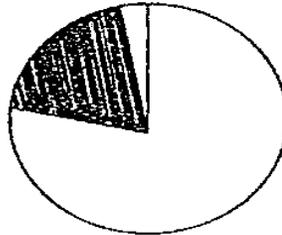


**Primary Four
Science
Semestral Assessment One**

Section A

Choose the most appropriate answer and write your answer (1, 2, 3 or 4) in the boxes provided. (30 x 2 marks)

1. The pie chart below shows the composition of air around us. The shaded area represents _____.



- (1) Nitrogen
- (2) Water vapour
- (3) Carbon dioxide
- (4) Oxygen

2. The table below records the pulse rate of a healthy ten-year old girl who is engaged in various activities. What could she be doing in Activity R?

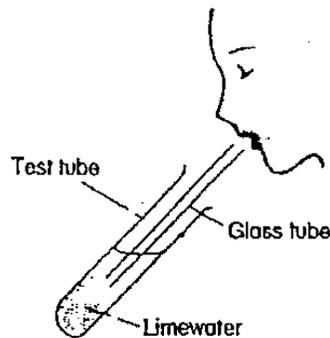
Activity	Pulse Rate (per minute)
O	70
P	77
Q	88
R	110

- (1) Sleeping
- (2) Reading a book
- (3) Playing volleyball
- (4) Taking a stroll

3. Which of the following is **not** a function of a leaf?

- (1) To absorb water and dissolved mineral salts for the plant
- (2) To take in and give out gases
- (3) To absorb light from the Sun
- (4) To remove water from the plant

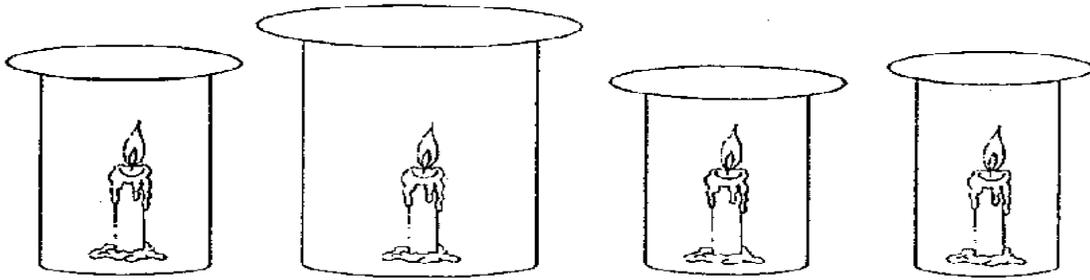
4. Samuel blows through the glass tube a few times. What will you observe?



- A: Air bubbles can be seen
- B: His front chest moves
- C: The limewater remains clear
- D: The limewater turns chalky

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

5. Four identical candles are lighted and placed into four jars. In which jar would the candle burn the longest?



(1)

(2)

(3)

(4)

6. During photosynthesis, a plant takes in _____ and gives out _____.

- (1) Oxygen, carbon dioxide
- (2) Oxygen, water vapour
- (3) Water vapour, carbon dioxide
- (4) Carbon dioxide, oxygen

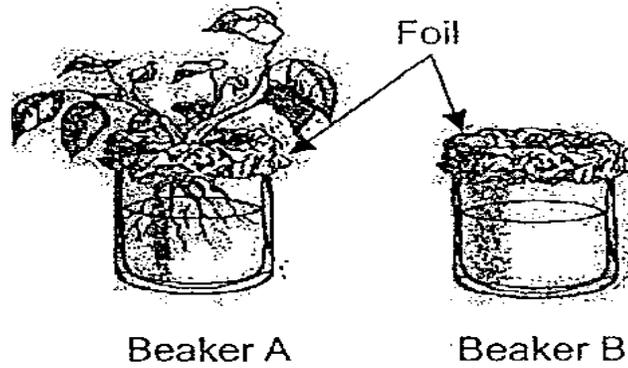
7. Which of the following shows the correct path of mineral salts taken in by a plant?

- (1) Root hair -> root -> leaf -> stem
- (2) Leaf -> root hair -> root -> stem
- (3) Leaf -> stem -> root -> root hair
- (4) Root hair -> root -> stem -> leaf

8. Which one of the following statements about plants is false?

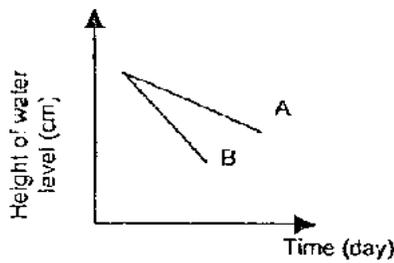
- (1) Plants living in water do not need air to stay alive.
- (2) All plants can grow and reproduce
- (3) Some plants do not bear flowers
- (4) All plants will die if there is no sunlight.

