新加坡福建会馆属下五校小四统一考试

道南　　爱同　　崇福　　南侨　　光华

SINGAPORE HOKKIEN HUAY KUAN 5-SCHOOL PRIMARY 4 COMBINED END-OF-YEAR EXAMINATION

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2006

科学 SCIENCE

NAME:_____(　　)

CLASS: PRIMARY (　　)

DATE: 31 OCTOBER 2006

DURATION: 1H 45MIN

100

Booklet A - 60 marks
Booklet B - 40 marks

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

Section A (30 x 2 marks)

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

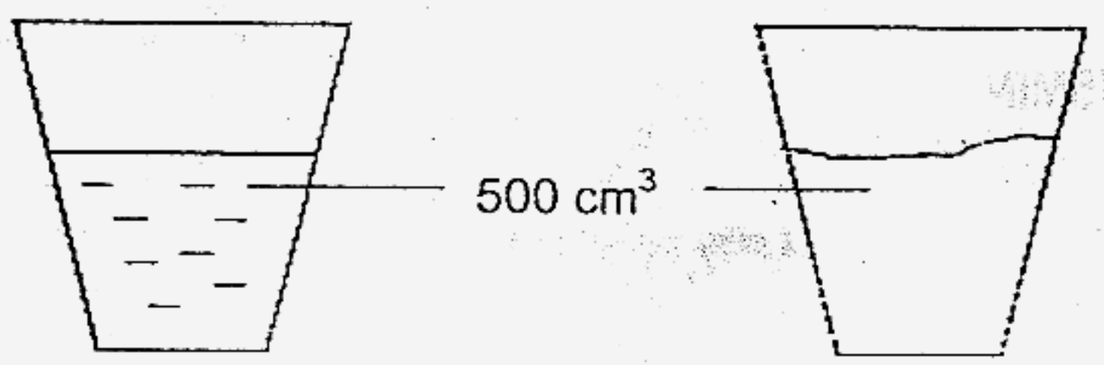
1. Michael tried to pump some more air into his fully inflated basketball. He realised that the size and shape of the basketball did not change.
This shows that air _____.

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

2. Shu Hui filled a bottle up to the brim with water. When she plugged the mouth of the bottle with a stopper, some of the water overflowed. What does this experiment show?

(1) The stopper is too big.
(2) Water cannot be compressed.
(3) The neck of the bottle is too small.
(4) The bottle cannot be filled to the brim.

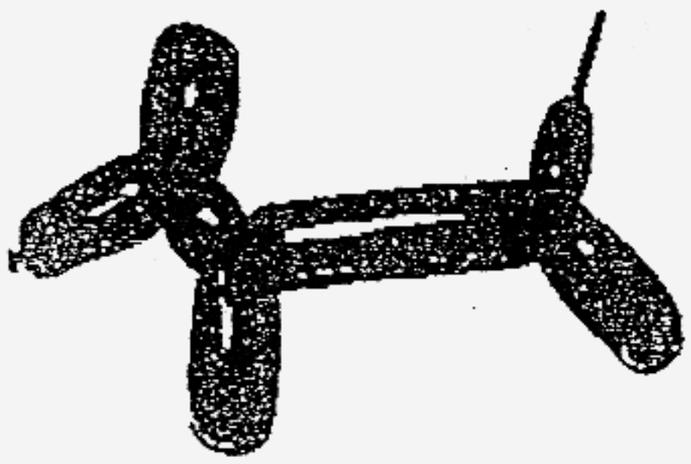
3. The diagrams below show 2 identical cups contajning different things. Which of the following sentences is **true** of the diagrams?



The water and plasticine in both cups _____.

(1) have the same volume and mass
(2) have the same volume but different mass
(3) have the same mass but different volume
(4) have different volume and mass

4. Study the picture below carefully.

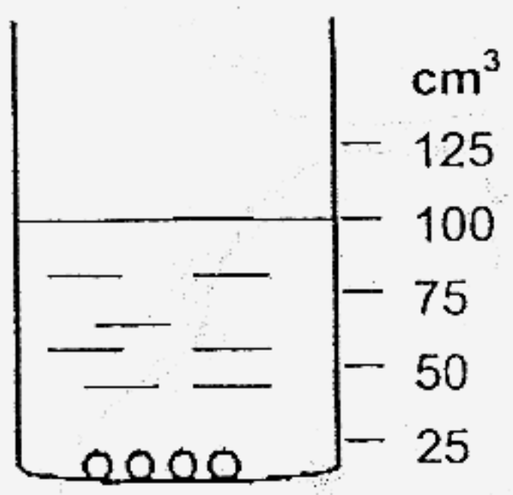


Which property/ properties of air allow(s) us to twist balloons into shapes like the one in the above picture?

A: Air has mass.
B: Air has no definite shape.
C: Air has no definite volume.

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

5. In the experiment above, 4 marbles were placed in a beaker of water.



If the volume of 1 marble was 10 cm^3, what was the volume of the water?

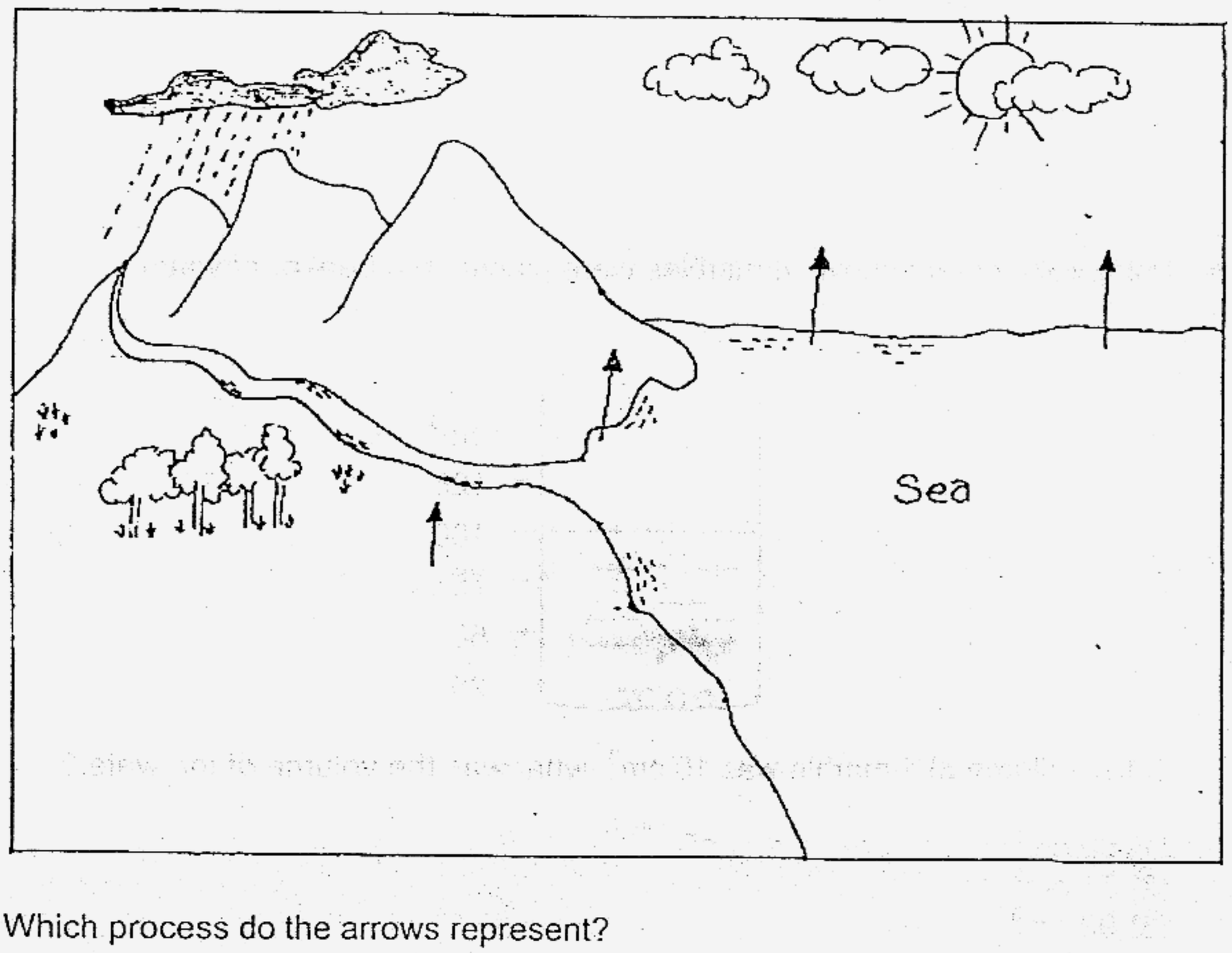
(1) 60 cm^3
(2) 75 cm^3
(3) 90 cm^3
(4) 140 cm^3

6. What are the factors that affect the rate of evaporation?

A: Temperature
B: Wind
C: Area of exposed surface
D: Humidity
E: Light

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

7. Study the diagram of the water cycle.



Which process do the arrows represent?

