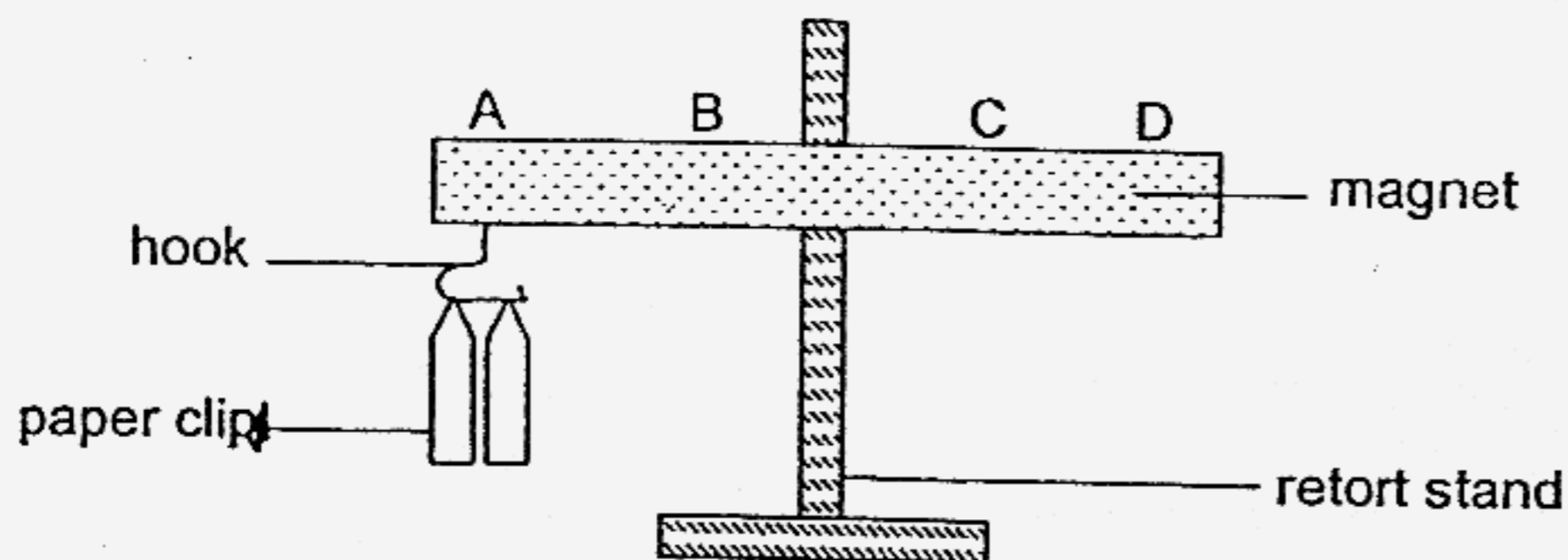
17. Jimmy had four different magnets. He brought the north pole of each magnet near a pile of pins. His observations were recorded on the table as shown below.

Magnet	Distance between the magnet and the pins	Number of pins attracted
A	7 cm	8
B	2 cm	8
C	5 cm	4
D	2 cm	7

Based on the information above, which one of the magnet has the strongest pull?

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

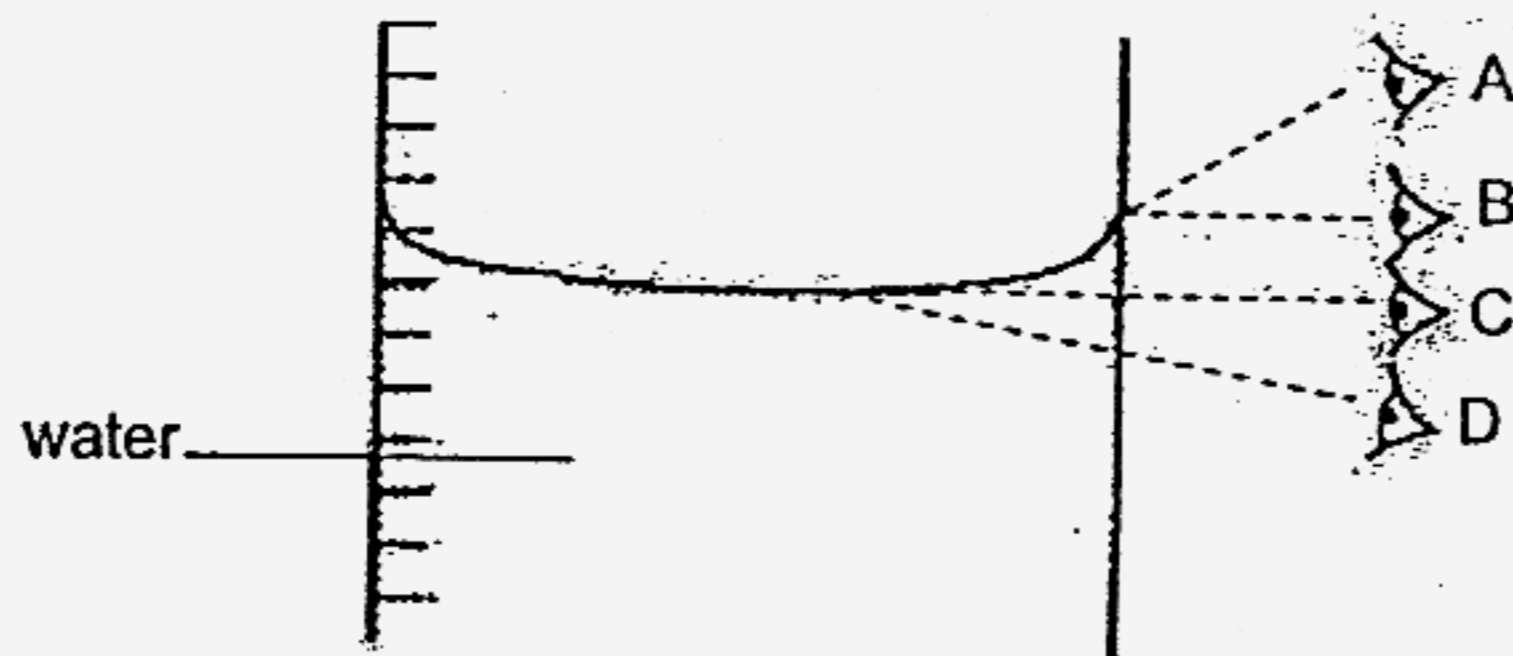
18. A paper ^{dip} was bent to form a hook and placed at position A of a magnet. Then paper clips were hung on the hook at position A of the magnet until the hook dropped. The number of paper clips the hook could hold was recorded. The experiment was repeated with the hook placed at positions B, C and D.



Which one of the following sets of data would most likely be the results of the test?

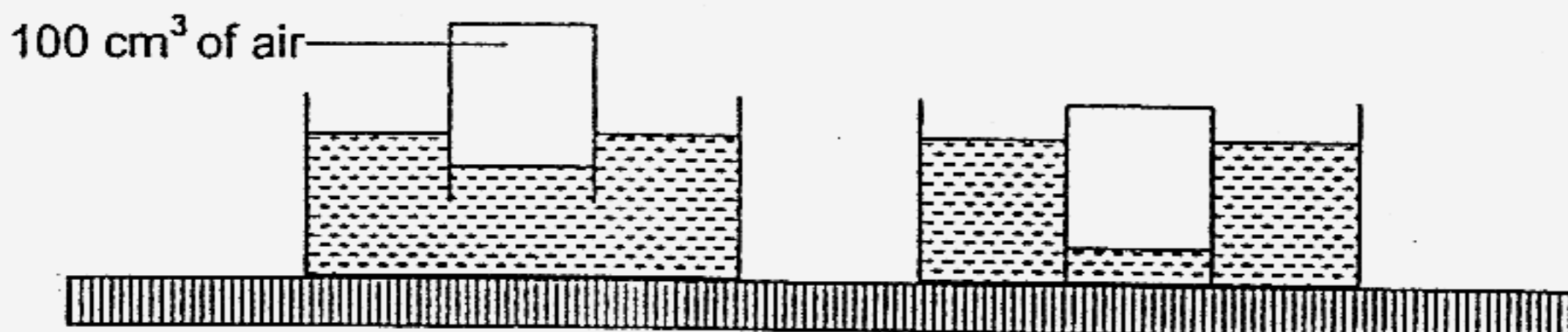
	Number of paper clips attracted at			
	A	B	C	D
(1)	10	10	3	4
(2)	9	6	8	10
(3)	10	2	8	7
(4)	6	7	2	10

19. Which is the correct way of reading the volume of water in a measuring cylinder?



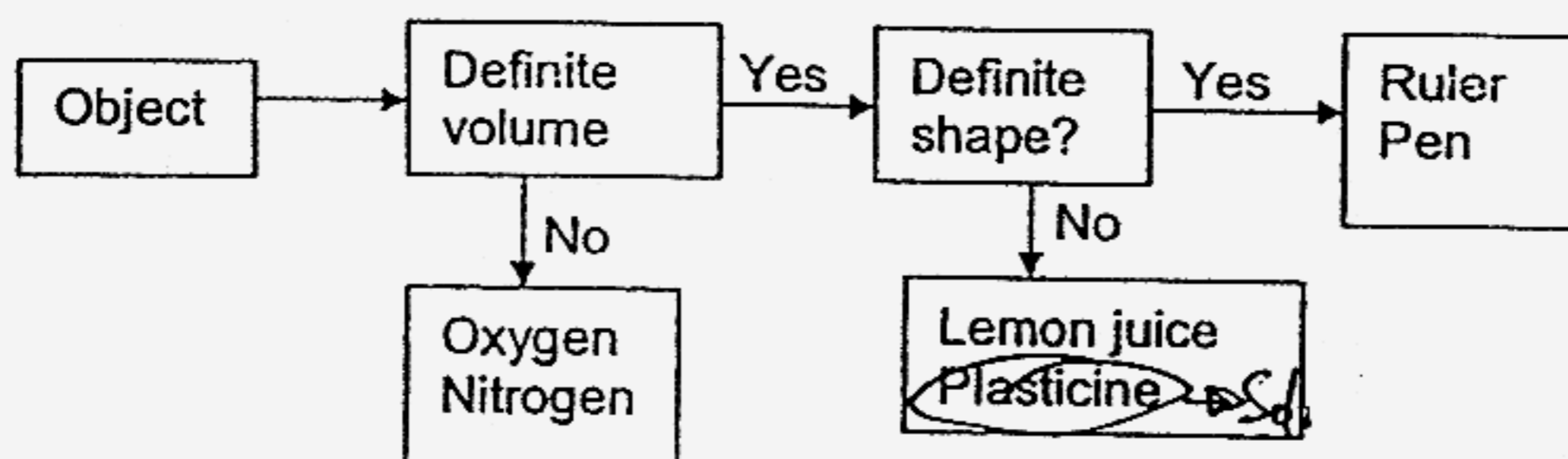
- (1) A
 (2) B
 (3) C
 (4) D

20. The beaker in the diagram below contains 100 cm^3 of air. When the beaker is pushed down into the water as shown in the diagram below, what is the likely volume of air in the beaker?



- (1) 0 cm^3
- (2) 90 cm^3
- (3) 100 cm^3
- (4) 110 cm^3

21. A classification chart was constructed by James as shown below.



Which object has been wrongly classified?

- (1) Ruler
- (2) Oxygen
- (3) Plasticine
- (4) Lemon juice

22. 4 equally wet towels of similar sizes were hung on the same day for the same period of time in the respective conditions as shown below.

Towels	Conditions
A	In a shady place
B	In a sunny place
C	In a shady and windy place
D	In a sunny and windy place

Which one of the following is correctly arranged in the order of time taken for the towel to dry, beginning with the fastest?