9. A plant was placed in one of the two identical beakers containing the same amount of water. The water level of each jar was recorded every day for a week. The results were presented in a graph.

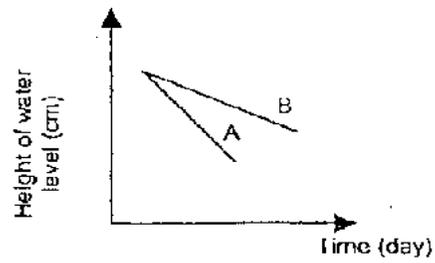


Which graph would be the best estimate to show the changes in water level in both Beaker A and B?

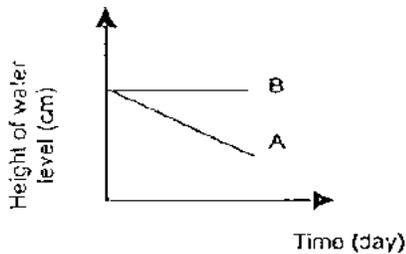
(1)



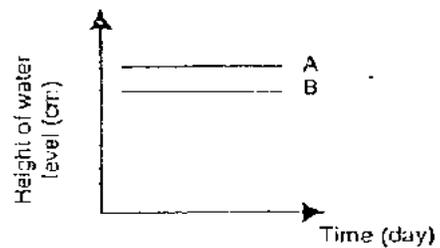
(2)



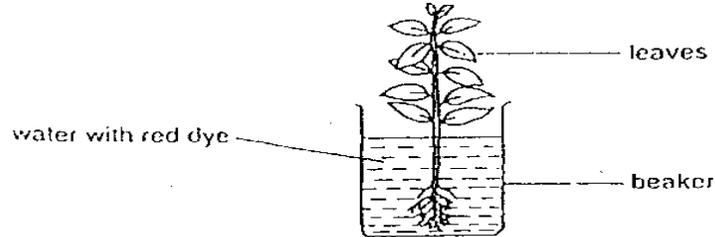
(3)



(4)



10. Stacy put a plant into a beaker of water with red dye. After a few days, she cut across the stem and saw some red stains scattered around the cross-section of the sliced stem. The leaves also turned slightly red.



From the experiment, she concludes that _____.

- A: the roots absorbed water
- B: The plant had withered from taking in water
- C: The stem carried water to the leaves
- D: The leaves made food in the presence of red dye

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

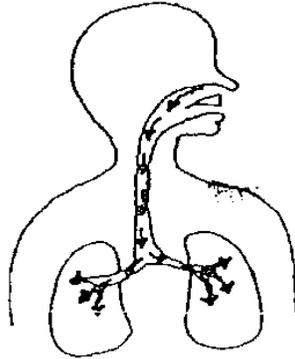
11. The _____ pumps blood which carries oxygen to all parts of the body.

- (1) ribs
- (2) heart
- (3) blood
- (4) lung

12. At rest, we breathe about _____ times per minute.

- (1) 70
- (2) 18
- (3) 28
- (4) 68

13. The arrows in the diagram indicate the passage taken by _____.



- (1) air when we exhale
- (2) water when we drink
- (3) food when we eat
- (4) air when we inhale

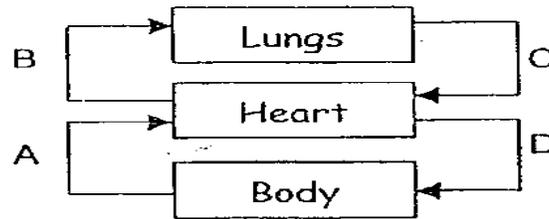
14. The _____ keep(s) the blood flowing continuously in the blood vessels.

- (1) Breathing of air in our lungs
- (2) Food we digest
- (3) Movable joints between our bones
- (4) Pumping action of the heart

15. While gulping down her food, Tracy started choking because the food had accidentally entered the _____ instead of the _____.

- (1) Windpipe, gullet
- (2) Nose, throat
- (3) Heart, stomach
- (4) Lungs, liver

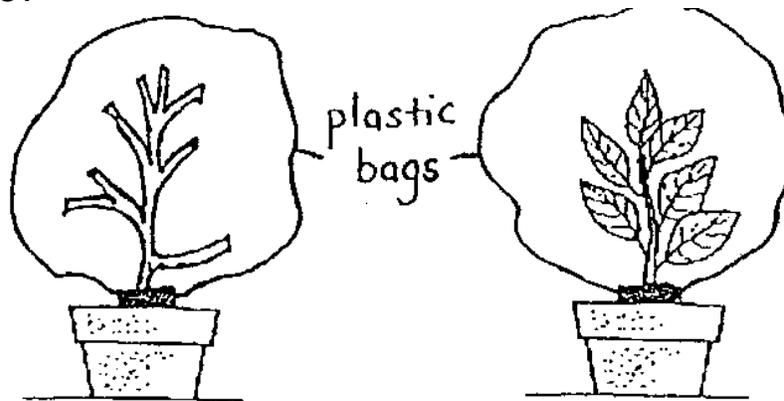
16. the simplified diagram below shows the passage of blood through the body.