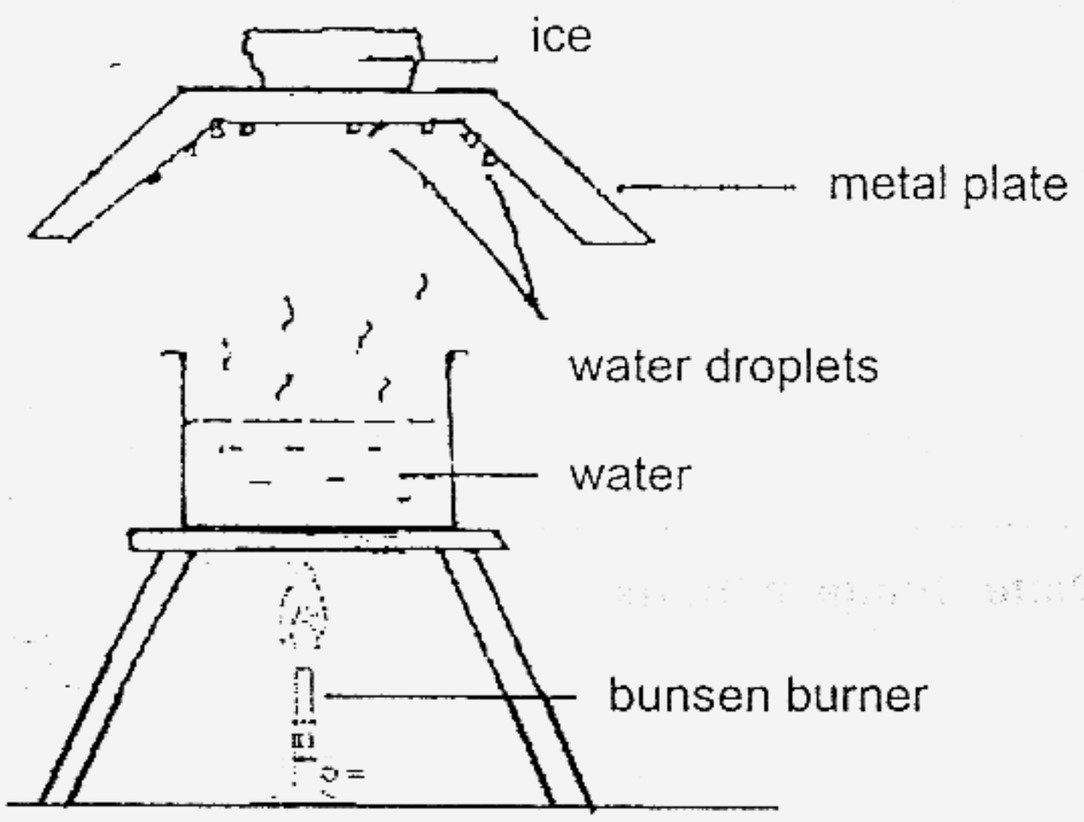
(1) Evaporation of water
(2) Condensation of water vapour
(3) Freezing of water
(4) Boiling of water

8. The water cycle is important because _____.

A: it provides all living things with water for their survival
B: it ensures a constant supply of fresh water
C: it helps to clean the air

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

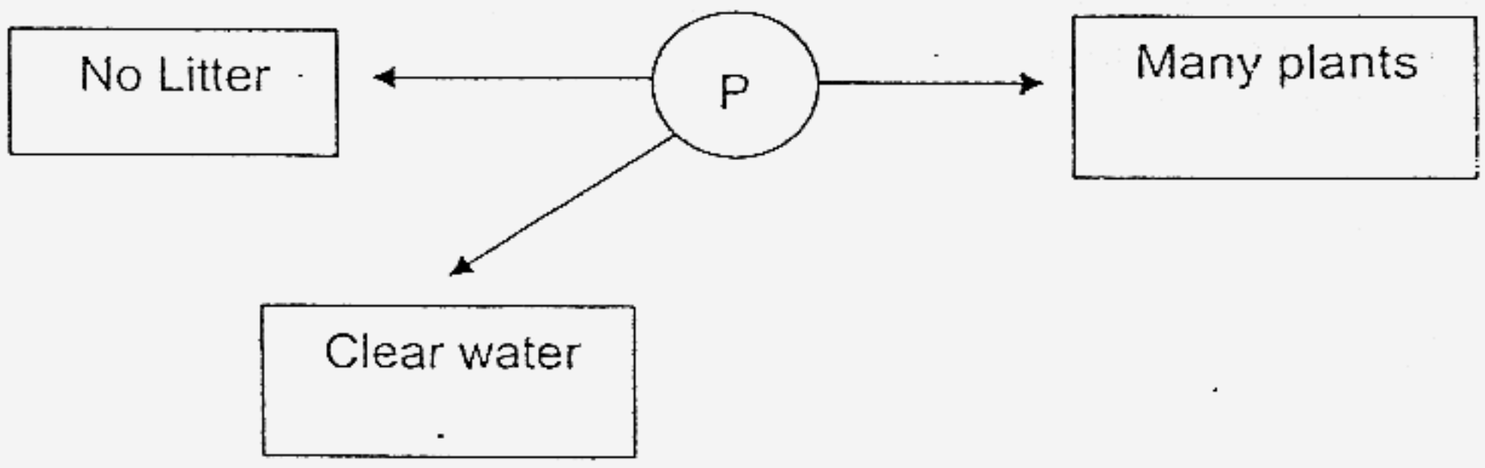
9. What are the processes that take place in the experiment shown below?



A: Boiling
B: Melting
C: Evaporation
D: Condensation
E: Freezing

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

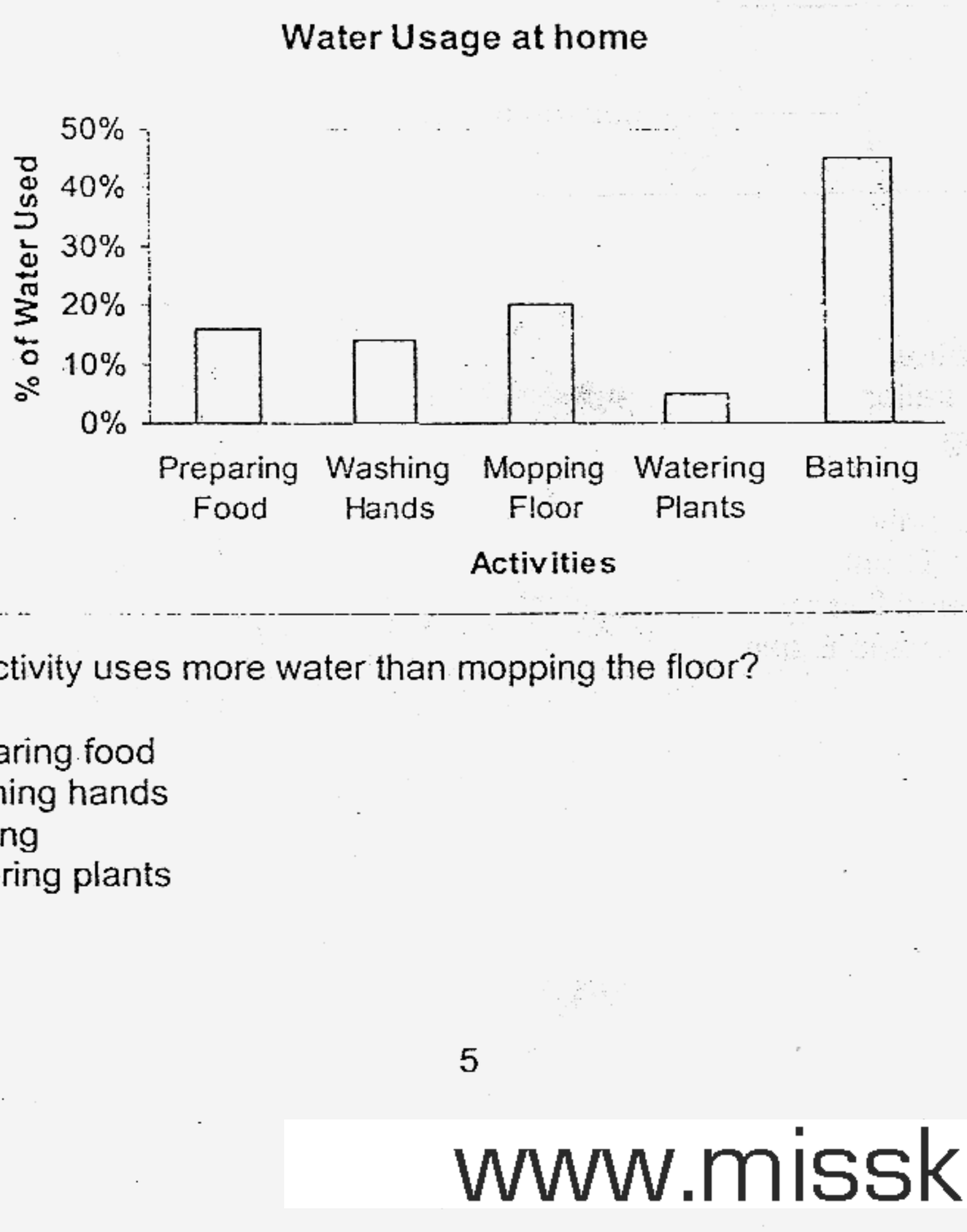
10. Study the diagram below.