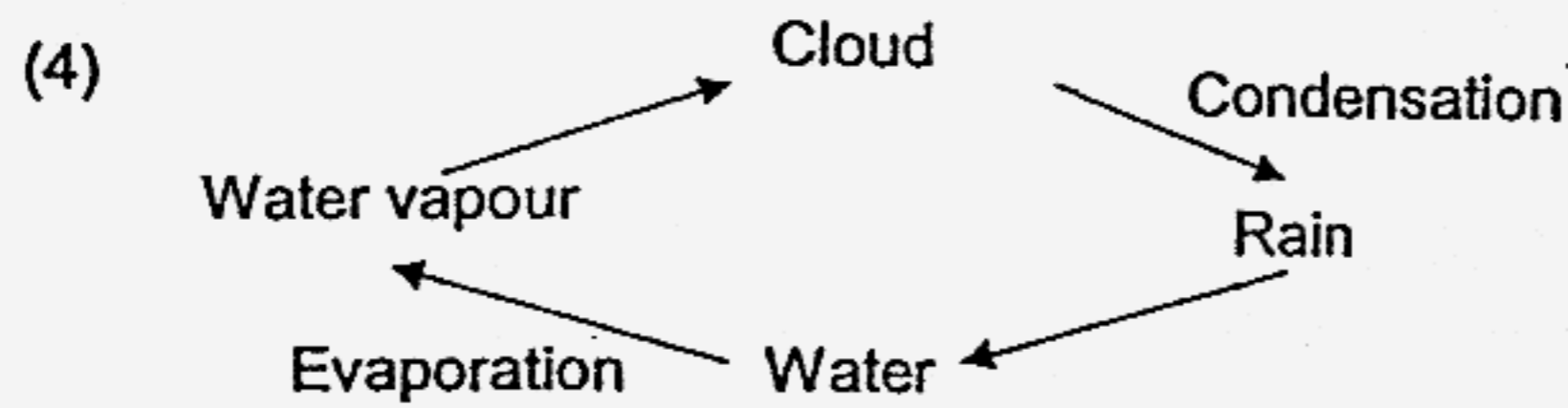
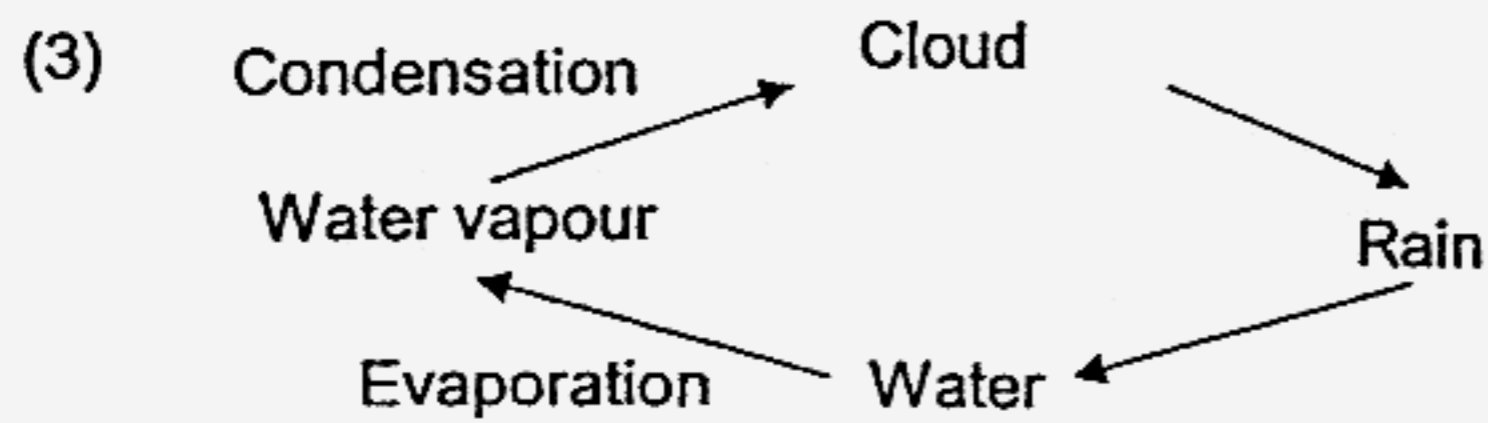
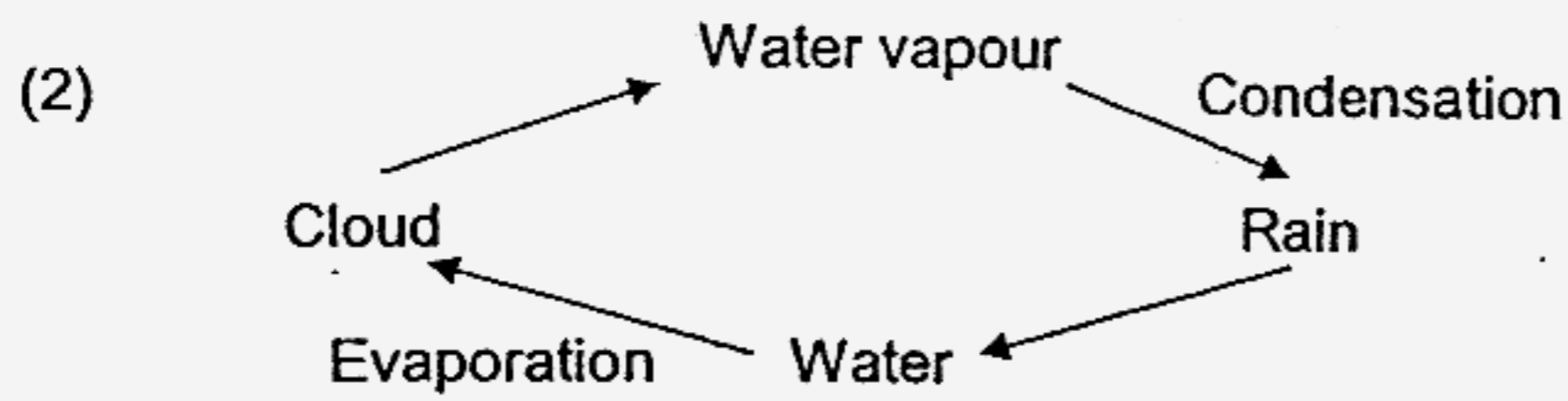
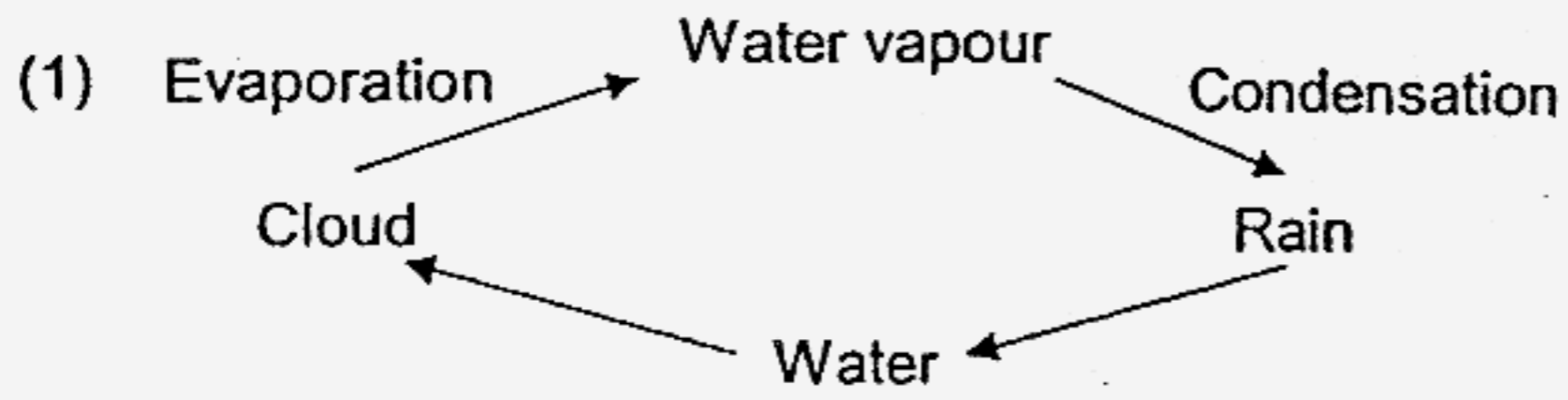
- (1) A, B, C, D
 (2) D, B, C, A
 (3) D, A, C, B
 (4) B, D, C, A
23. It has been observed that Substance X was a liquid when it was placed in a room at 25°C. Substance X became a gas when it was in a container with a temperature of 65°C. Based on these observations, some statements about Substance X were made and recorded in the table below.

	Statements	True	False	Impossible to tell
A	Substance X is a gas at 80°C.	√		
B	Substance X is a solid at 0°C.			√
C	Substance X is a liquid at 40°C.	√		
D	Substance X is a liquid at 67°C.		√	

Which of the following statements about Substance X were correct?

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

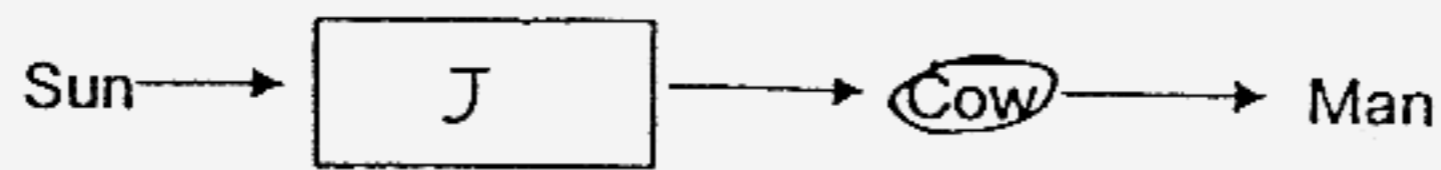
24. Which one of the following correctly shows the water cycle?



25. Which of the following is not needed for plants to carry out photosynthesis?

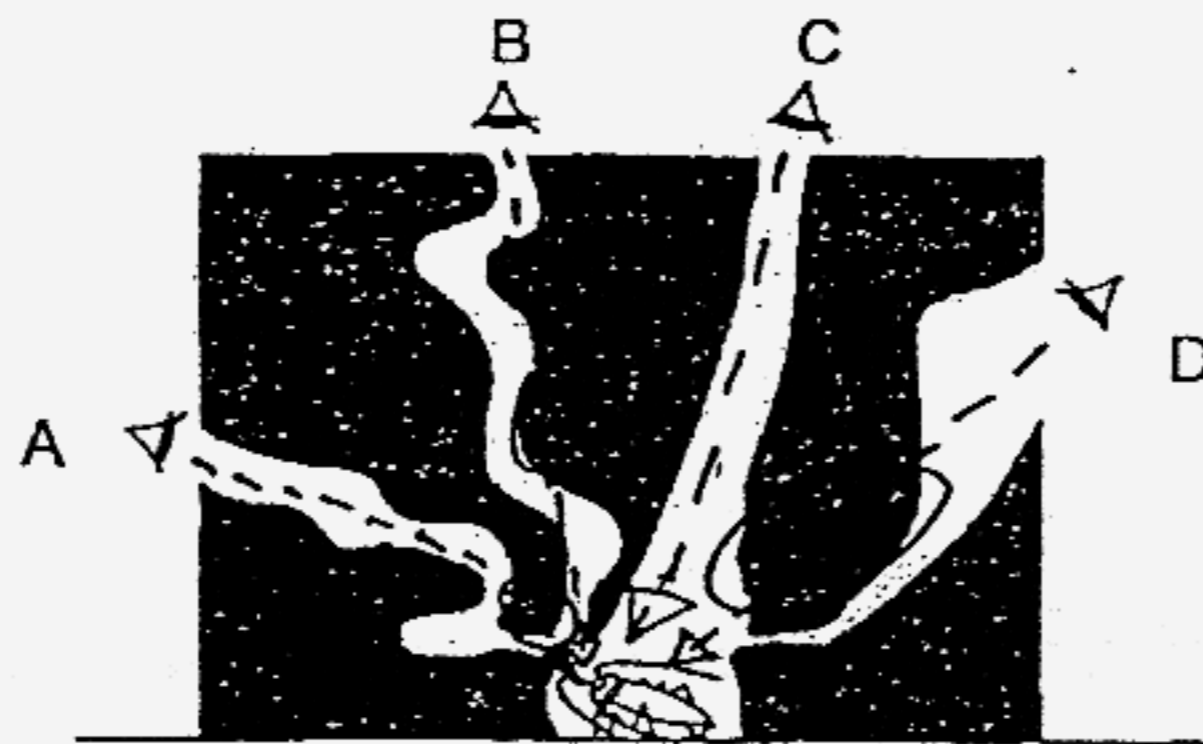
- (1) Light
- (2) Water
- (3) Oxygen
- (4) Carbon dioxide

26. The following example shows how energy from the Sun is passed on to other organisms.



Which one of the following organisms best represents J?

- (1) Seed
 - (2) Grass
 - (3) Earthworm
 - (4) Mushroom
27. The diagram below shows a wooden block with several holes drilled through it.