Blood that is rich in oxygen is represented by the letters

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

17. Grace has two well-watered plants outside her house. She removes all the leaves in Pot A and ties up the two plants as shown below. What is she likely to observe inside the bag after 3 days?



Pot A

Pot B

	Pot A	Pot B
(1)	No water droplets appear	No water droplets appear
(2)	Water droplets appear	No water droplets appear
(3)	Water droplets appear	Water droplets appear
(4)	No water droplets appear	Water droplets appear

18. The following table compares the respiration of a hibiscus plant and Man. Which of the following comparisons is correct?

	Hibiscus Plant	Man
(1)C h a	The roots expand and compress during the exchange of the gases	The lungs expand and compress during the exchange of the gases
(2)n g	Breathes in oxygen only during the night	Breathes in oxygen 24 hours a day
(3)e	The plant breathes through its stem only	Man breathes through his nose only
(4)d i	The gases move in and out through the stomata	An exchange of gases takes place in the lungs

19. Andrew wants to find out how his heartbeat changes when he is in different positions such as standing, squatting or lying down. Which of the following factors should be kept the same?

- A: His position
- B: Duration of the experiment
- C: The experiment is done on the same day

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

20. Study the table below. The table describes the characteristics of living things.

Characteristics	A	B	C
Can move freely by itself	No	Yes	Yes
Able to make its own food	Yes	No	No
Able to live underwater	Yes	Yes	No

A, B and C would be most likely be:

	A	B	C
(1)	Shark	Kittens	Bird's nest fern
(2)	Water lily	Goldfish	Teddy bear
(3)	Cacti	Whale	Rabbits
(4)	Algae	Seahorse	Monkey

21. Matter is anything that _____.

- (1) Has no fixed shape and can be compressed
- (2) Has mass but no fixed volume
- (3) Has mass and takes up space
- (4) has definite shape, volume and weight

22. Which of the following is a matter?

- A: Air
- B: Echo
- C: Shadow
- D: Sunlight

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

23. Which of the following objects have been **wrongly** classified?

Solids	Liquids	Gases
Sand	Cooking oil	Mercury
Honey	Petrol	Carbon dioxide
Paper	Soil	Water vapour

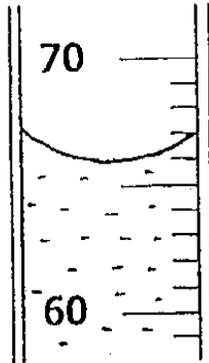
- (1) soil, water vapour, cooking oil
- (2) honey, sand, water vapour
- (3) sand, mercury, water vapour
- (4) mercury, soil, honey

24. Which of the following statements about water is **true**?

- A: water can exist in three states.
- B: water covers half of the earth's surface
- C: changes in the states of water are reversible
- D: The state that water exists depends on its temperature

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

25. The cylinder contains _____ cm³ of water.



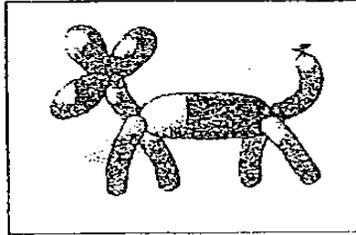
- (1) 67
- (2) 66
- (3) 65
- (4) 60.5

26. Which of the following objects will sink in water?

- A: Oil
- B: An iron nail
- C: A horse-shoe magnet
- D: Ice cubes

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

27. At a mini-fair, June noticed that the balloon sculptor was able to twist and turn a balloon into a poodle balloon as shown below.



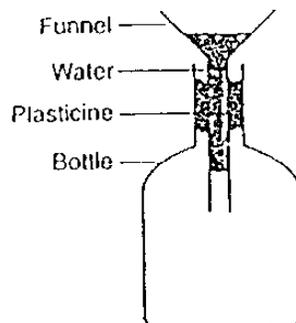
She concludes that _____.

- A: air takes up space
- B: air has no definite shape
- C: air can be compressed
- D: air can be seen or touched

Which of her conclusions are correct?