What is the most appropriate heading for 'P'?

(1) Signs of polluted water
(2) Signs of unpolluted water
(3) Ways to conserve water
(4) Ways to recycle water

11. The bar chart below shows how water is used in various activities at home.



Which activity uses more water than mopping the floor?

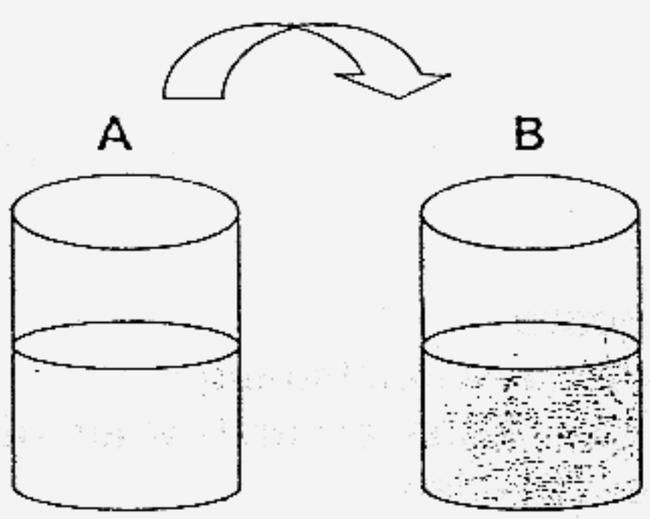
(1) Preparing food
(2) Washing hands
(3) Bathing
(4) Watering plants

12. Susan wants to find out whether a plastic windmill or a paper windmill turns faster. To have a fair test, which of the following factors should she keep the same?

A: Strength of the wind
B: Size of the blades of the windmill
C: Number of blades of the windmill
D: Material used to make the windmill

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

13. Peter fills two containers with 100 ml of water. In container A, the temperature of the water is 85 °C and in Container B, the temperature is 20 °C.



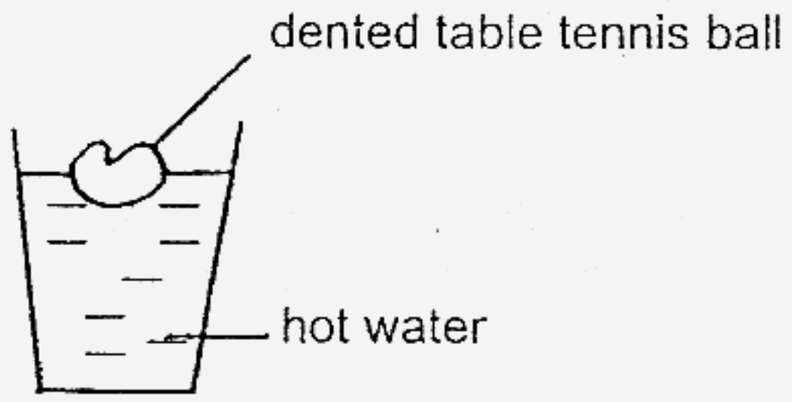
What will happen to the temperature of the water in Container B when the water in Container A is poured into it?

(1) The temperature will increase.
(2) The temperature will decrease.
(3) The temperature will remain the same.
(4) The temperature will decrease and then increase.

14. Janet had taken some cold drinks out of her refrigerator. She wanted to keep them cold for her picnic at East Coast Park. Which container will keep the drinks cold for the longer time?

(1) Iron boxes
(2) Styrofoam boxes
(3) Wooden boxes
(4) Aluminium boxes

15.



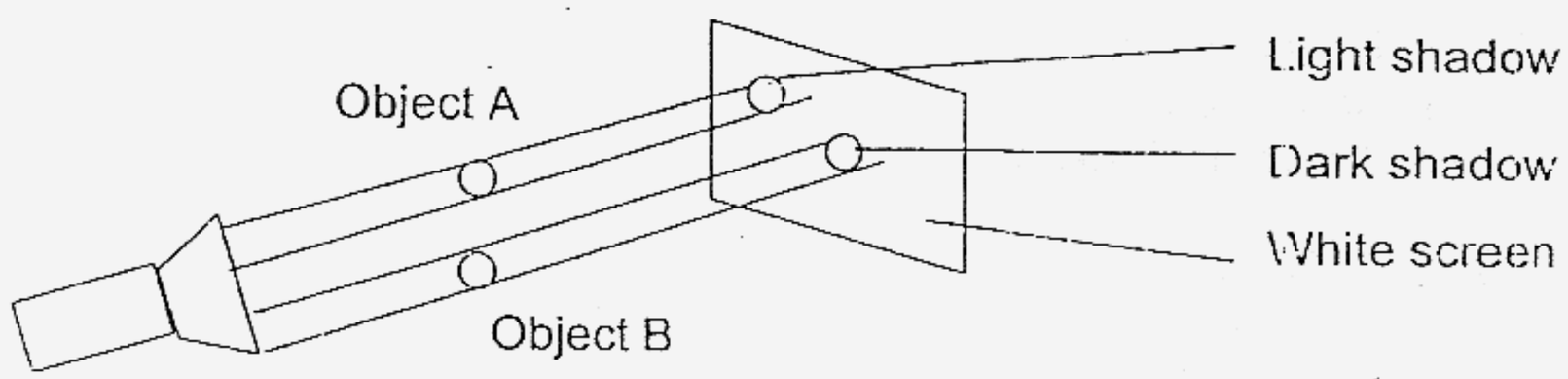
A dented table tennis ball becomes round again when it is placed in hot water because _____.

(1) the table tennis ball expands when heated
(2) the air inside the table tennis ball expands when heated
(3) the surrounding air outside the table tennis ball expands when heated
(4) the hot water expands and pushes out the dent

16. Which one of the following statements regarding matter is **false**?

(1) All matter have mass.
(2) Matter exists in three states.
(3) All matter have definite volume.
(4) Both living and non-living things are matter.

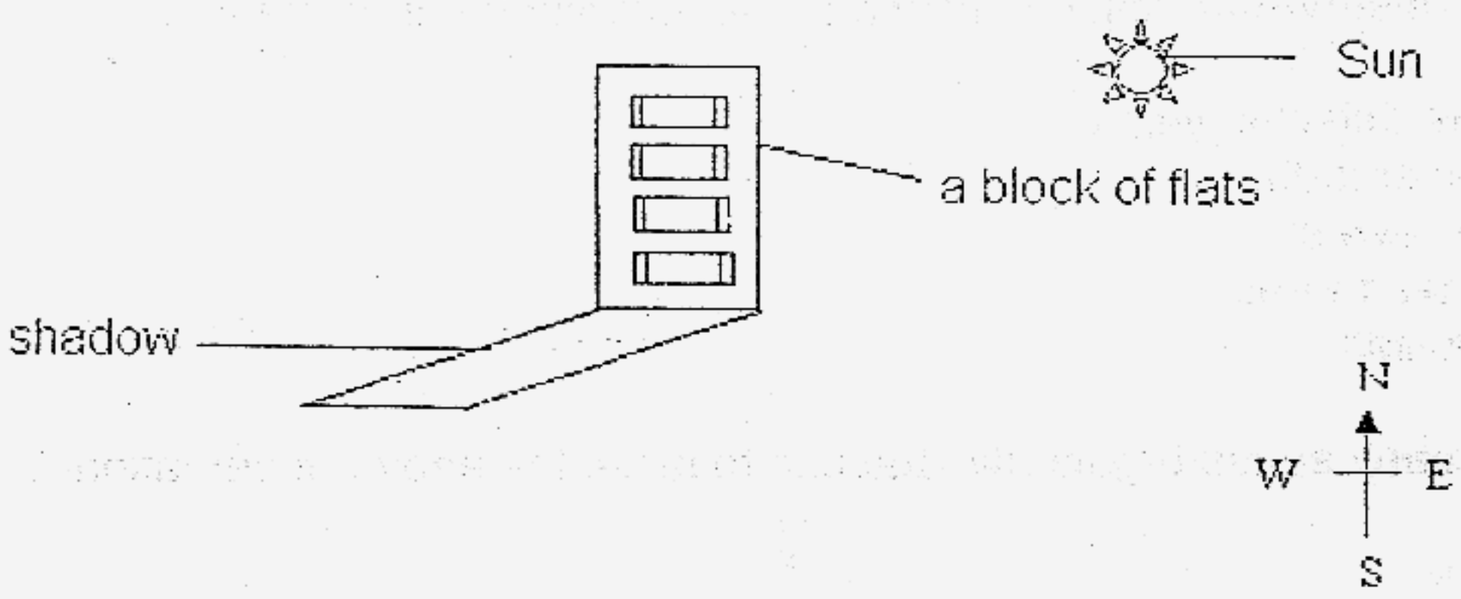
17. A torch was shone onto two objects, A and B, as shown in the diagram.