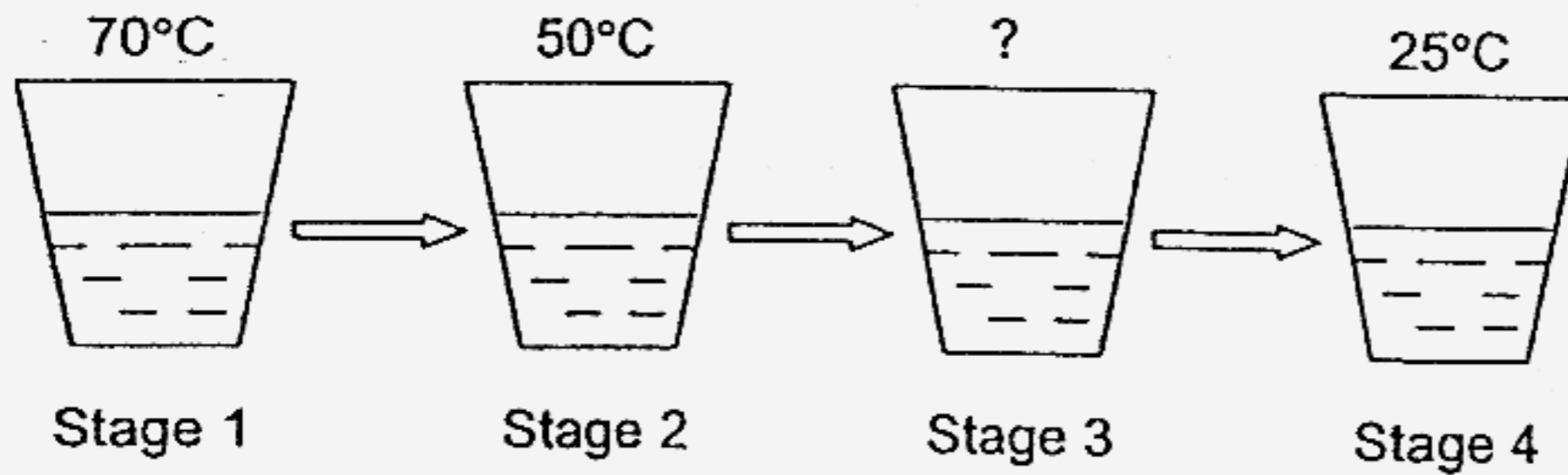


Maggie will be able to see the cockroach from Point _____.

- (1) A
 - (2) B
 - (3) C
 - (4) D
28. Two beakers P and Q, contained the same amount of water at different temperatures. Immediately after mixing the 2 beakers of water together, Khairul recorded the temperature of the mixture to be 30°C. What were the likely temperatures of the water in the 2 beakers, P and Q?

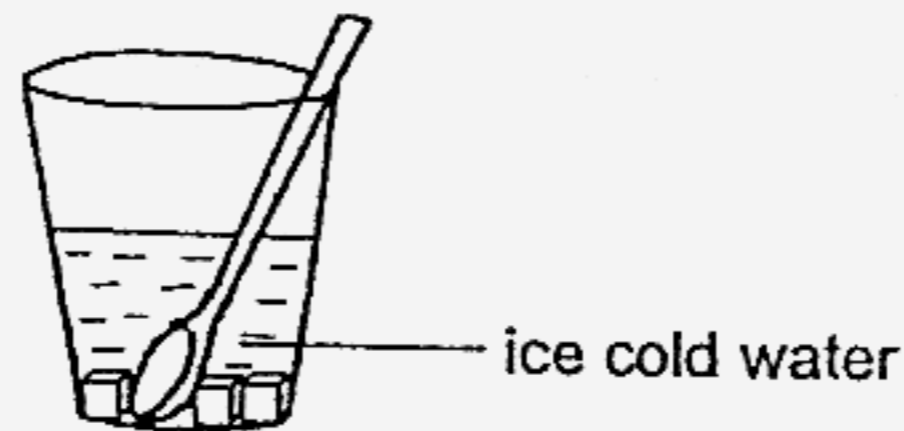
	Temperature of water in Beaker P/°C	Temperature of water in Beaker Q/°C
(1)	10	100
(2)	20	90
(3)	30	60
(4)	20	30

29. A cup of hot water is left to cool until it reaches room temperature.



At stage 3, what is mostly likely to be the temperature of the water in the cup?

- (1) 15°C
 - (2) 40°C
 - (3) 55°C
 - (4) 80°C
30. The metal spoon in the diagram below turns cold when placed in the glass of ice cold water because _____.



- (1) ~~heat~~ from the spoon travels to the ice cold water
- (2) ~~heat~~ from the ice cold water travels to the spoon
- (3) coldness from the ice cold water travels to the spoon
- (4) coldness from the spoon travels to the ice cold water



**CATHOLIC HIGH SCHOOL
PRIMARY 4
SEMESTRAL ASSESSMENT 2**

SCIENCE

Class : Primary 4

Date : 31 October 2006

BOOKLET B

16 Questions
40 Marks

Total Time for Booklets A & B: 1 hour 30 minutes

Instructions to Candidates

Follow all instructions carefully.
Answer all questions.

Parent's Signature: _____

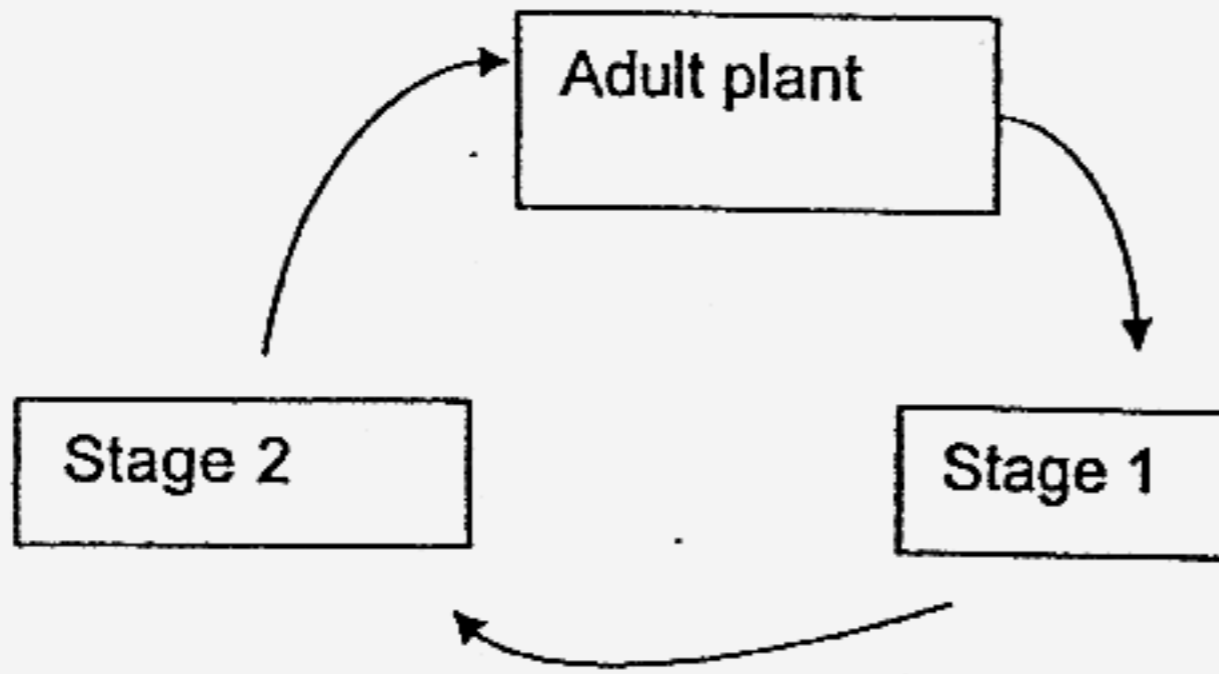
Date: _____

Score	
Section A	60
Section B	40
Total	100

Section B: Open-Ended Questions (40 marks)

Read the following questions carefully and write your answers in the space provided. The maximum marks that can be awarded is shown at the end of each question or part-question.

31. The tomato plant has a life cycle as shown below.



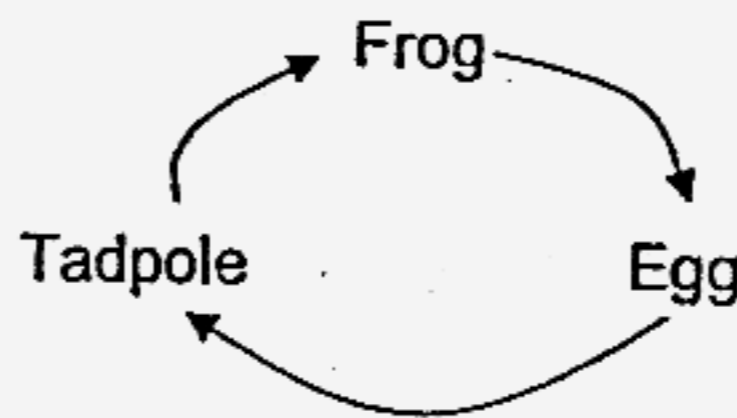
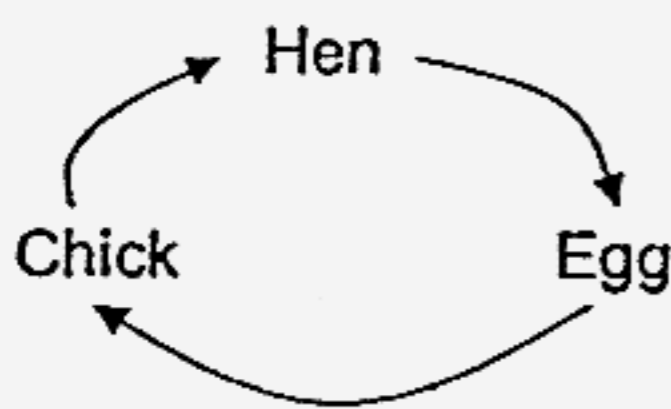
(a) What are the stages in the life cycle called? [1]

Stage 1: _____

Stage 2: _____

(b) State the conditions necessary for the plant to grow at Stage 1. [1]

32. Compare the life cycle of a hen and a frog.



(a) State one similarity between the two life cycles above. [1]

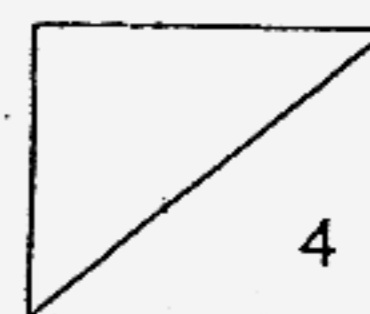
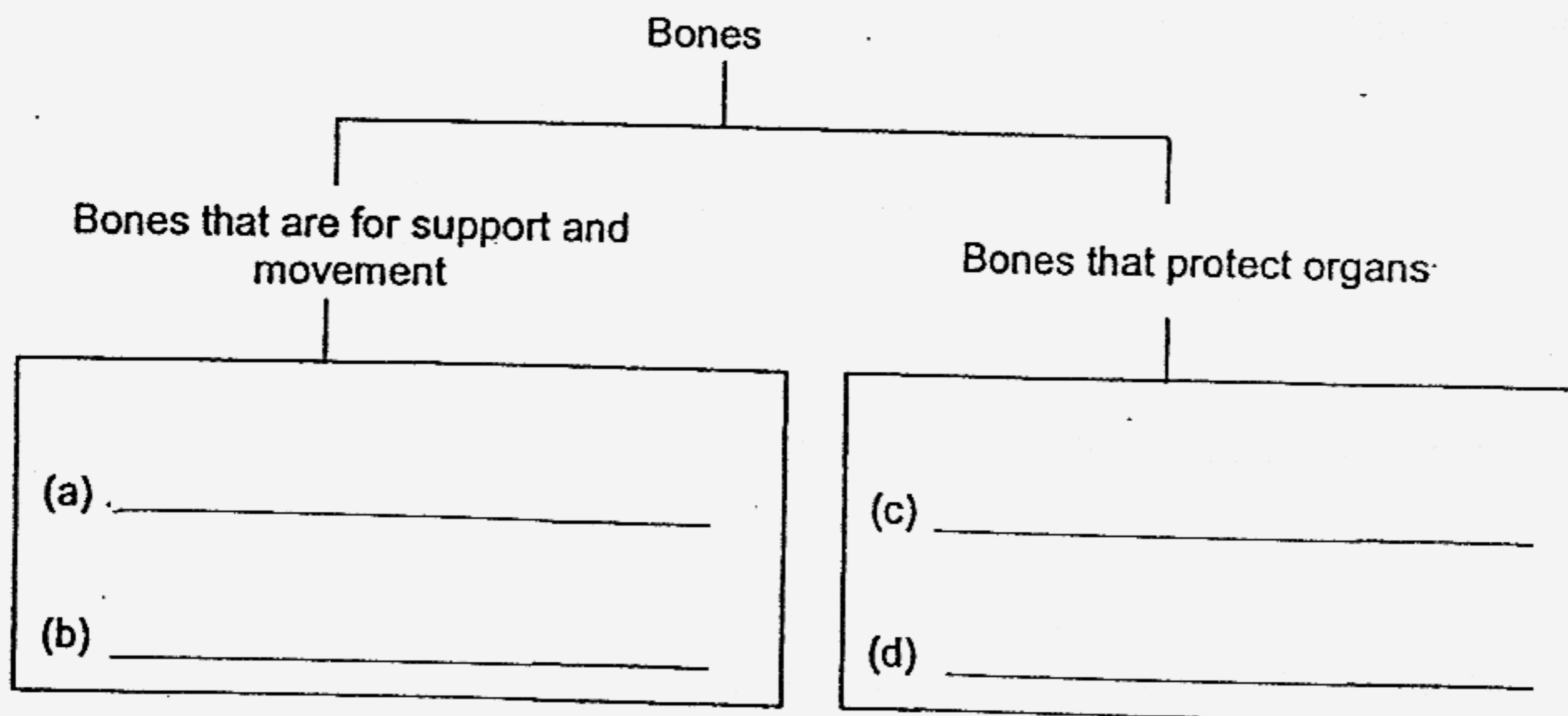
(b) State one difference between the two life cycles above. [1]

33. Indicate the steps (2, 3, 4, 5) next to the statements in the table below to show the process of digestion when Ahmad ate a hamburger. Step 1 has been done. [2]

Statements	Step
Ahmad takes a bite of hamburger. His teeth chewed and grind the food into smaller pieces.	1
Digestive juices in the stomach mix with the food to further break down the food.	
Water is removed from the food. Undigested food is passed out from the anus.	
The food travels down the gullet to the stomach.	
Undigested food passes to the large intestine.	