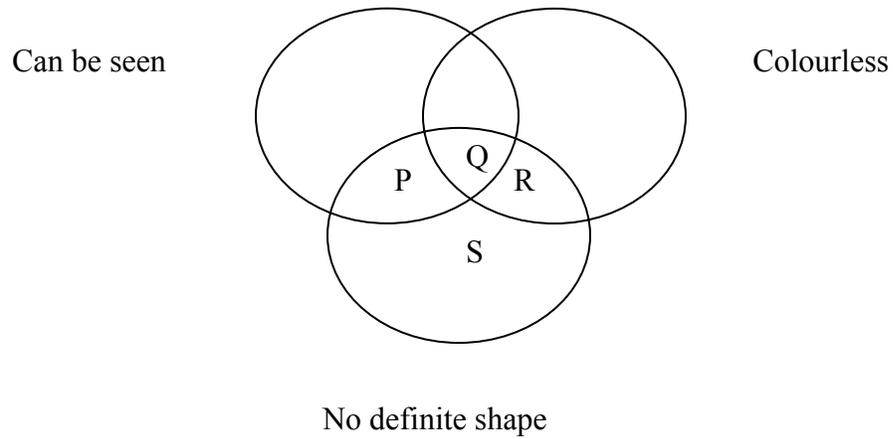
- (1) A, B and C
- (2) B and C
- (3) A and B
- (4) All of the above

28. Kate sets up the apparatus as shown below and found that the water does not drip into the bottle. Why is this so?



- (1) The funnel is too narrow for the water to flow into the bottle
- (2) The water is at room temperature
- (3) The space in the bottle is taken up by air
- (4) The plasticine is too narrow for the water to flow into the bottle

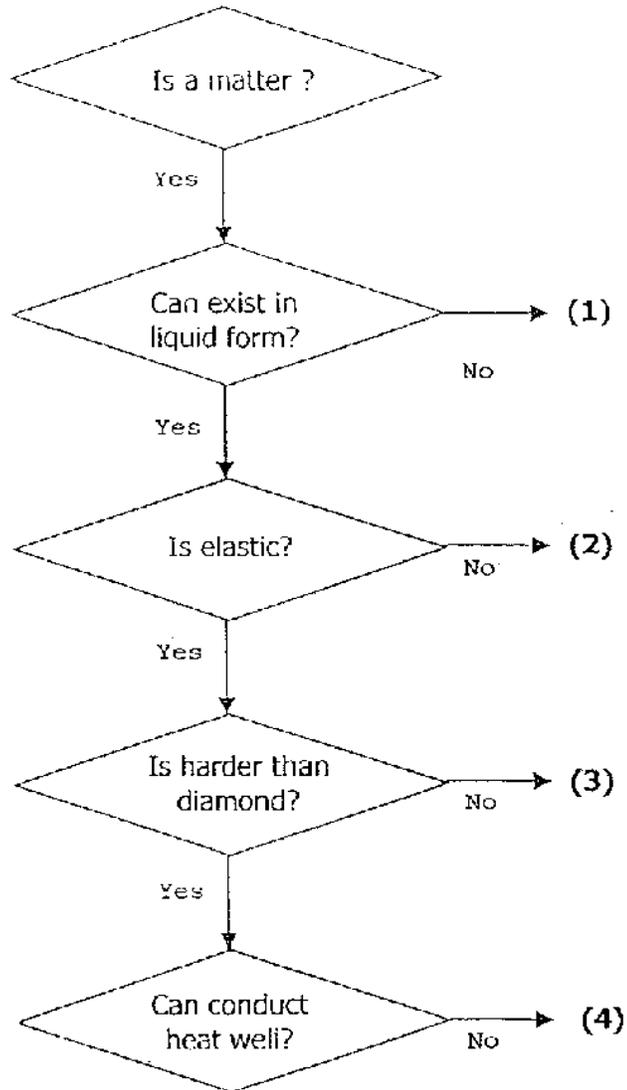
29. Study the Venn diagram below.



Which letter would best represent 'water'?

- (1) P
- (2) Q
- (3) R
- (4) S

30. Study the diagram below. Which is the exit point, (1), (2), (3) or (4) for 'rubber'?



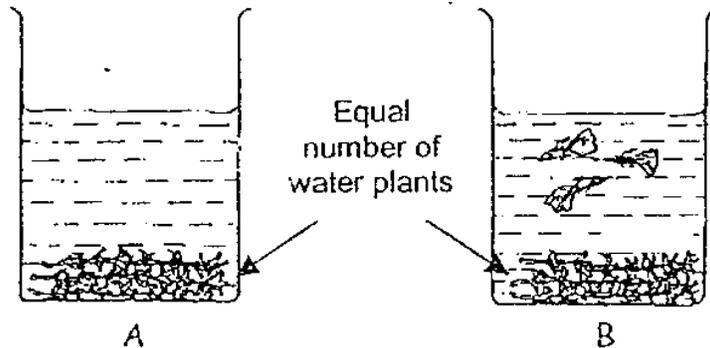
Section B

Answer the following questions in the spaces provided. (40 marks)

31. Write down the breathing parts where gaseous exchange takes place for each of the following living things. [2 marks]

Living things	Breathing organs
Gorilla	
Guppies	
Seals	
Vanda Miss Joaquim flower	

32. Two identical beakers A and B containing the same amount of water were left side by side in a sunny area. Three fish were placed in Beaker B. At the end of 6 hours, the amount of oxygen in the water of each jar was measured.