The shadow formed by object A seemed much lighter than the one formed by object B. Which of the following materials are A and B likely to be made of?

Object A	Object B
1) Steel	Iron
2) Styrofoam	Frosted glass
3) Wood	Clear plastic
4) Frosted glass	Copper

18. The diagram below shows the shadow of a block of flats at a certain time of the day.



At what time of the day would this shadow most likely be formed?

(1) 7 a.m.
(2) 12 noon
(3) 2 p.m.
(4) 6 p.m

19. Pots and pans are often made of steel. What properties of steel make it a suitable material for making pots and pans?

A: It is hard and strong.
B: It gets hot easily.
C: It is not easily broken.

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

20. Which of the following statements are correct?

A: Food is broken down into simpler substances to be used by the body.
B: Undigested food passes into the large intestine where water is absorbed.
C: Faeces is stored in the anus.
D: Digestion takes place in the mouth, stomach and large intestine.

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

21. Alicia observed an object and wrote the following in her notebook.

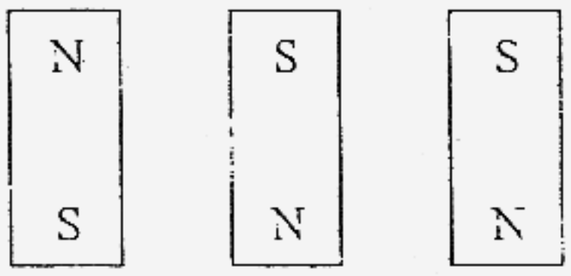
- The object is yellow.
- It is smooth.
- It is sweet.
- It has thorns
- It is soft.

How many sense organs did she use to make the above observations?

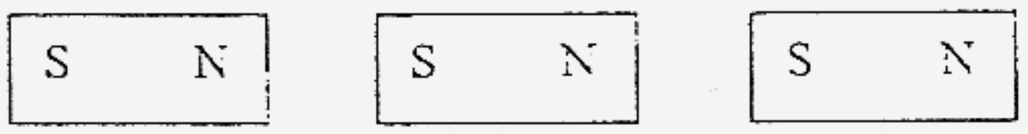
(1) One
(2) Two
(3) Three
(4) Four

22. Which of the following arrangement(s) will cause all the three similar magnets to attract one another when placed together?

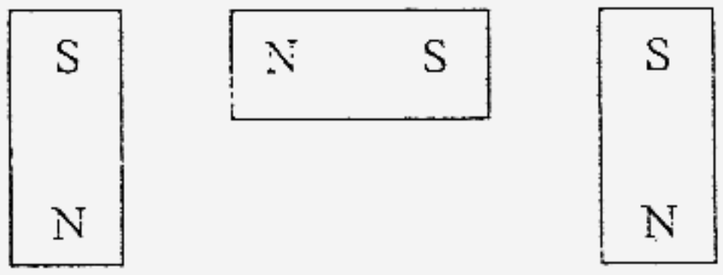
Arrangement A:



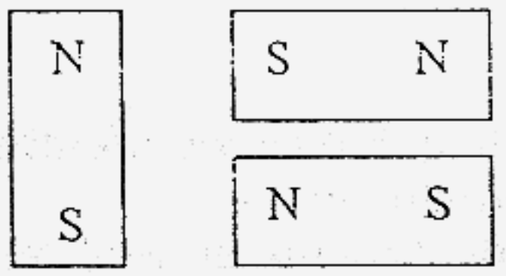
Arrangement B:



Arrangement C:

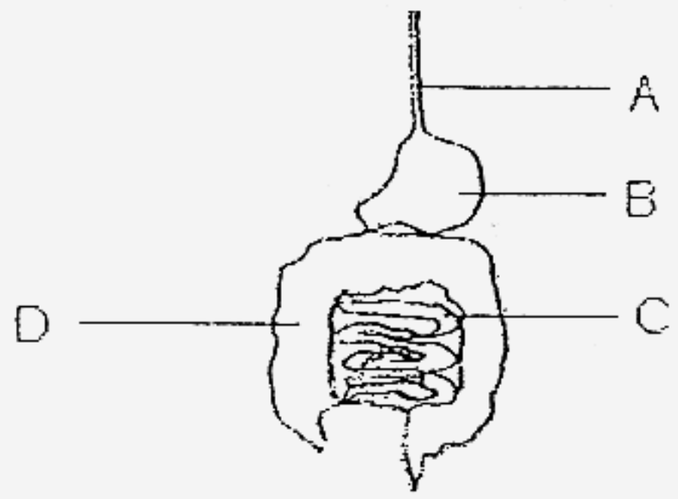


Arrangement D:



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

23. The diagram below shows a section of the digestive system in a human being.



At which parts are digestive juices produced?

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

24. The air we breathe out _____.

A: turns limewater chalky
B: contains less water vapour than the air we breathe in
C: is warmer than the air we breathe in
D: contains more carbon dioxide than the air we breathe in

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

25. Which is the correct path taken by air inside our body when we breathe out?

(1) mouth → gullet → lungs
(2) nose → windpipe → stomach
(3) lungs → windpipe → nose
(4) windpipe → nose → lungs

26. The table below shows the breathing rate and pulse rate (heartbeats) per minute of a man.

Activity	Breathing Rate per min	Pulse Rate (Heartbeats) per min
Swimming	50	85
Jogging	60	95
Sleeping	25	60
Watching a horror movie	40	85

Based on the table above, what is a likely conclusion that you can draw from the findings?

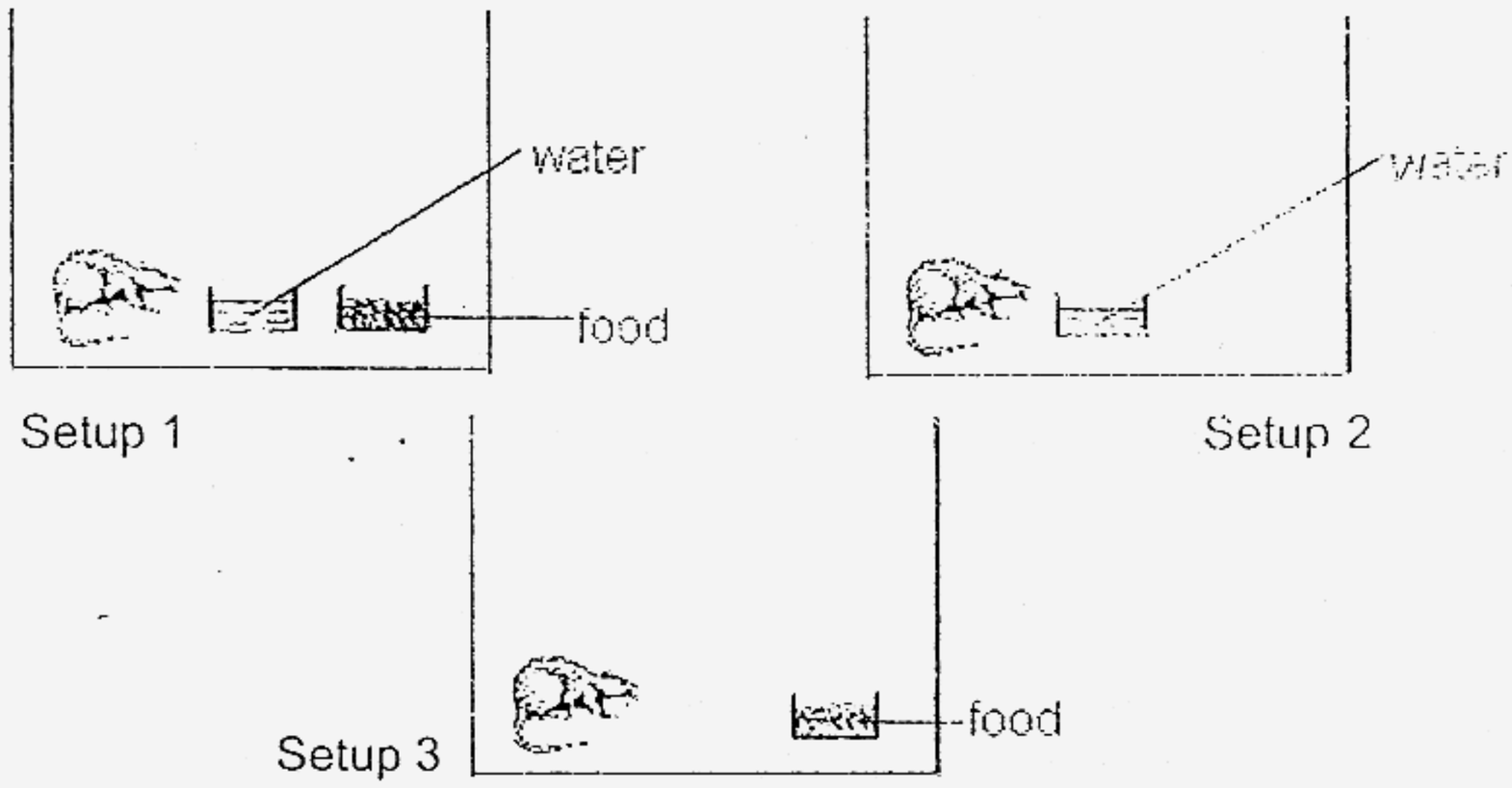
(1) The more strenuous the activity, the higher the breathing rate and the pulse rate.
(2) The pulse rate depends on the breathing rate.
(3) We can control how we breathe but it is impossible for us to stop breathing altogether.
(4) When we exercise, our heart needs to pump more blood that carries more oxygen and food to all parts of our body.