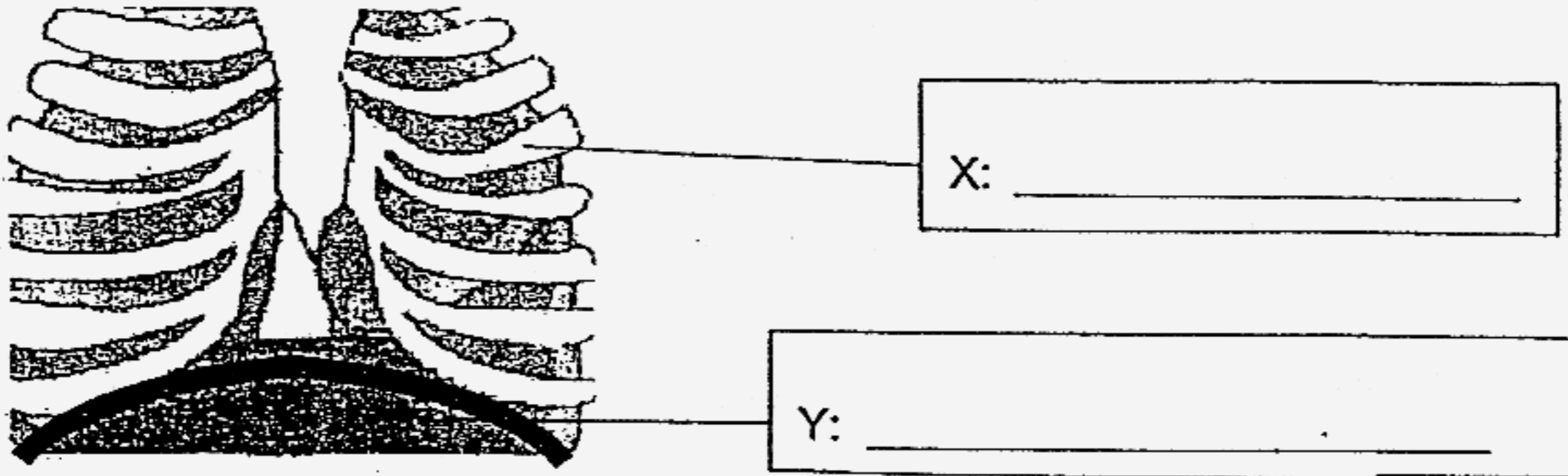
34. Fill in the blanks below with the most suitable answer from the box. [2]

skull ribcage arm bone thigh bone



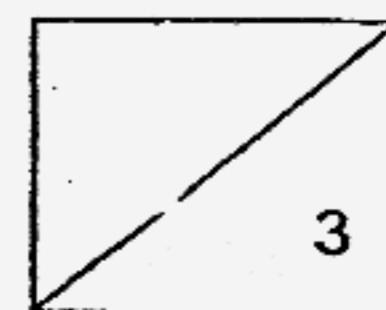
35. The diagram below shows the human respiratory system.

(a) Name the parts labelled X and Y in the figure shown below. [1]

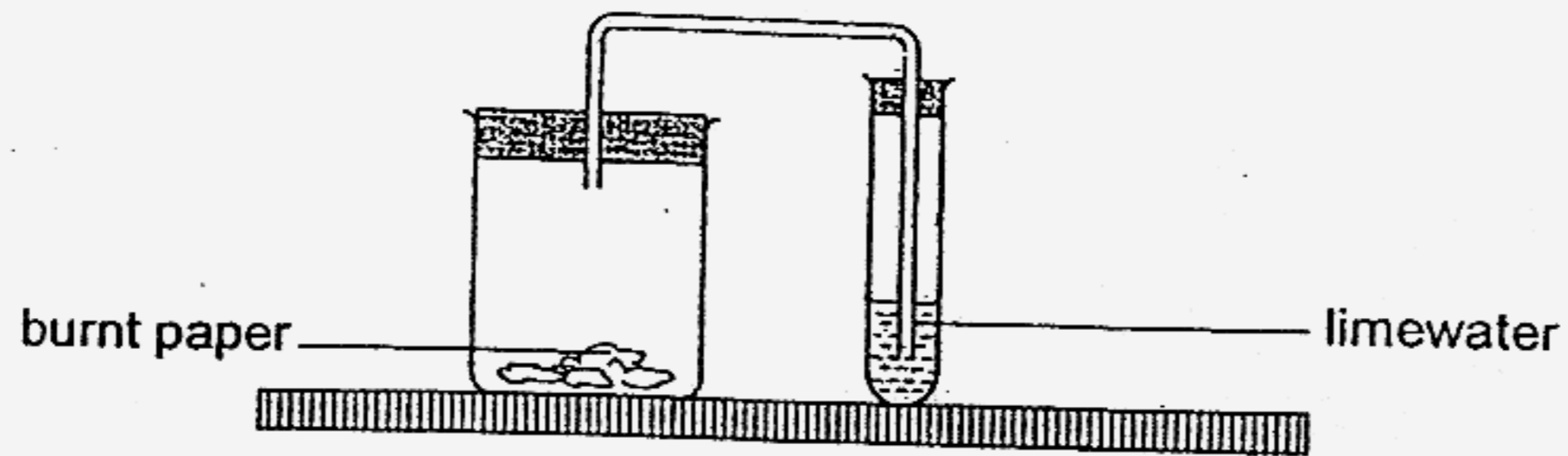


(b) What happen to parts X and Y when you are breathing in? [1]

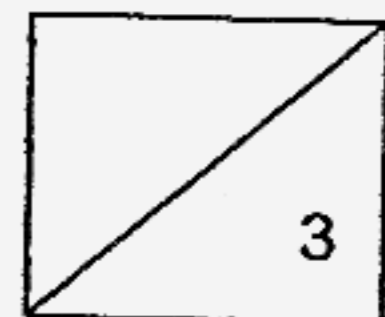
(c) What is the similarity between the function of stomata in plants and the lungs of the human being? [1]



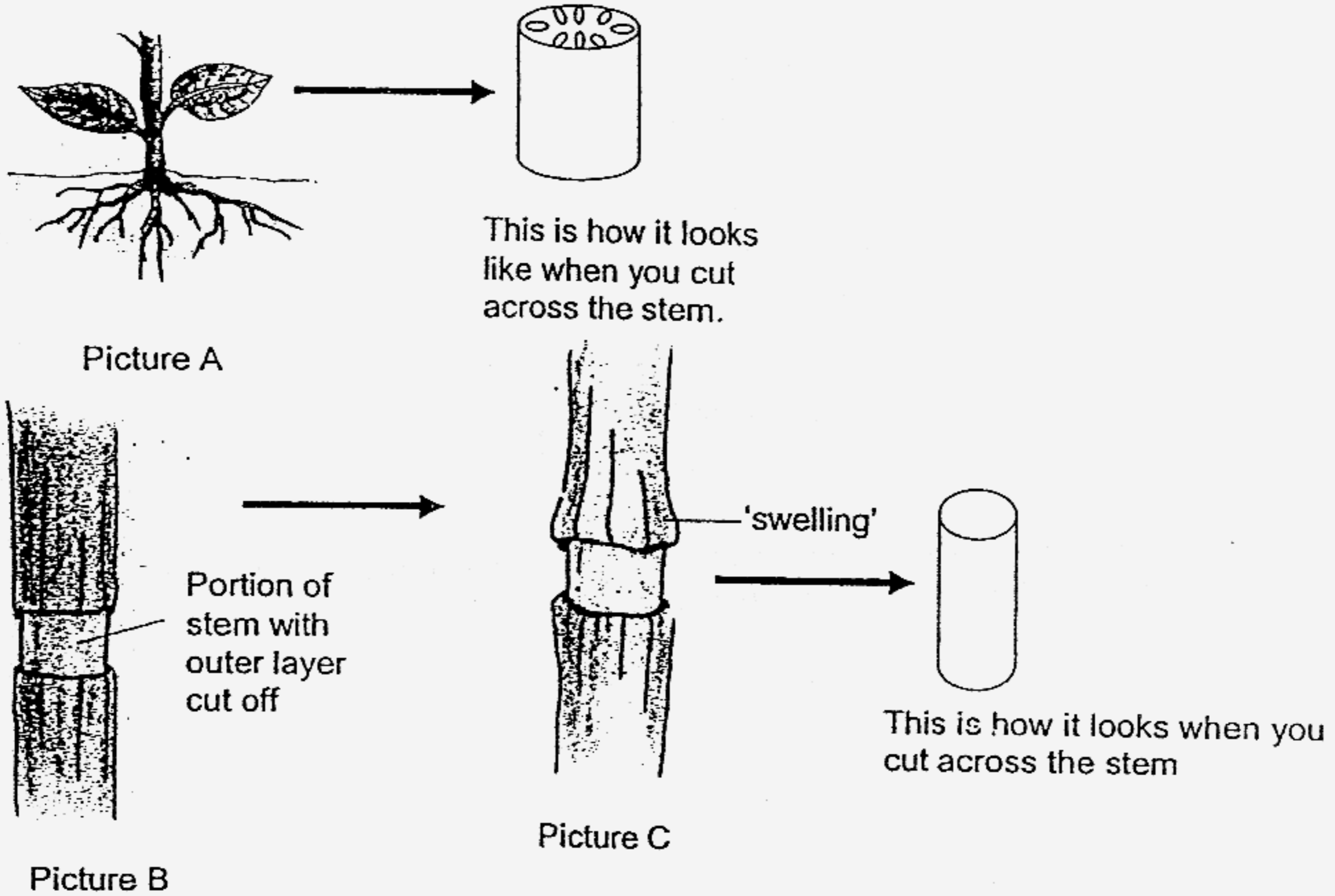
36. Some pieces of papers have been burnt and the gas produced was channeled into a test tube containing limewater as shown below.



- (a) What is the purpose of the limewater? [1]
- (b) What will happen to the limewater in the test tube? [1]
- (c) What can you conclude from this experiment? [1]



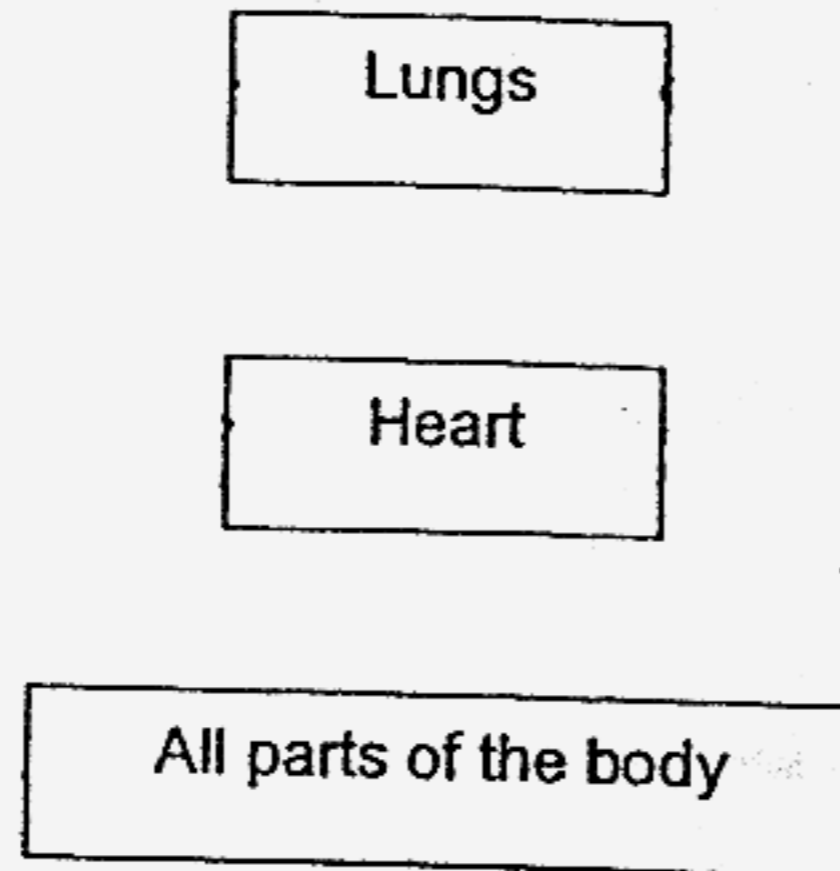
37. . Picture A below shows the stem of a balsam plant. An outer layer of the stem has been cut off as shown in Picture B. Picture C shows what the stem looks like after 2 hours.