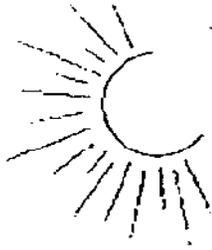


- (a) Which beaker would contain more oxygen? [1 mark]

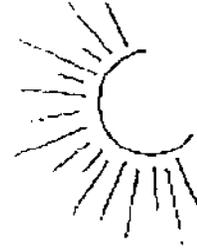
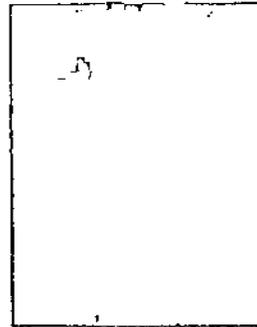
- (b) Explain your answer in (a). [1 mark]

33. Jonathan placed a potted plant initially growing upright in a black box with a small opening at its side. The box was then placed in the sun as shown.

Box A



Box B

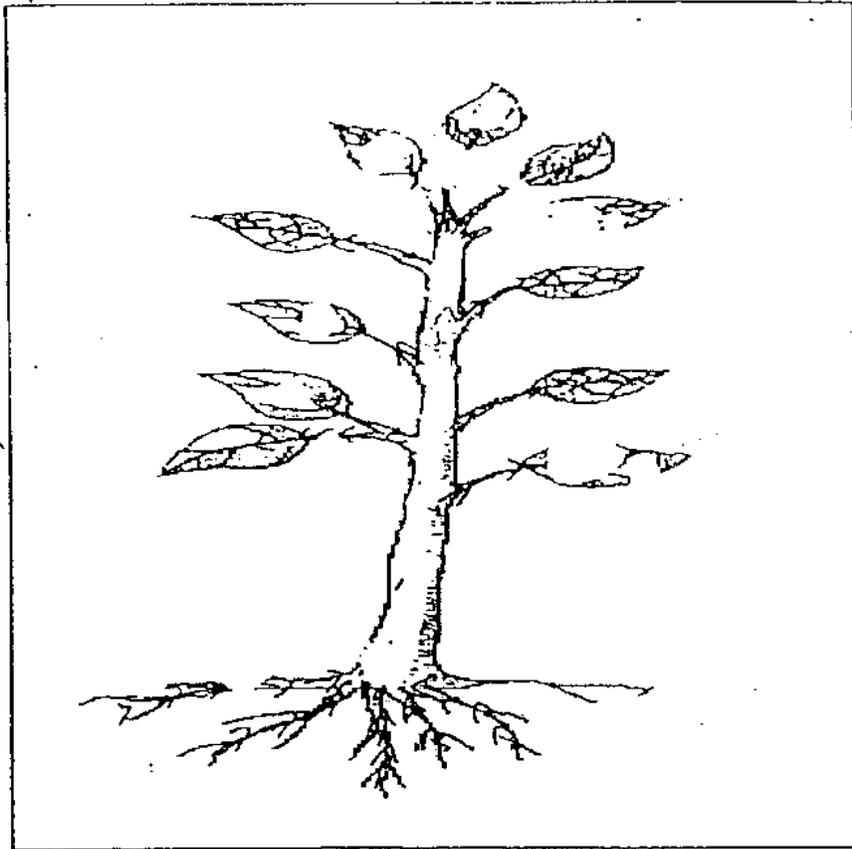


(a) In Box B, draw how the plant would look like after a few days. [1 mark]

(b) Explain your answer in (a). [1 mark]

(c) List one other element that is needed by the plant in order for it to grow well. [1 mark]

34. (a) On the diagram, draw arrows to show the movement of water and minerals salts in the plants. [1 mark]



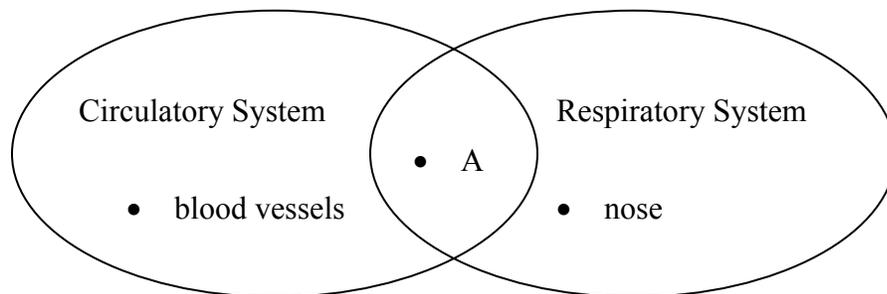
- (b) Excess water escapes from the plant through the _____ as _____. [1 mark]
35. (a) Our blood is made up of plasma, _____, platelets and _____. [1 mark]