27. Aloysius goes for a 2.4 km jog. Which of the following happens while he is jogging?

A: His heartbeat increases.
B: His body muscles contract and relax.
C: His oxygen intake increases.
D: The amount of carbon dioxide produced in his body decreases.

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

28. Three rats were caught to test for a strange disease. Each rat was placed inside each of the setups as shown below.



However, all three rats died overnight. What could be the possible reason for the rats' death?

(1) They died of lack of food.
(2) They died of lack of water.
(3) They died of lack of oxygen.
(4) They died of a strange disease.

29. The heart _____.

(1) is a muscular organ
(2) beats at the same rate all the time
(3) gets rid of waste materials from the body
(4) produces nutrients needed by the body

30. Which two systems work together to supply oxygen to all parts of the body?

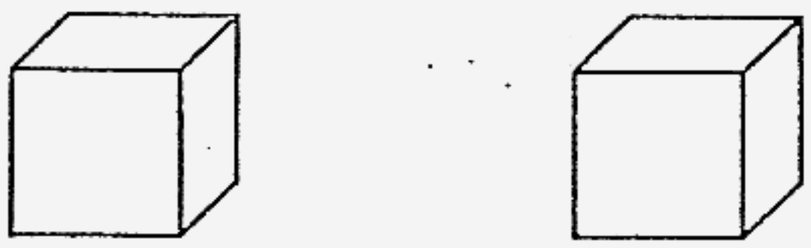
A: respiratory system
B: circulatory system
C: skeletal system
D: digestive system

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

40

Section B (40 marks)
For questions 31 to 45, write your answers in the blanks provided.

31. Jocasta placed two cubes of identical size into two identical beakers, each containing 100ml of water.



Styrofoam

Iron

a) Which one of these objects will cause the water level in the beaker to rise higher? (1 mark)

_____

b) What is the reason for your answer in (a)? (2 marks)

_____

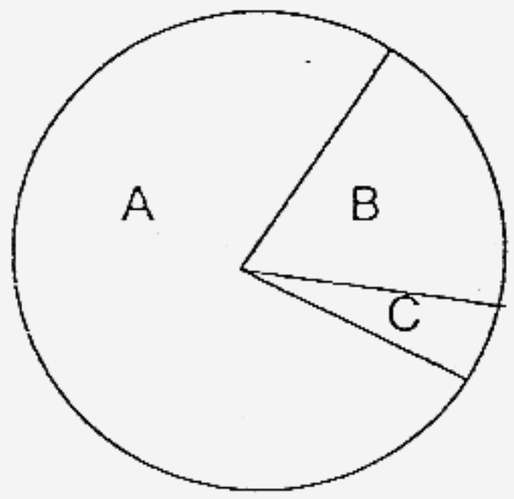
_____

32. Just before an injection, the nurse used an alcohol swab to clean Tom's arm. Tom's arm felt cool when the alcohol swab was applied. Explain why his arm felt cool. (2 marks)

_____

_____

33. The pie graph below shows the composition of the gases in the Earth's atmosphere.



a) Name gases B and C. (2 marks)

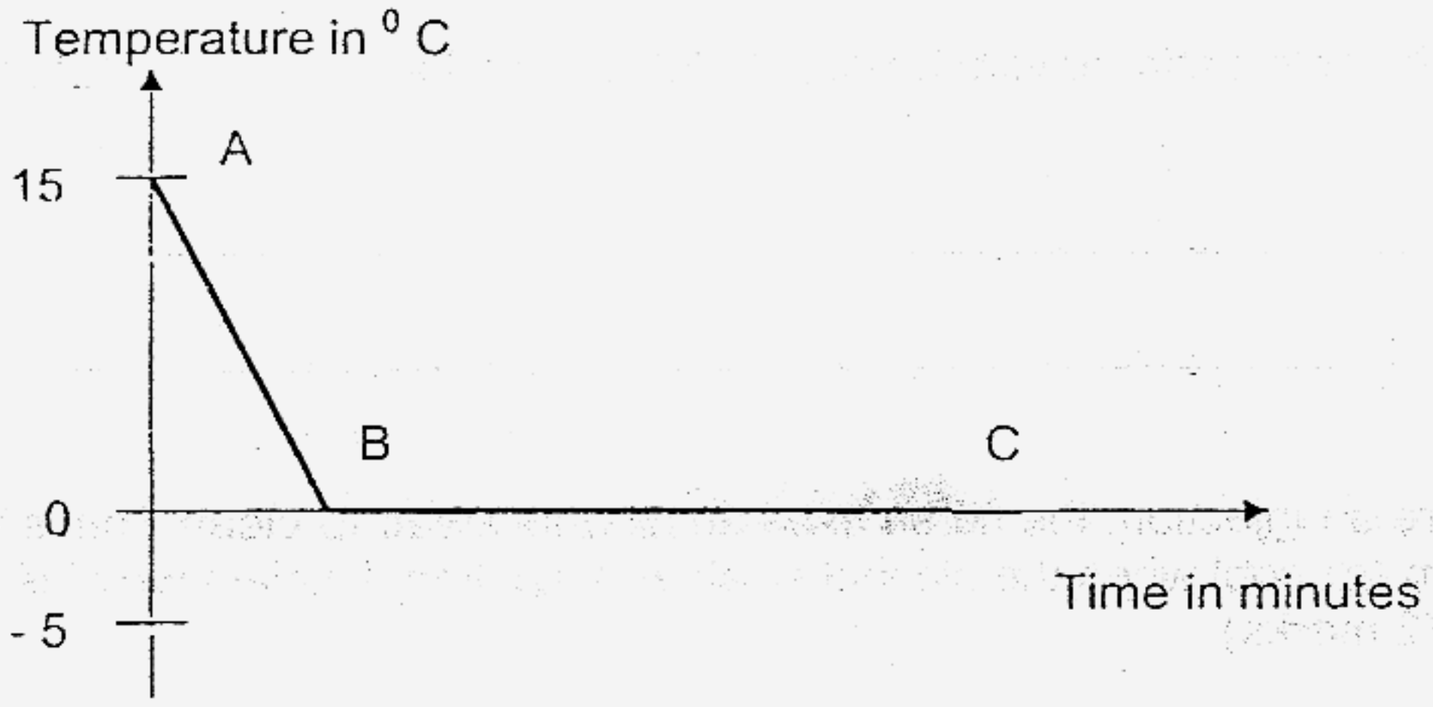
B: _____

C: _____

b) How is gas C used by living things? (1 mark)

_____

34. The graph below shows the change in the temperature of a glass of water.



a) What process is taking place from B to C in the graph above? (1 mark)

_____

b) Where do you think the glass of water is placed? (1 mark)

_____

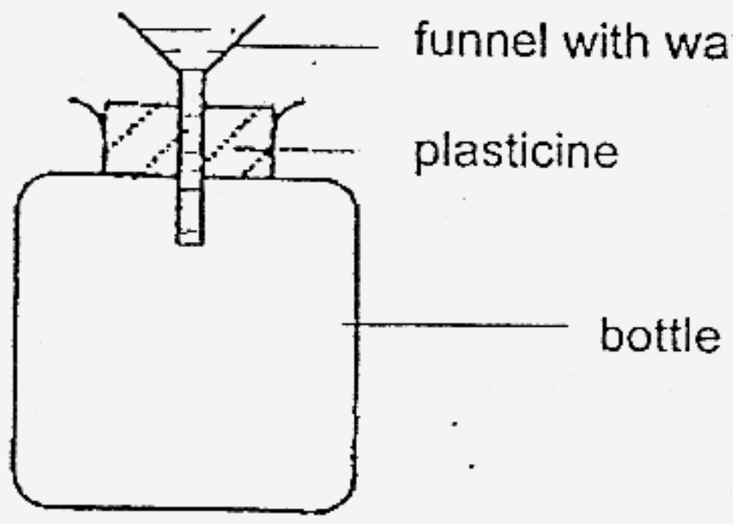
35.Kevin carried out an experiment to find out about the properties of 3 solids, A, B and C. The results are shown in the table below.