- (a) What will happen to the plant after a long period of time? [1]
- (b) Suggest a possible reason as to why is there a 'swelling' on the side of the stem in Picture C. [1]

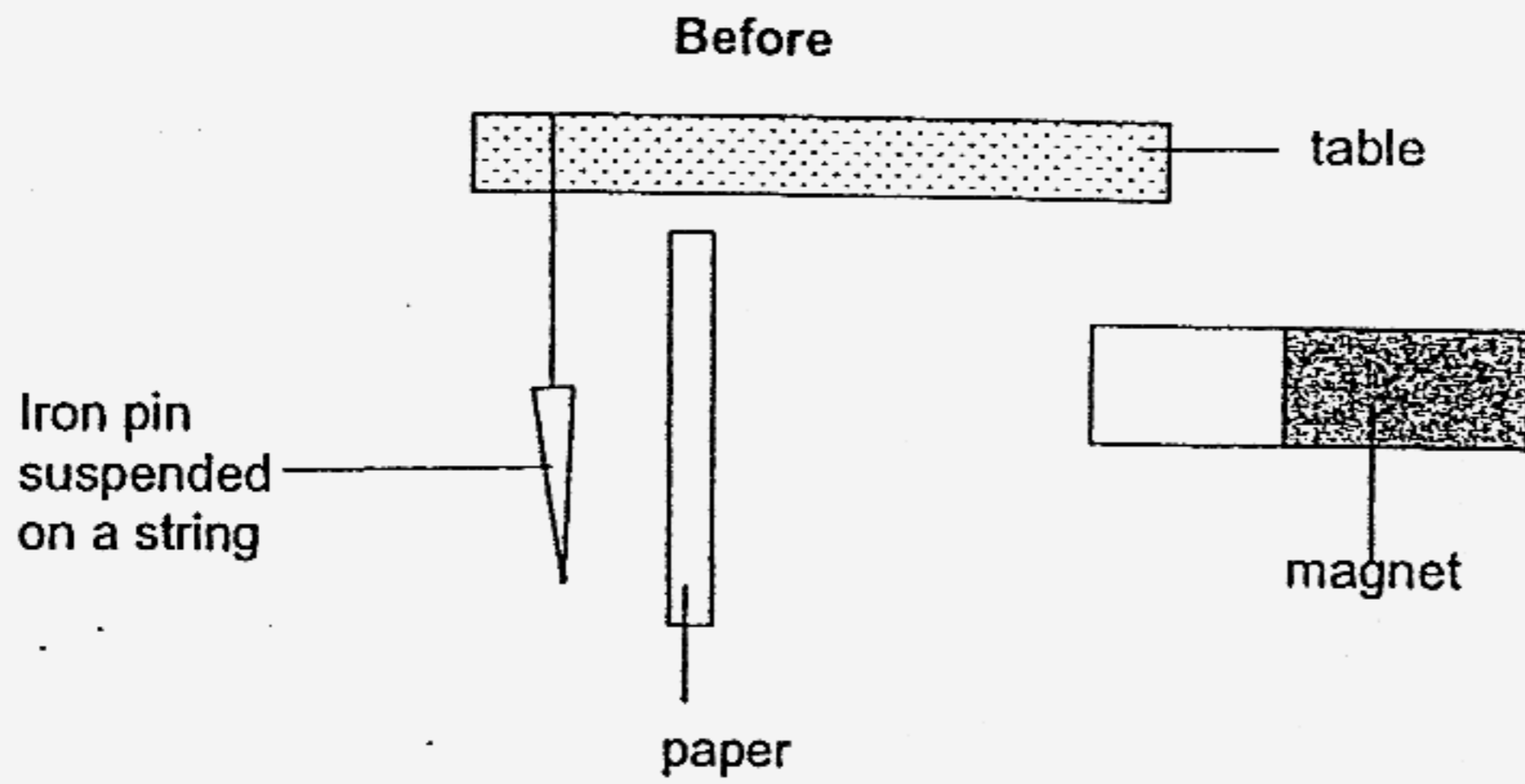
38. The diagram below shows how blood travels in our body.

(a) Indicate the movement of blood in our body using arrowheads (\rightarrow). [2]

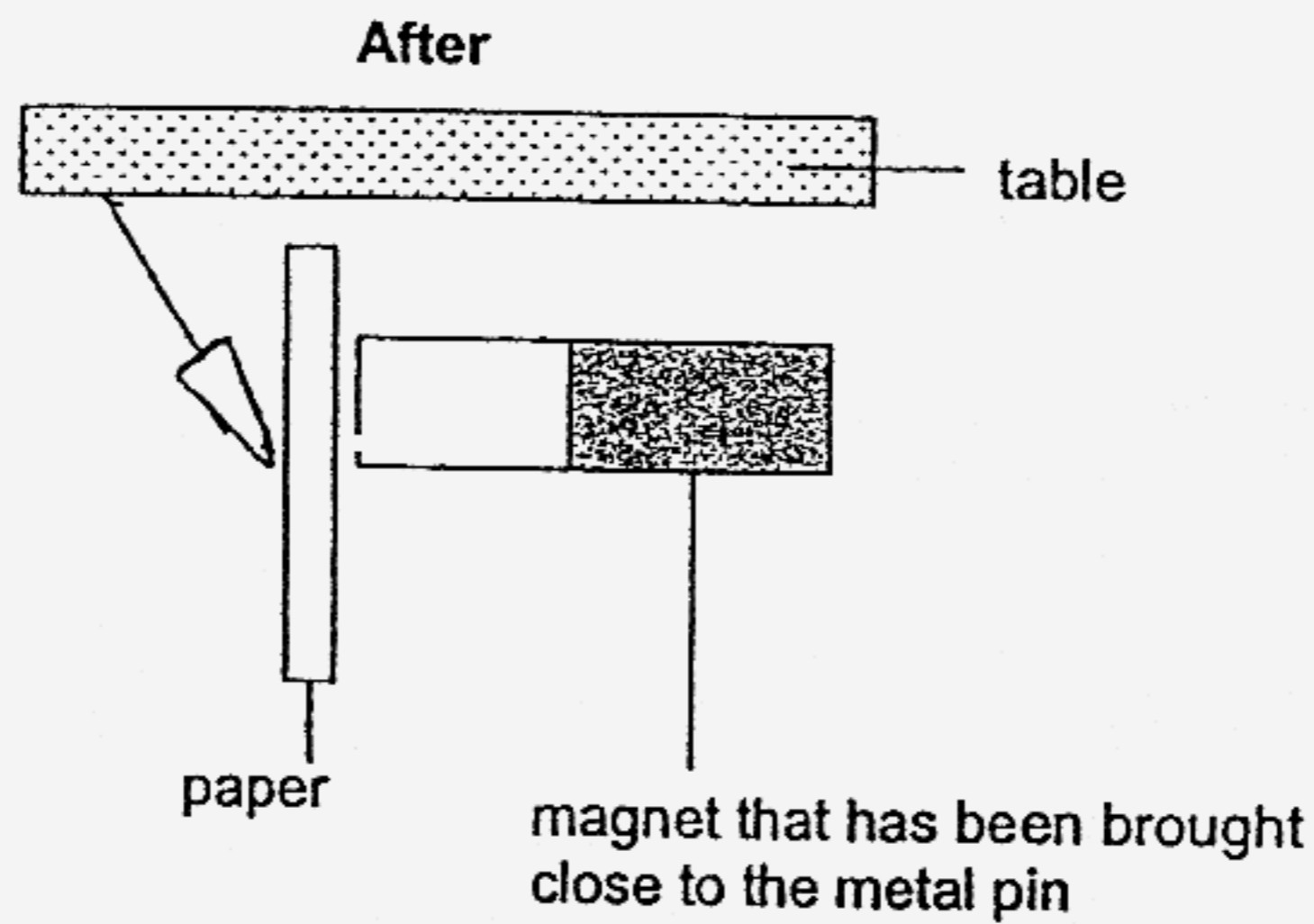


(b) State one similarity between the circulatory system of a human and the transportation system in a plant. [1]

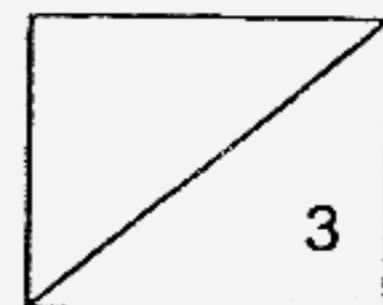
39. A small iron pin was suspended from a table. A piece of paper was placed close to the iron pin. A bar magnet was later brought near the paper.



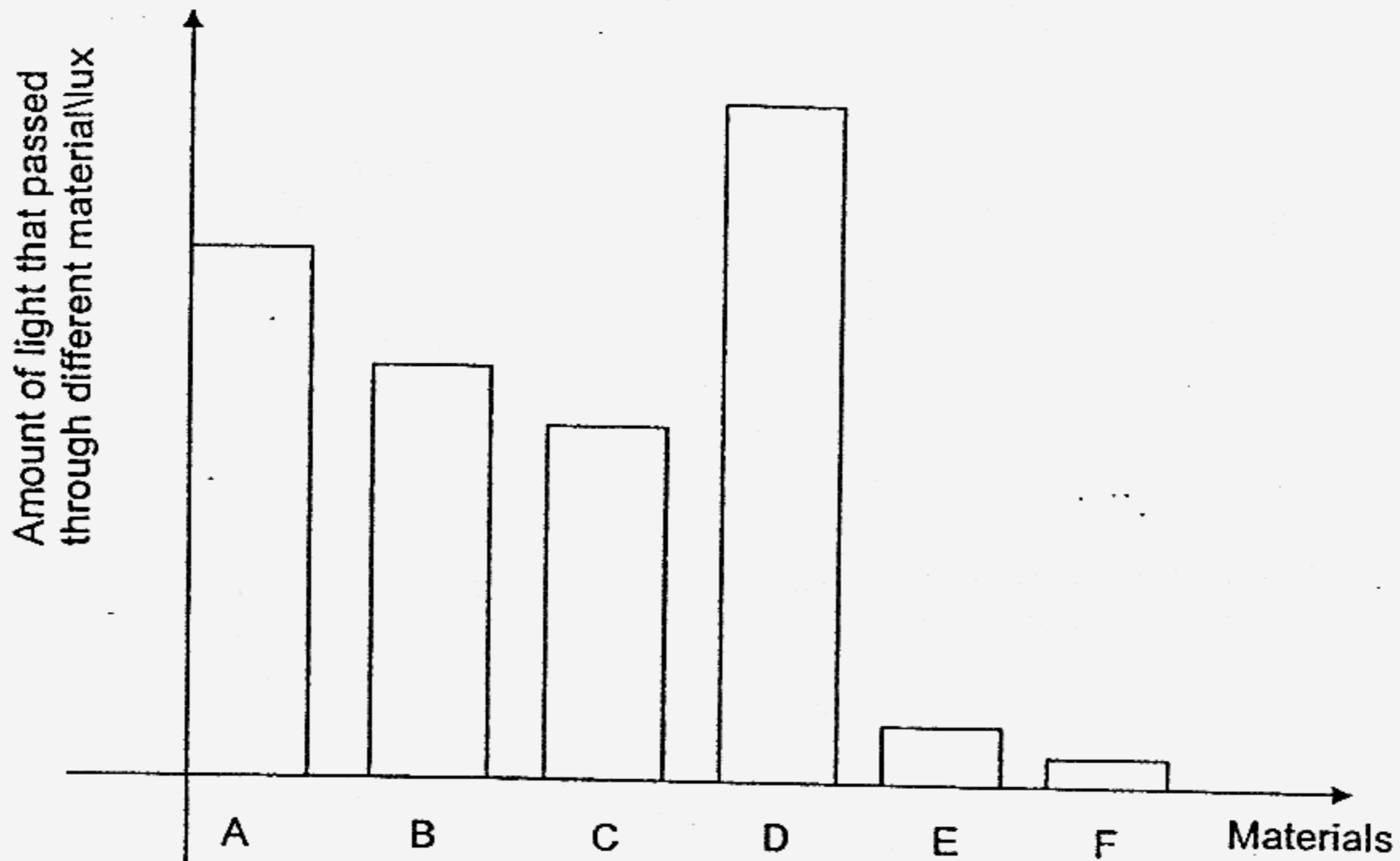
- (a) Draw on the diagram below to show what will happen when the magnet is brought close to the iron pin that has been suspended on a string. [1]



- (b) What would the observation be if the piece of paper is changed to a piece of cloth? [1]
- (c) What does this experiment show? [1]

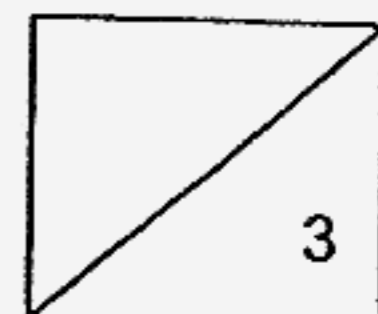


40. A datalogger was used to measure the amount of light that can pass through different materials. The table below shows the results of the experiment.