- (b) Blood flows in blood vessels which consists of three main groups called the _____, _____ and capillaries. [1 mark]

36. Match the parts of the plants to its function correctly. [2 marks]

(a) The part of a plant where the young will develop	Seed
(b) Supports the plant	Leaves
(c) Fix the plant in position	Roots
(d) Make food in a process called photosynthesis	Stem

37. Study the Venn diagram below carefully.



(a) Write the following words in the correct part of the Venn diagram. [2 marks]

- Windpipe
- heart

(b) In the shaded region, A, shown above, name an organ that plays an important role both to the circulatory and respiratory systems.

Name of the organ: _____ [1 mark]

38. For each of the statements below, put a tick (✓) in the brackets if it is true and a cross (X) if it is false. [1 mark each]

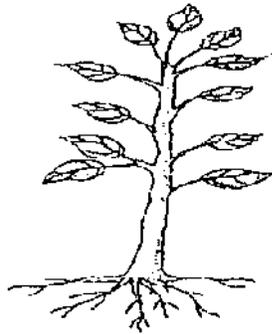
(a) The circulatory system breaks down food into simpler substances for the body to absorb()

(b) We yawn when there is a lack of carbon dioxide in our body.()

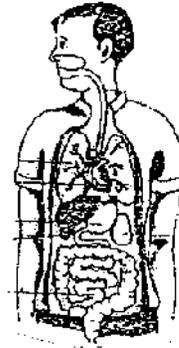
(c) the platelets help in the clotting of blood()

39. Compare the transport system in a plant with that in our body. State one similarity and one difference between them.

[1 mark]



A Plant

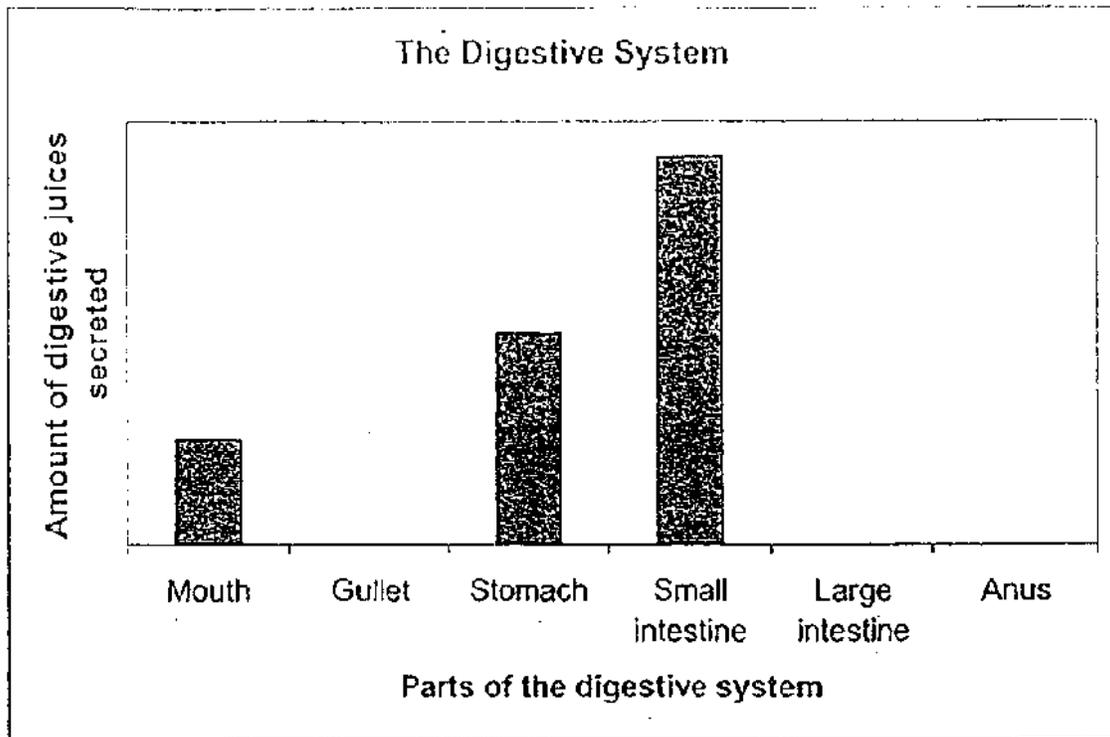


Our Body

Similarity

Difference

40. Study the graph below and answer the questions that follow.



(a) Name the parts of the digestive system where food is digested? [1 mark]

(b) At which part does **complete** digestion take place for the food to be transported by the blood to all parts of the body? [1 mark]