Properties \ Solids	A	B	C
Is it waterproof?	Yes	Yes	No
Does it break into pieces?	Yes	No	No
Does it become flat when hit?	No	Yes	Yes

a) What are the properties of solid A? (1 mark)

b) In what ways are solids B and C similar? (2 marks)

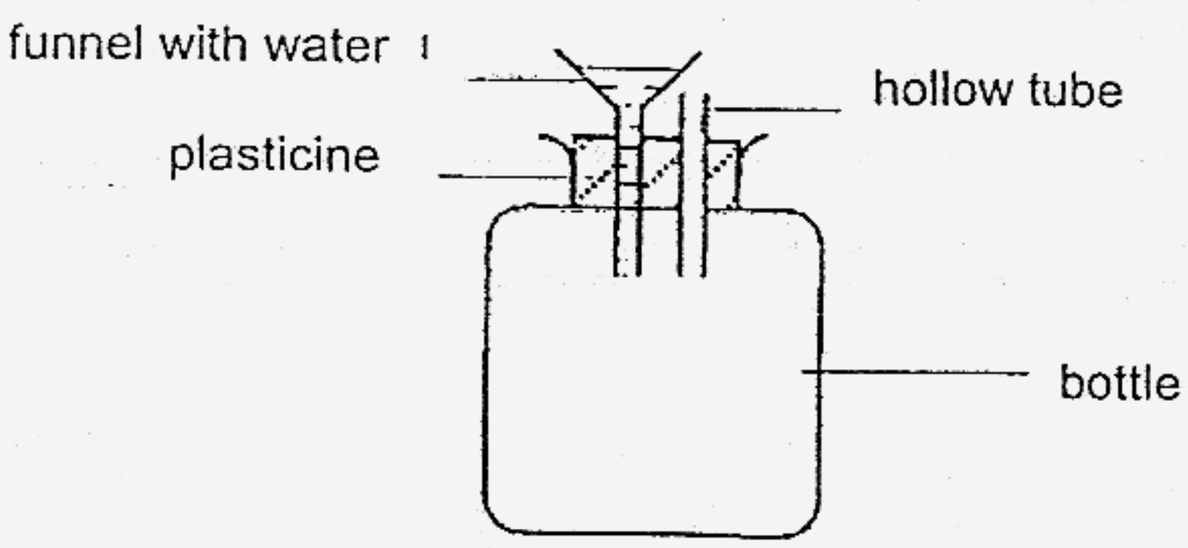
36. Sally fitted a bottle with a funnel as shown in the diagram below.



a) She poured water into the funnel and realized that the water flowed into the bottle very slowly. Why is this so? (1 mark)

_____

Sally then fitted the bottle with a hollow tube, as shown in the diagram below.



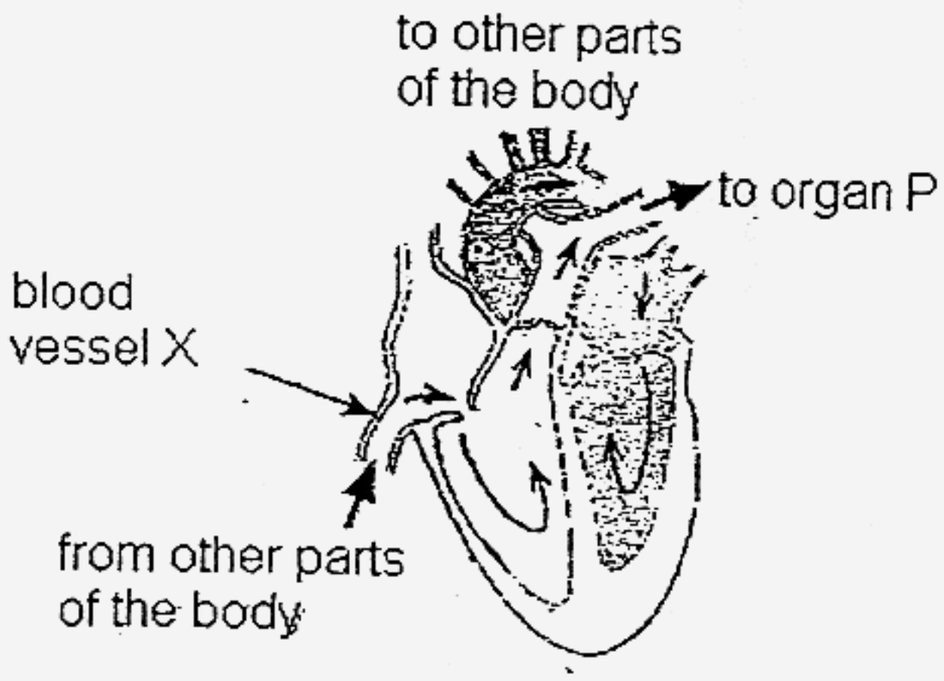
b) This time, when she poured water into the funnel, she realized that it flowed into the bottle more quickly. Why is this so? (1 mark)

_____

c) Besides using a hollow tube, suggest another way that Sally could use to enable the water to flow through the funnel into the bottle more quickly. (1 mark)

_____

37. The diagram below shows the cross-section of a human heart. The arrows show the flow of blood in the heart.



a) What type of blood vessel is X? (1 mark)

_____

b) What is organ P? (1 mark)

_____

c) Does the shaded part of the heart contain oxygen-rich blood or carbon dioxide-rich blood? (1 mark)

_____

38. The Sun is our main source of energy.

a) Explain how light from the Sun is important to plants. (1 mark)

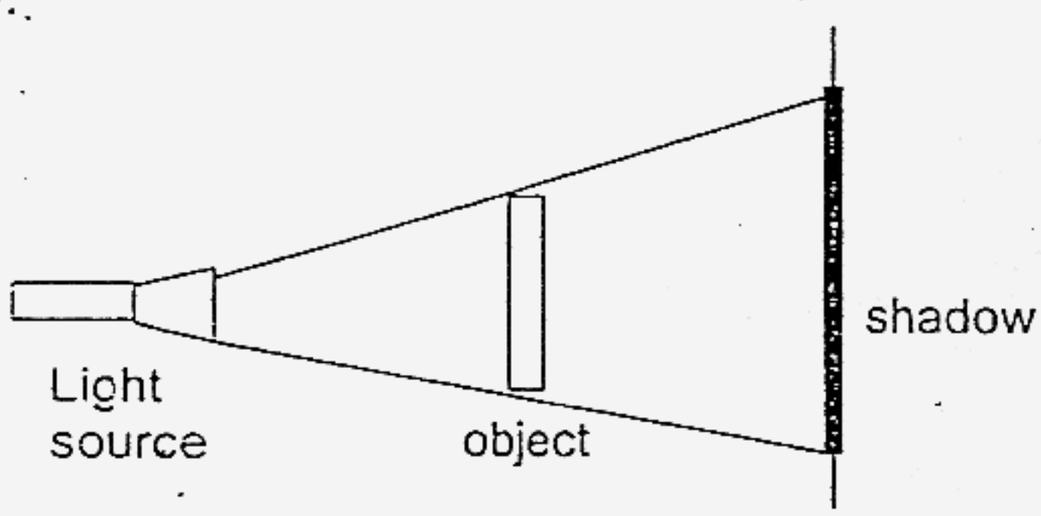
_____

b) Other than the above, state two ways in which heat energy from the Sun is important for our survival. (2 marks)