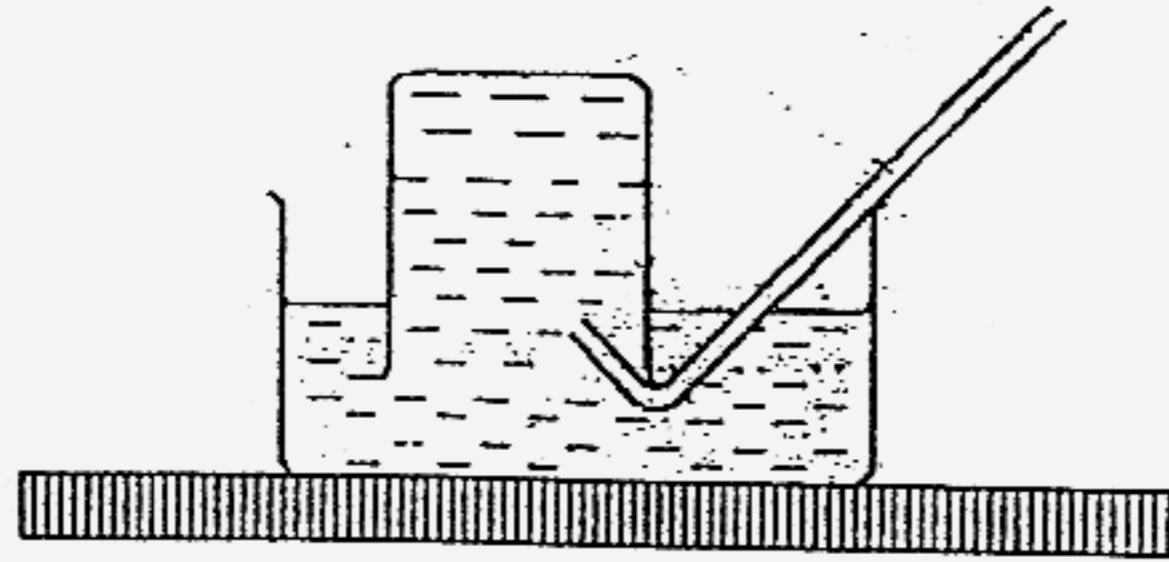


Based on the bar chart above, answer the following the statements by marking with a tick (✓) in the appropriate boxes below. [3]

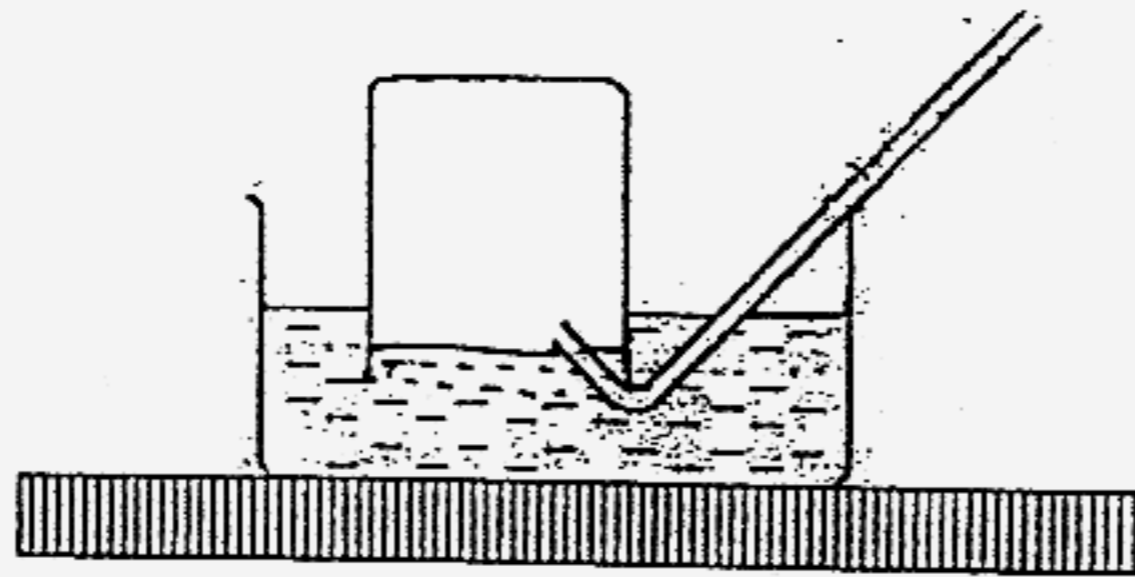
	Statements	True	False	Not Possible To Tell
(a)	Material A allows more light to pass through than Material B.			
(b)	Material A has a darker shadow than Material B.			
(c)	Material F is darker in colour than Material E.			
(d)	Material D is opaque.			
(e)	Material C is able to partially block light.			
(f)	Material F could be a mirror.			



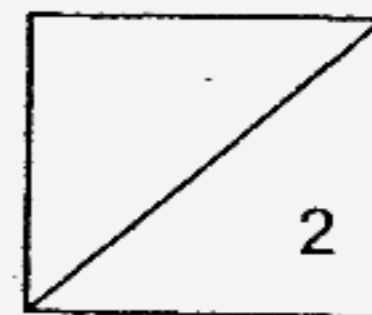
41. An experiment was set up as shown below.



- (a) Jamil blew some air through the straw. Draw the new water level in the beaker after air has been blown through the straw in the diagram below. [1]

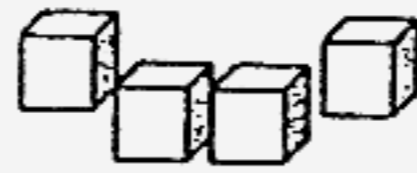


- (b) What happened to the water level in the beaker? Why? [1]

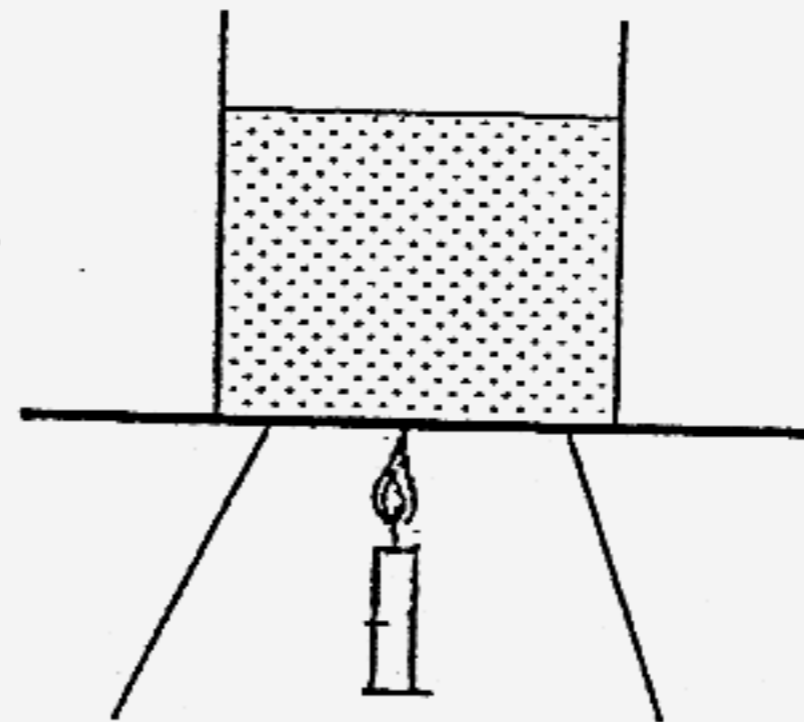


42. Ramesh has been asked to set up an experiment to show the changes of state in the water cycle, using what has been provided. He was provided with the following:

- Ice cubes



- A glass beaker with boiling water



- A plastic sheet

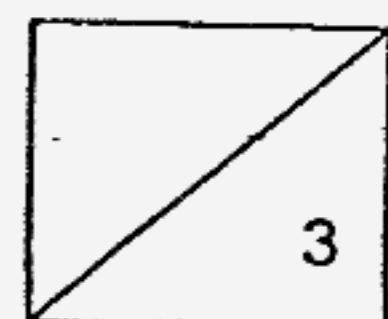
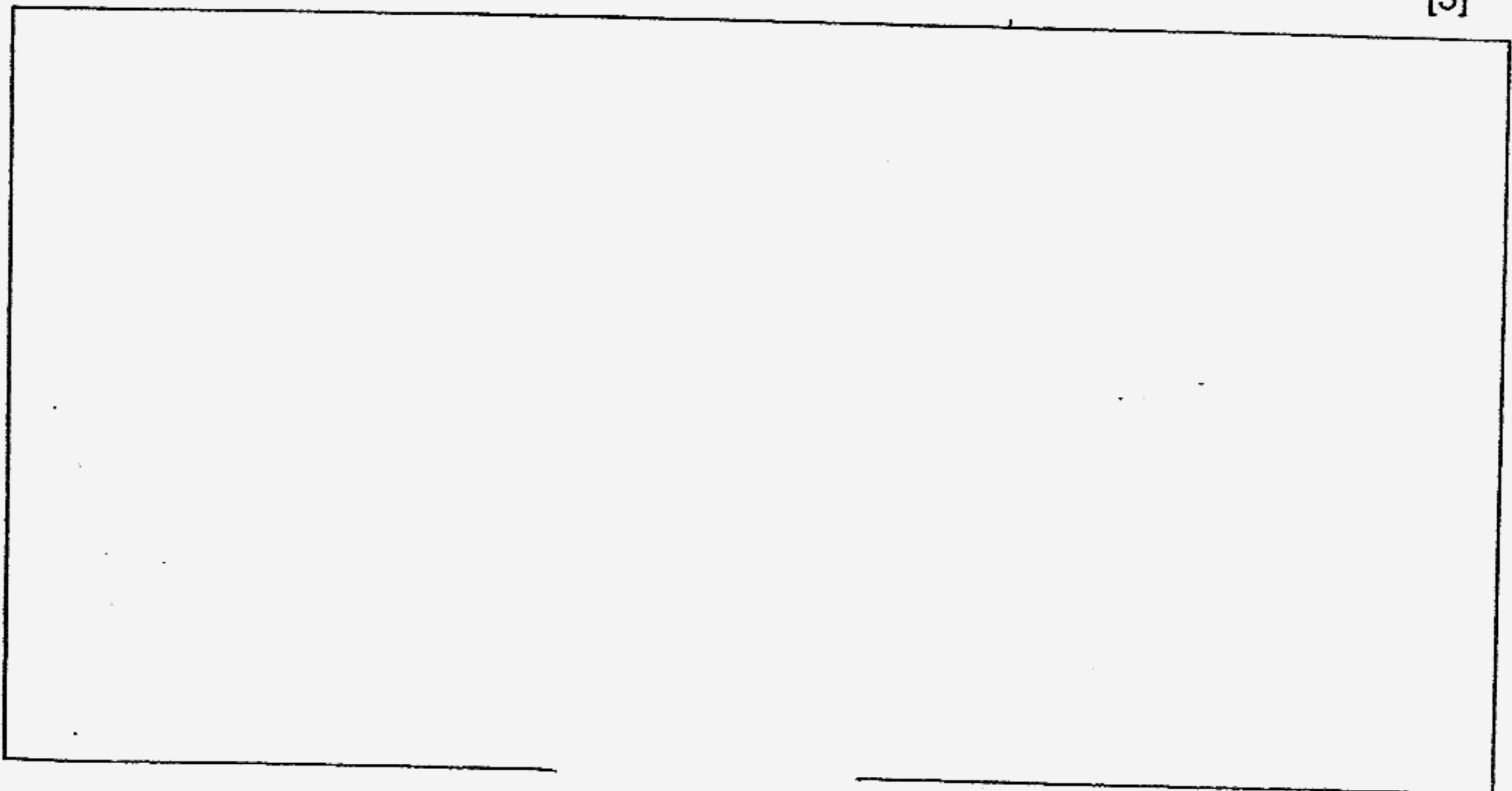


with rubber band

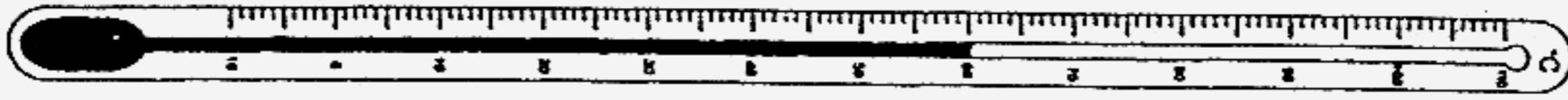


Draw and label clearly in the box provided below a possible experimental set-up to show the changes of state in the water cycle using what has been provided above.