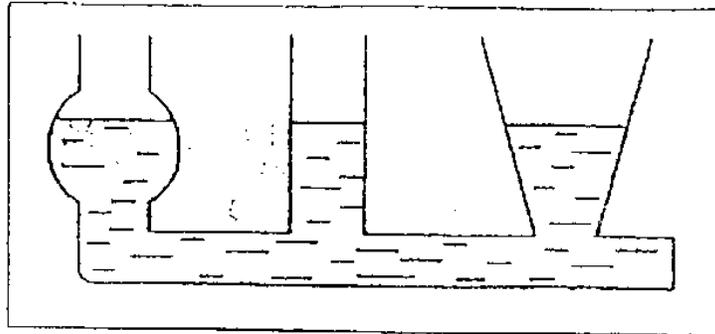
(c) (i) The undigested food is stored in the [1/2 mark]

(ii) The undigested food leave our body through the [1/2 mark]

(d) Why are our teeth important for digestion?

[1 mark]

41. Sue pours a liquid into a communicating vessel as shown below.



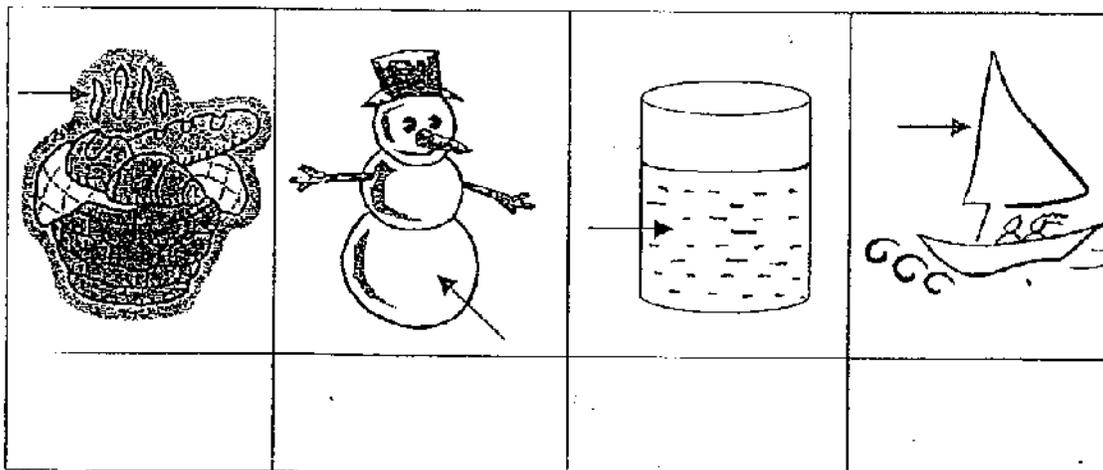
From the above experiment, Sue found two properties of liquids.

They are:

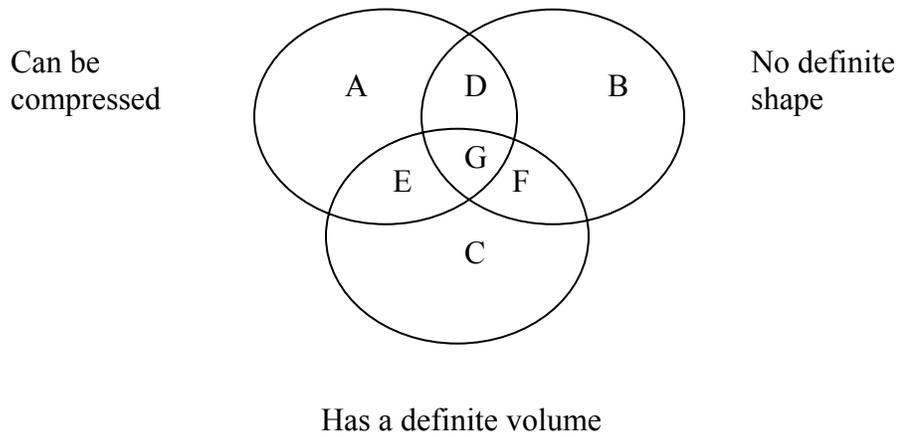
(i) _____ [1 mark]

(ii) _____ [1 mark]

42. Look at the arrow in each picture and write the correct state of water indicated by the arrow in the picture. [2 marks]



43. Study the Venn diagram below and answer the question that follows. [2 marks]



In each box, write the letter in the Venn diagram that best represents:

(a) Tomato ketchup

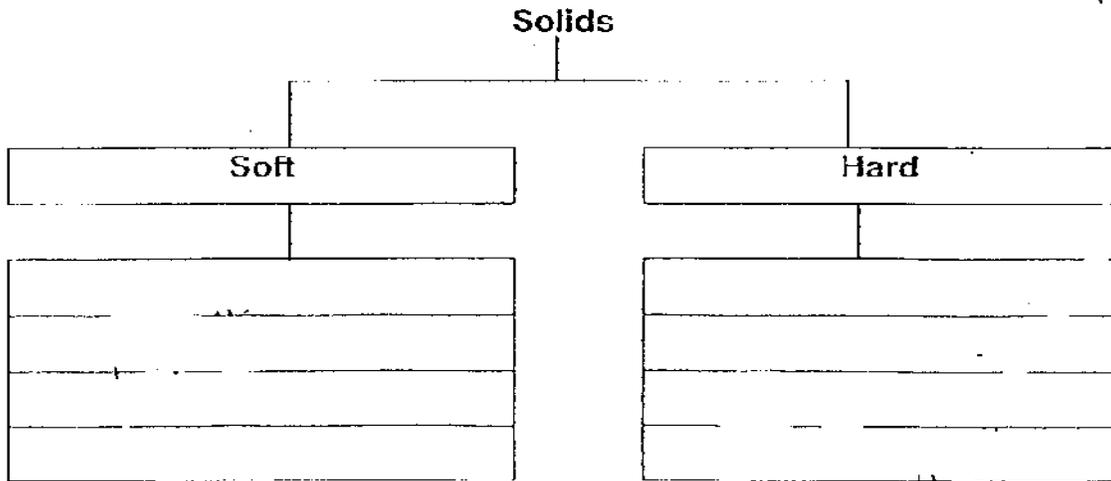
(b) A bowl

(c) Play dough

(d) Oxygen

44. Study the following classification table and place the following objects in the correct boxes. [3 marks]

Aluminium	Diamond
Sponge	Window-grilles
Brick	Agar-agar



45. A block of butter is taken out from the refrigerator and heated as shown in Figure A.

A block of butter

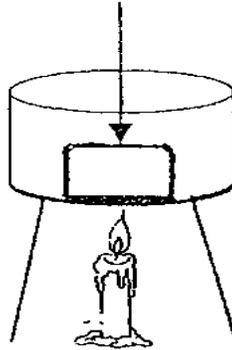
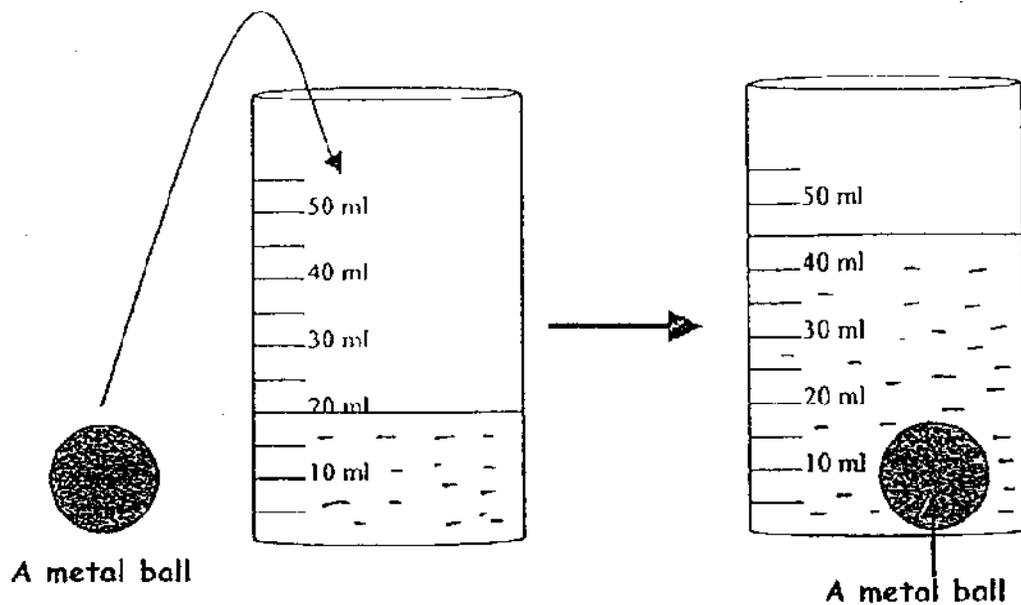


Figure A

- (a) What will happen to the block of butter after some time? [1 mark]

(b) What is the change of state that is happening to the butter in the container as it is being heated up? [1 mark]

46. Joan has a beaker of water and a metal ball. She decides to place the metal ball into the beaker of water and make some observations.



(a) What will happen to the water level in the beaker when Joan places the metal ball into the beaker of water? [1 mark]

(b) Explain your answer in (a). [1 mark]

(c) What is the volume of the metal ball?

[1 mark]

(d) What will be the volume of water in the beaker after Joan removes the metal ball at the end of the experiment? [1 mark]