(i) _____

(ii) _____

39. A shadow forms when light is blocked by an object as shown in the diagram below.

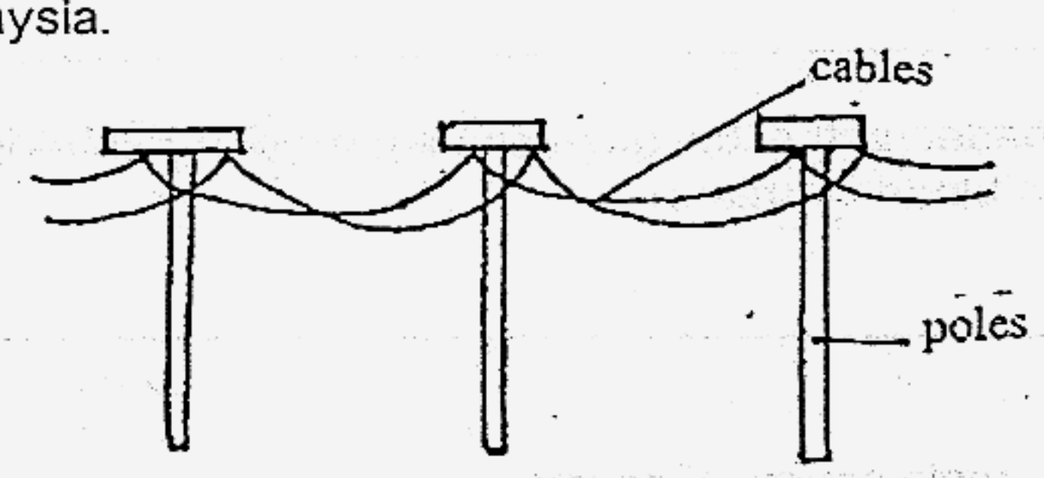


In the example above, using the same light source and object, suggest two ways to form a smaller shadow. (2 marks)

a) _____

b) _____

40 The picture below shows telephone cables being hung loosely across some poles in Malaysia.

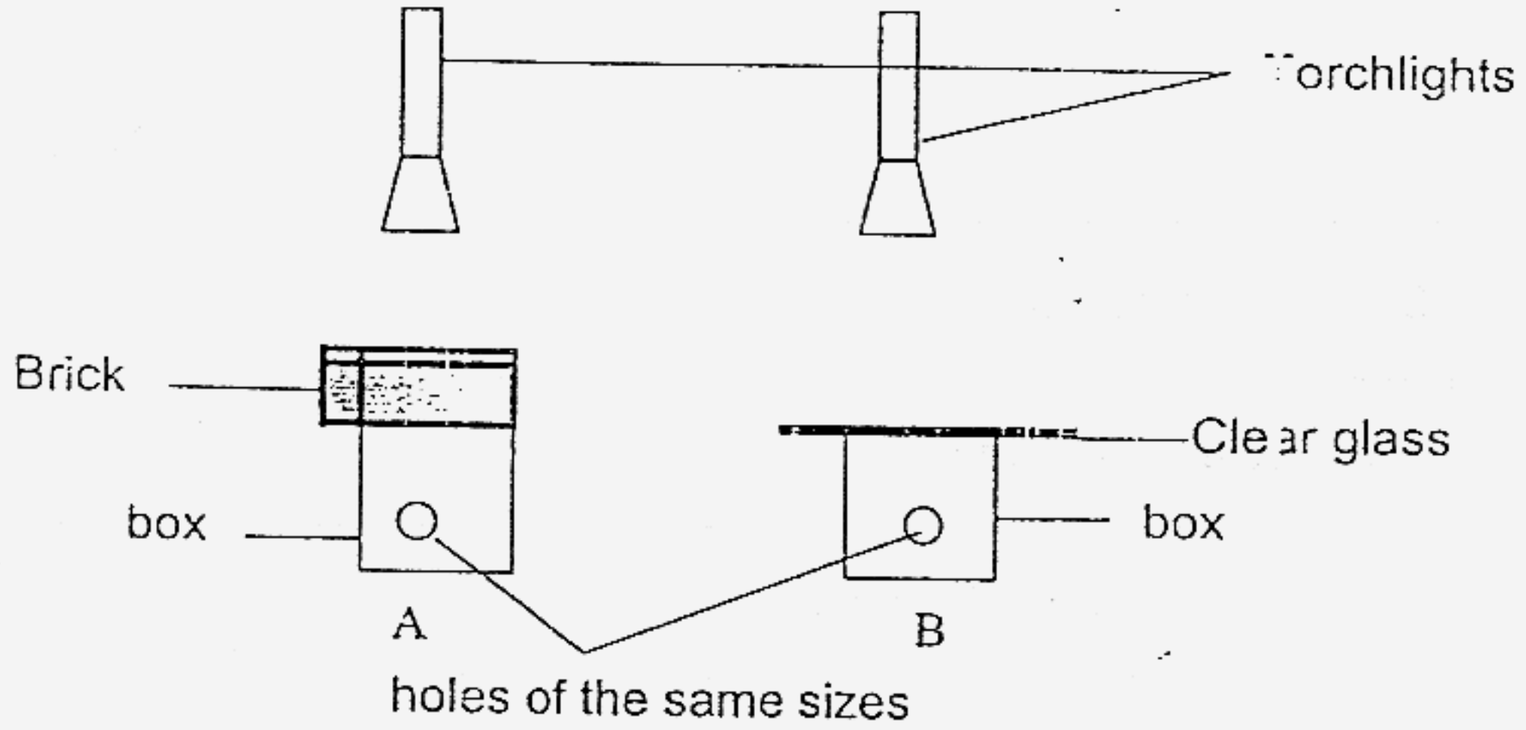


Explain why they are hung loosely. (2 marks)

_____

_____

41. Jane put an object into each of the two similar tins below. She poked a hole on one side of each box. She then covered the opening of the boxes with a brick and clear glass as shown below. She shone a torch over each box and peeped in through the hole at the side of the box.



a) In which set-up was she able to see the object clearly? (1 mark)

_____

b) Explain your answer. (2 marks)

_____

_____

42. The following are statements about the similarities of the life cycle of a frog and a mosquito.

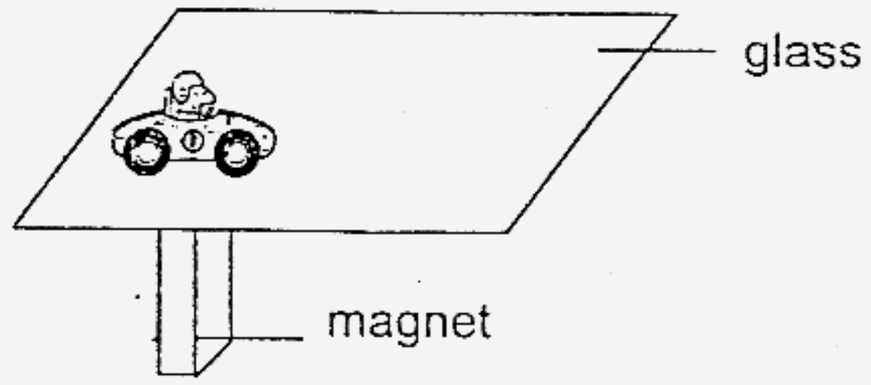
For each of the statements below, decide if it is "True" or "False" and put a tick (√) in the correct box. (2 marks)

		True	False
a)	Both adults can fly.		
b)	Both lay eggs in water.		
c)	Both have 4-stage life cycle.		
d)	Both young look like the adults.		

43. Fill in the blanks in the table below and complete the sentences with the words, **'gains heat'** or **'loses heat'**. (4 marks)

Situation	Process	Gains Heat or Loses Heat
a) Meiling making ice for a party	Freezing	The water _____.
b) Jane hanging clothes to dry	Evaporation	The water in the clothes _____.
c) Water droplets forming on the outer surface of a glass of cold water	Condensation	The water vapour in the surrounding air _____.
d) Peter boiling a kettle of water to make coffee	Boiling	The water in the kettle _____.

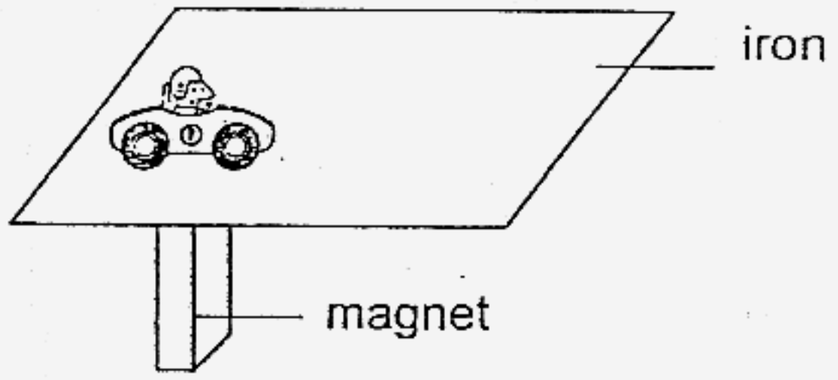
44. Ben used a toy car, a sheet of glass and a magnet to conduct an experiment as shown below. He observed that the car moved when he moved the magnet.



a) Name the material that the toy car was made of. (1 mark)

_____

He repeated the same experiment with a sheet of iron and discovered that the car did not move at all.