[3]



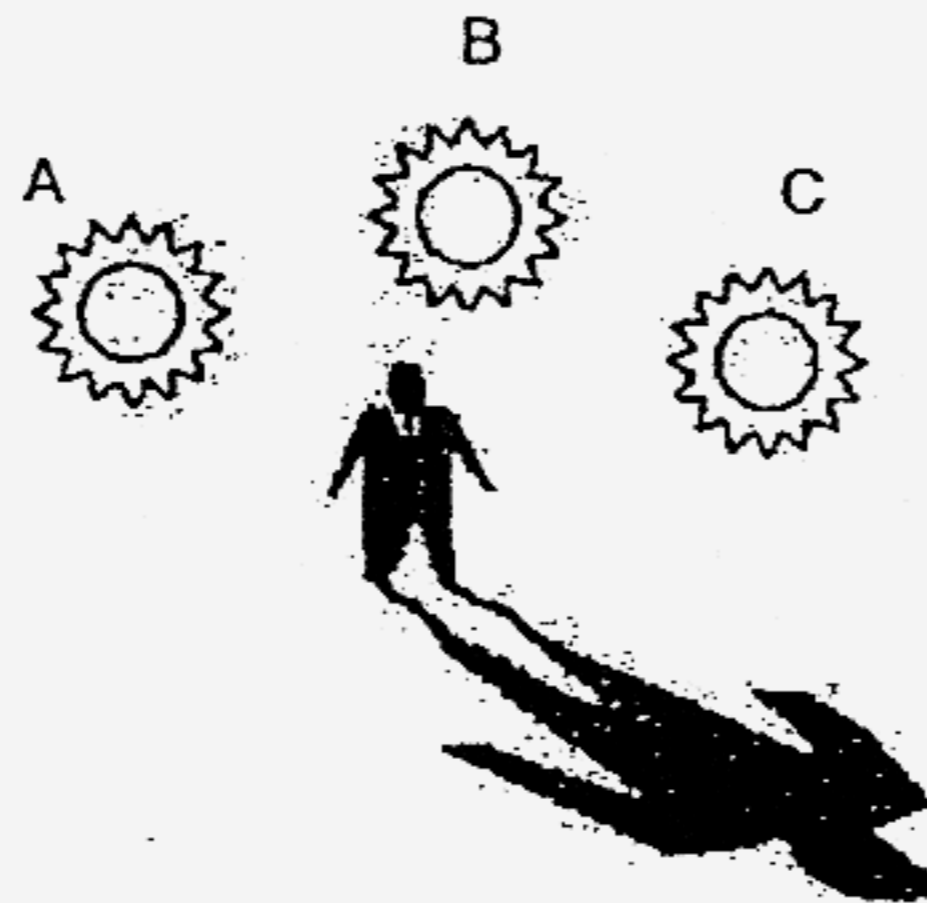
43. The diagram below shows an instrument.



(a) What is the instrument above? [1]

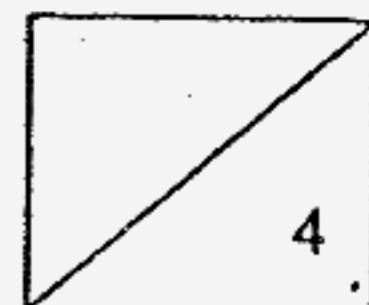
(b) What is the temperature shown on the instrument? [1]

44. Look at the diagram below.



(a) The sun is most likely to be at position _____ [1]

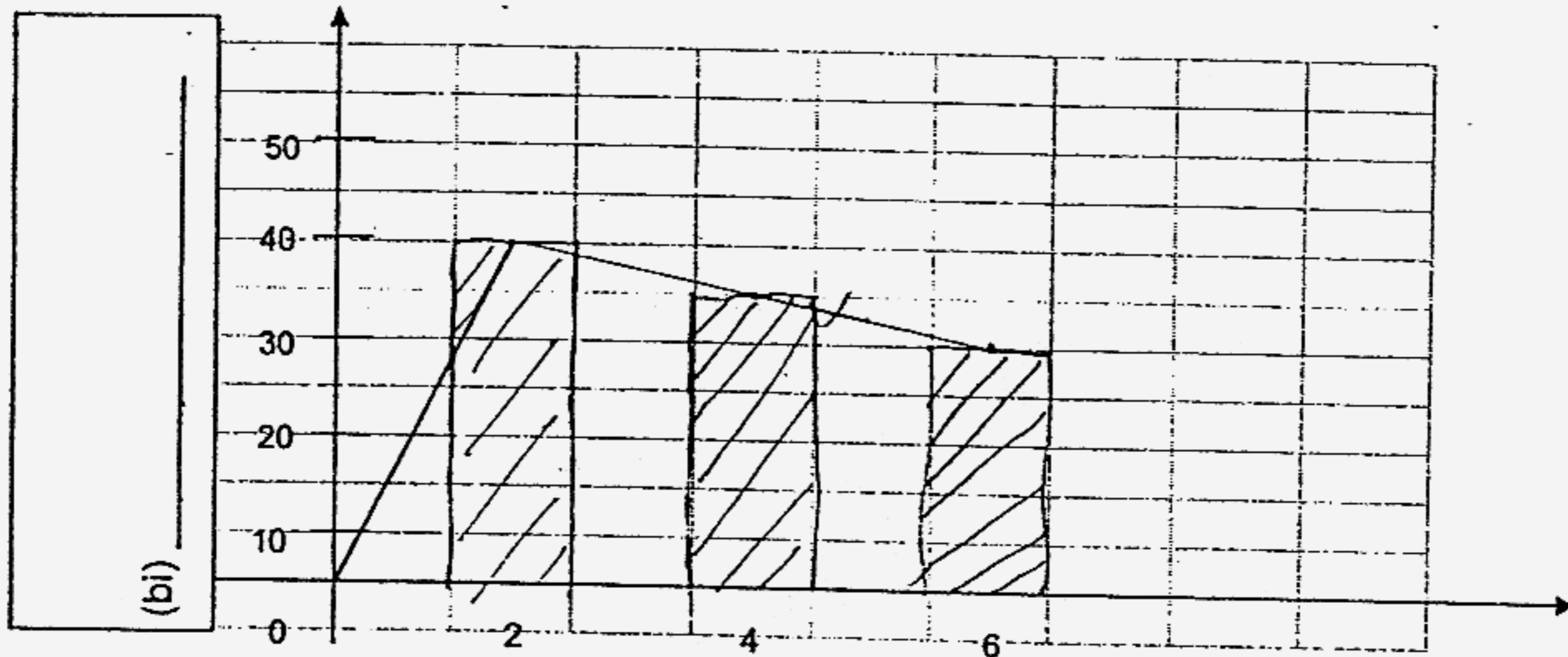
(b) Explain how the shadow of the man is formed. [1]



45. An experiment was conducted in a classroom without fan and air conditioner to show the change in temperature when water cools down. The table below shows the results of the experiment.

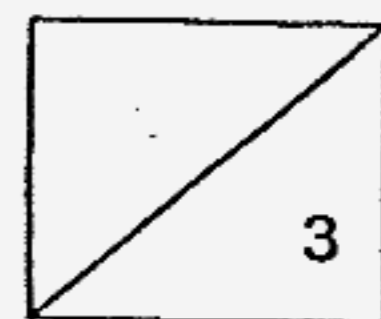
Time/minutes	Temperature/°C
2	40
4	35
6	30

- (a) Use the temperature readings above to complete the bar chart to show the cooling of water below. [½]
- (b) Label the axes of the bar chart. [1]

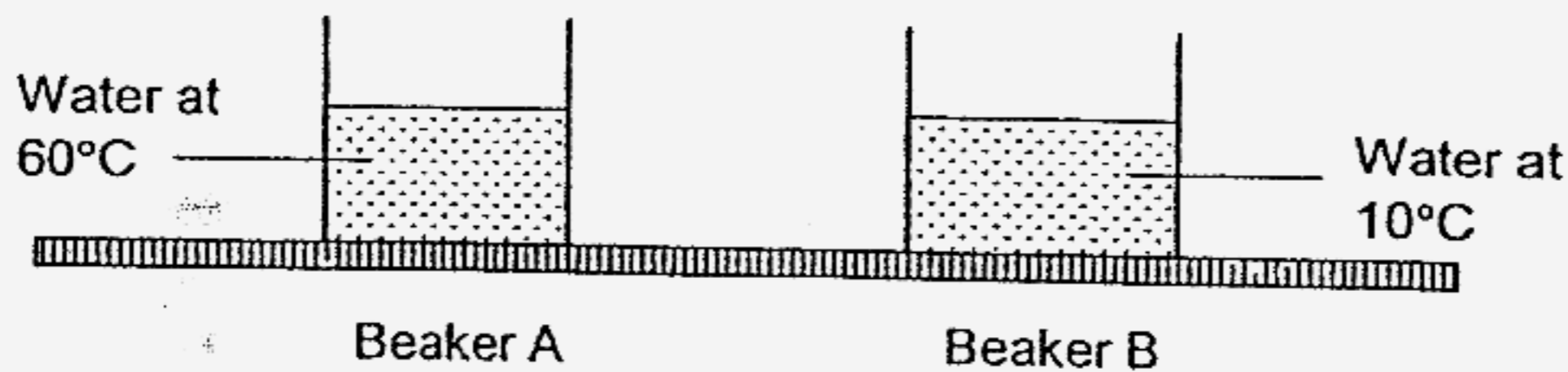


(bii) _____

- (c) Why was there a decrease in the temperature of water? [1]
- (d) Suggest a possible final temperature of the water. [½]



46 Look at the diagram below.

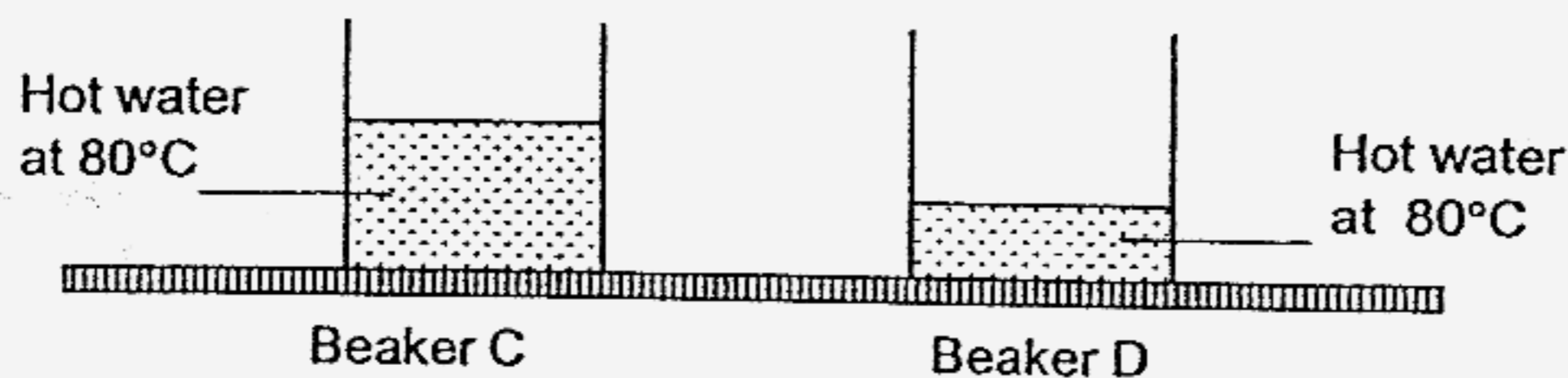


(a) Aishah had 2 beakers of water of different temperature as shown in the diagram below. Both beakers had the same amount of water.

(i) Which beaker has a higher temperature? [1/2]

(1/2) (ii) Give a reason for the above answer.

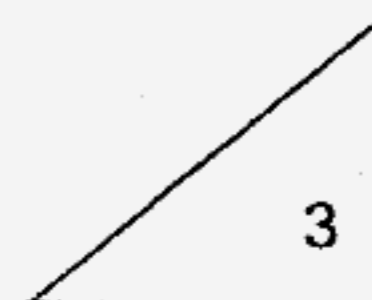
(b) Aishah then prepared another 2 beakers of water as shown in the diagram below. This time both beakers had the same temperature. But Beaker C had twice the amount of water as that of Beaker D.



(i) Does Beaker C have more heat than Beaker D or do both beakers have the same amount of heat? [1/2]

(ii) Give a reason for the above answer. [1/2]

(c) What is the difference between heat and temperature? [1]



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

31)a. 1. seed 2. seedling b. The conditions are watyer and warmth.

32)a. Both life cycles have three stages.

32)b. 2 stage of the life cycle of a frog is in the water while 2 stages of the life cycle of a hen are on land.

33)step 1,3,5,2,4

34)a) Arm bone b) Thigh Bone c) Skull d) Ribage

35)a) X: Ribcage Y: Diaphragm

35)b. Part X will move upwards and outwards and part Y will move downwards.

35)c. Both allow the exchange of gases to take place.

36)a. It is to see whether the burnt paper gives out carbon dioxide.