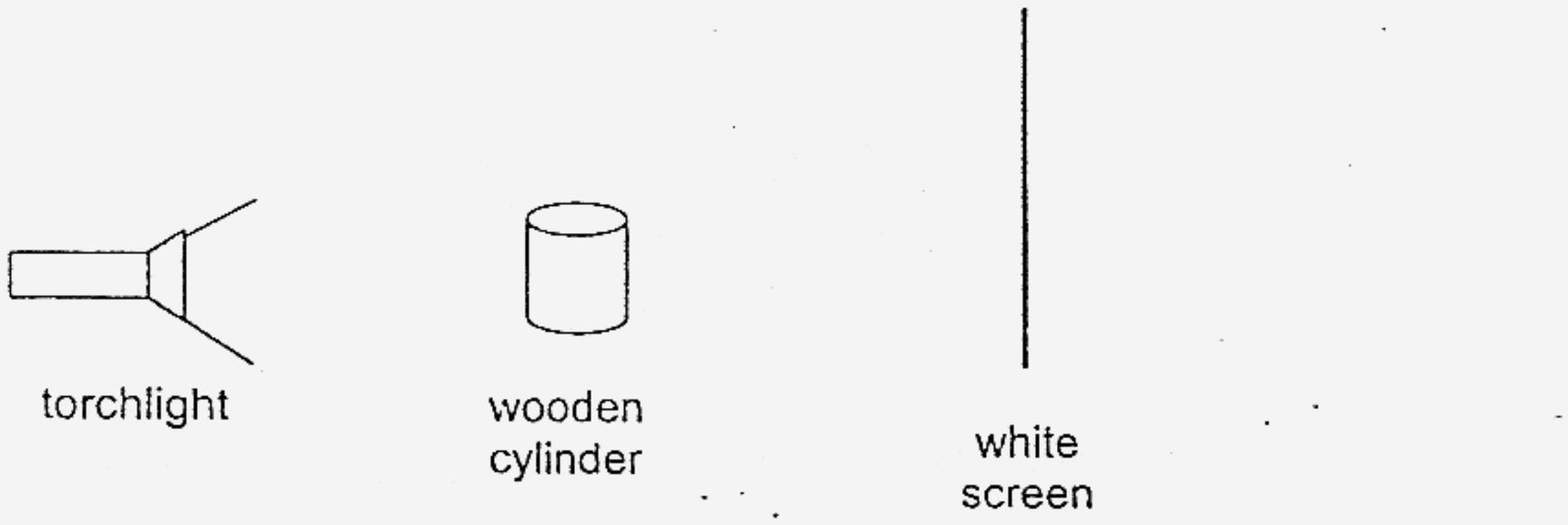


b) From the result of the experiments, what does it tell you about the sheets of glass and iron? (2 marks)

Glass: _____

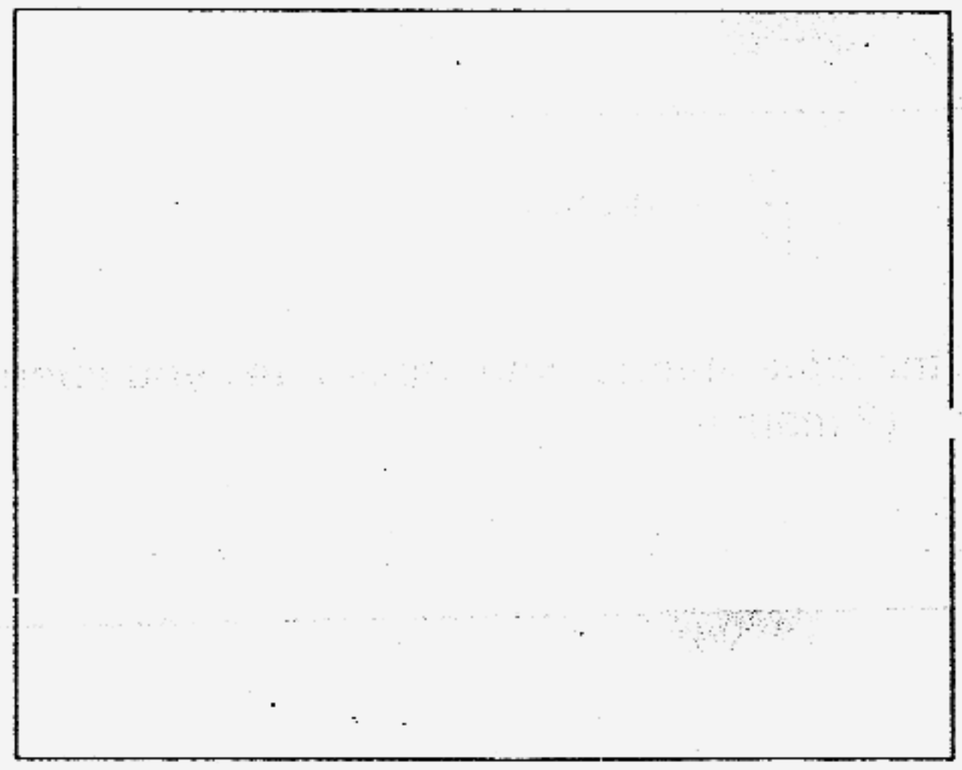
Iron: _____

45. a) A torchlight, wooden cylinder and white screen are positioned as shown in the diagram below.

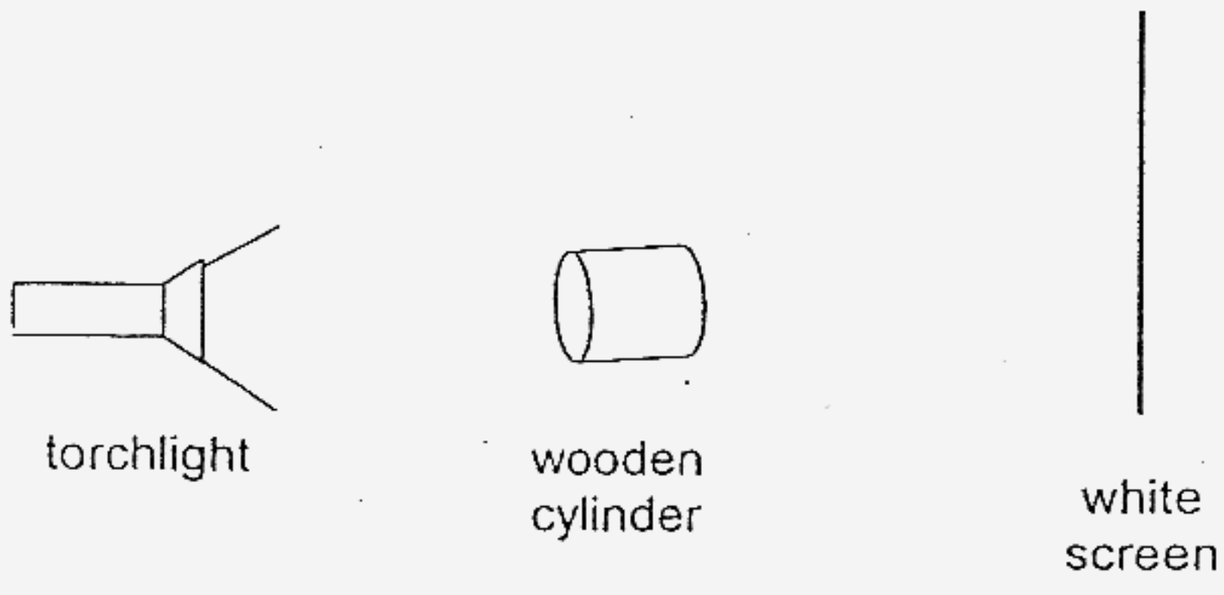


The shadow of the cylinder is cast onto the white screen.

Draw and shade in the box below, the shadow of the cylinder as seen on the white screen. (1 mark)



b) The wooden cylinder is then repositioned, as shown in the diagram below.



Draw and shade in the box below, the shadow of the cylinder as seen on the white screen. (1 mark)

End of paper

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

31 a) The iron cube will cause the water level to rise higher.
b) The styrofoam cube will float on water so it will not displace so much water. The iron cube will sinks to the bottom, so it will displace more water than that of the styrofoam cube, thus cause the water level in the beaker to rise higher.

32 When the alcohol evaporated, it removed heat from Tom's arm.

33 a) B: Oxygen C: carbon dioxide and rare gases
b) Plants take in carbon dioxide when they photosynthesize.

34 a) Freezing is taking place.
b) The glass of water is placed in the freezer.

35 a) Solid A is waterproof, breaks into pieces and does not become flat when hit.
b) Solid B and C do not break into pieces and becomes flat when hit.

36 a) Air in the bottle is occupying the space. Only a little water can flow into the bottle because air can also be compressed.
b) The hollow tube allows the air in the bottle to escape, therefore the water can flow into the bottle more quickly.
c) Loosen the plasticine.

37 a) Blood vessel X is vein.
b) Organ P is the lungs.
c) The shaded part contains oxygen-rich blood.

38 a) The sun's light energy can enable the plant to photosynthesize.
b i) The sun helps to keep us warm.
ii) The sun helps the water cycle to carry on.

39 a) Move the object further away from the light source.
b) Move the light source further away from the object.

40 The cables are hung loosely to ensure that they will not snap during cold days as they will contract.

41 a) In Set-up B.

b) The box was covered with transparent clear glass which allows light to pass through. The object reflects the light into Jane's eyes.

42

a)		✓
b)	✓	
c)		✓
d)		✓

43 a) loses heat

b) gains heat

c) loses heat

d) gains heat

44 a) Steel

b) Glass: The glass is a non-magnetic material. Magnetic force can pass through it.

Iron: The iron is a magnetic material. Magnetic force cannot pass through it.

45 a) 

b)