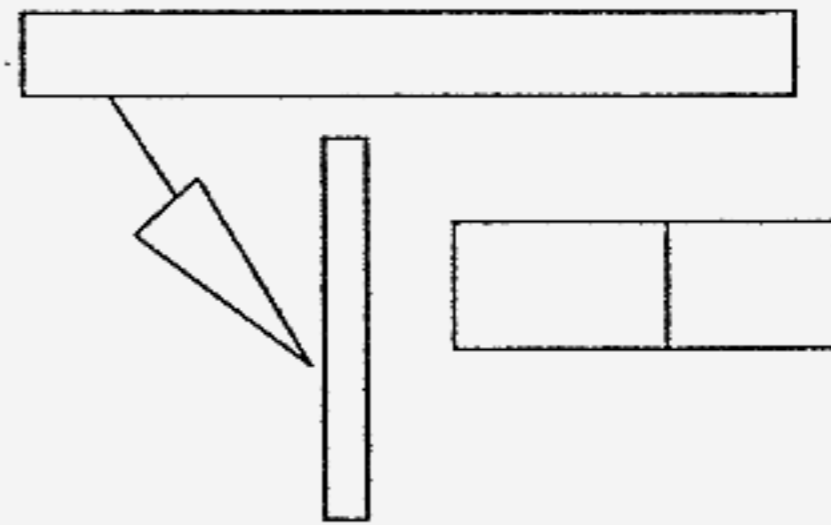
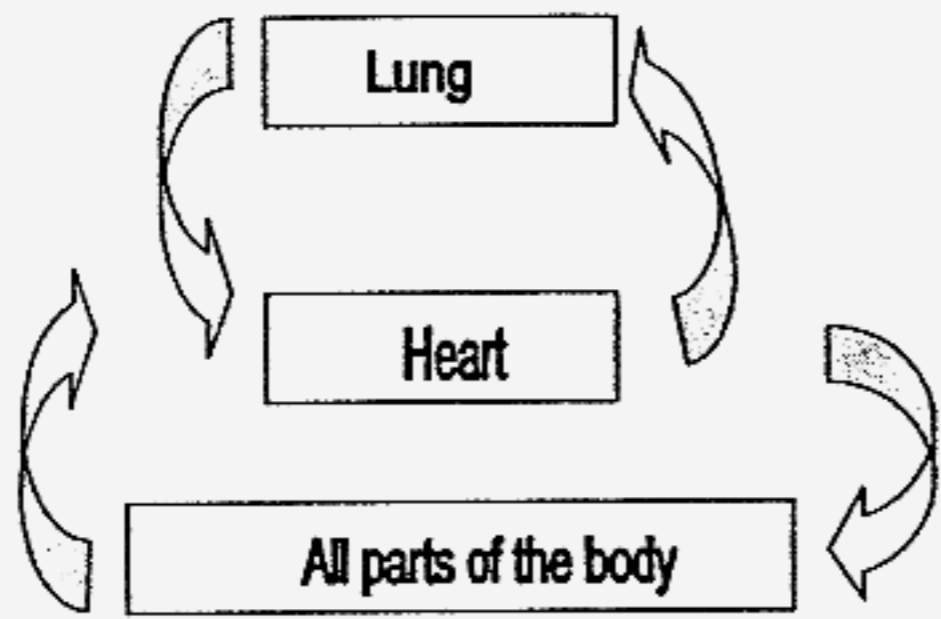
36)b. It will become chalky.

36)c. The burnt paper gives out carbon dioxide.

37)a. The plant will perish. b. The xylem and phloem tubes have been cut off and cannot transport water from the roots to all parts of the plant and food from the leaves to all parts of the plant.

38)a.

b.Both have tubes to transport materials. 39)a.

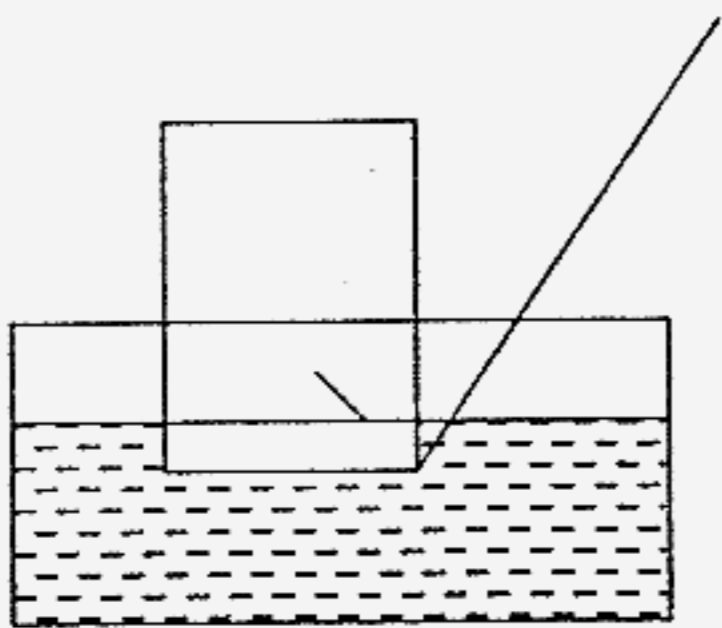


39)b.The iron pin will move towards the magnet and the piece of cloth .

39)c.Magnetism can pass through non-magnetic materials.

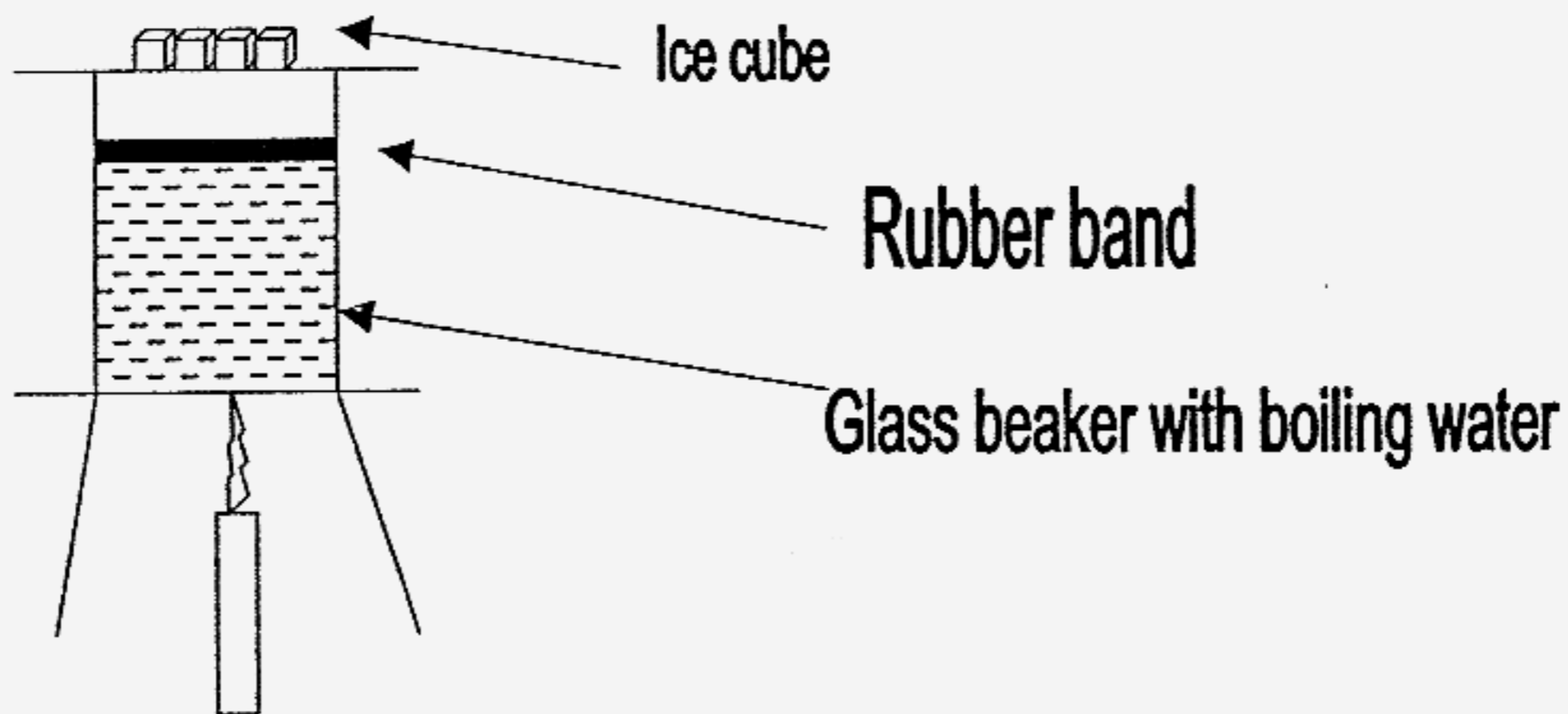
40)a.T b.F c.Not possible to tell d.F e.T f.Not possible to tell

41)a.



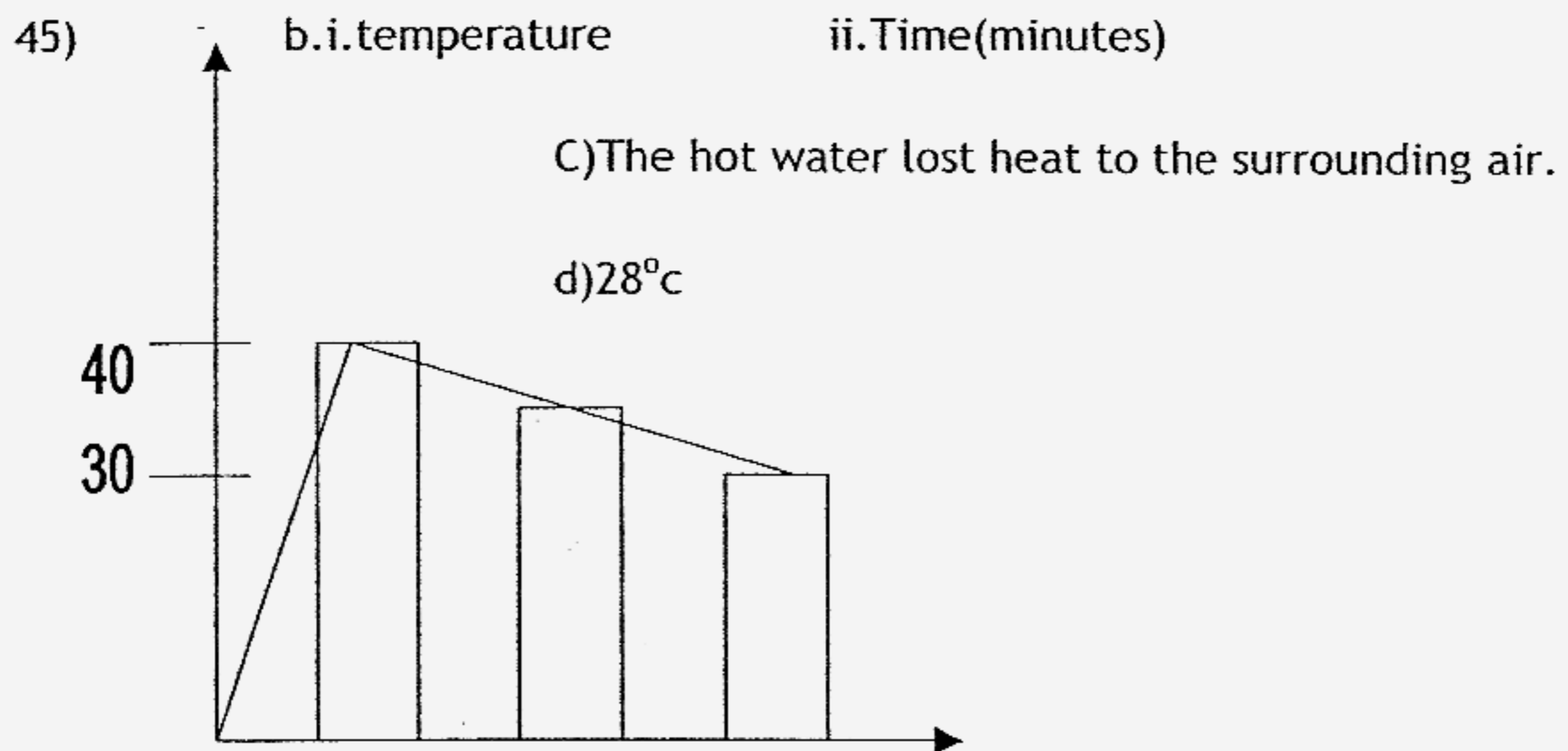
b.It will decrease. The air occupied space in the beaker and forced some water to go out of the beaker.

42)



43)a. The instrument above is a laboratory thermometer b. 60°C

44)a. A B. The man blocked light from reaching the floor as light travels in a straight line and the man prevented light from passing through him.



46)i. The water in Beaker A has a higher temperature.

46)ii. The hot beaker A has more heat than the cold water in Beaker B

b.i. Beaker C have more heat than Beaker D

ii. More heat is needed to increase the temperature of the large volume of water in Beaker C.

46)c. Heat is a form of energy while temperature is a measure of degree of hotness or coldness.