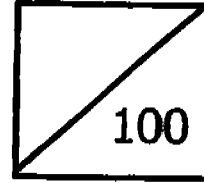




SAT

Rosyth School
First Semestral Assessment for 2005
SCIENCE
Primary 4

Name: _____

Total
Marks:

Class: Pr 4 _____

Register No. _____

Duration: 1 h 30 mins

Date: 11 May 05

Parent's Signature: _____

Booklet A

Instructions to Pupils:

1. Do not open the booklets A and/or B until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, A and B.
4. For questions 1 to 30 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 31 to 46, give your answers in the spaces given in the Booklet B.

	Maximum	Marks Obtained
Booklet A	60 marks	
Booklet B	40 marks	
Total	100 marks	

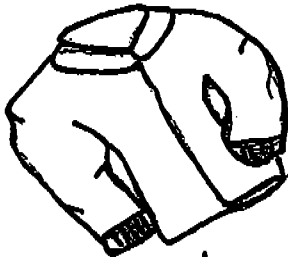
* This booklet consists of 14 pages .

Part I (60 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.

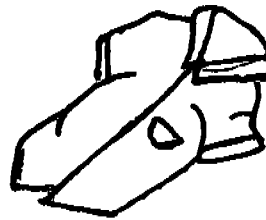
1. Which one of the following clothing is made of a material that comes from a plant?

(1)



wool

(2)



cotton

(3)



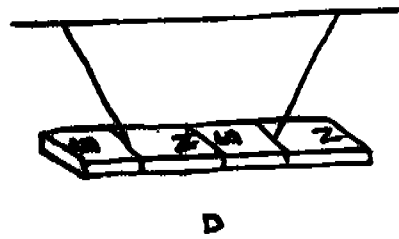
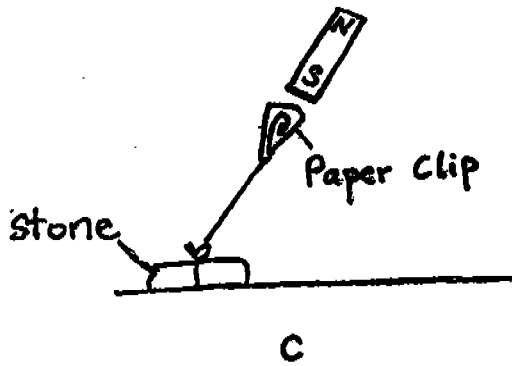
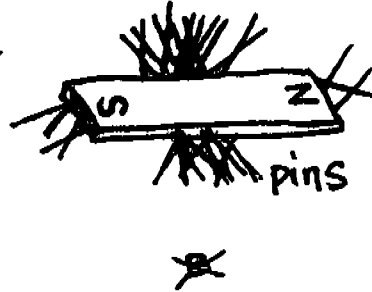
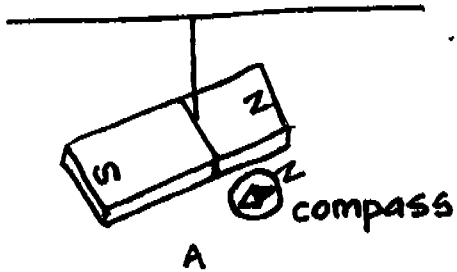
silk

(4)



fur

2. Which of the following pictures shown below correctly illustrate the properties of magnets?



- (1) A and C only
- (3) C and D only

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

3. Which of the following are properties of matter?

- A) It has mass.
- B) It can be seen.
- C) It takes up space.
- D) It has definite volume.

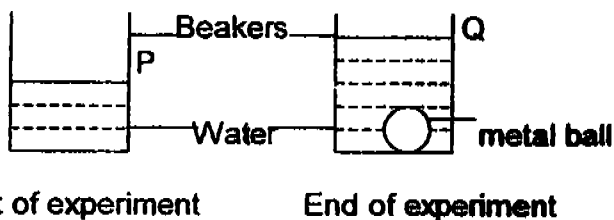
- (1) A and C only
- (3) A, B and C only

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

4. Study the table below. Which one of the following objects has been correctly described?

	Object	Definite Shape?	Definite Volume?	Occupies Space?	Can Be Compressed?
(1)	Oxygen	No	No	No	Yes
(2)	Honey	Yes	No	No	No
(3)	Sugar	Yes	Yes	Yes	No
(4)	Plasticine	No	Yes	Yes	Yes

5. An experiment was set up as shown below.



Start of experiment

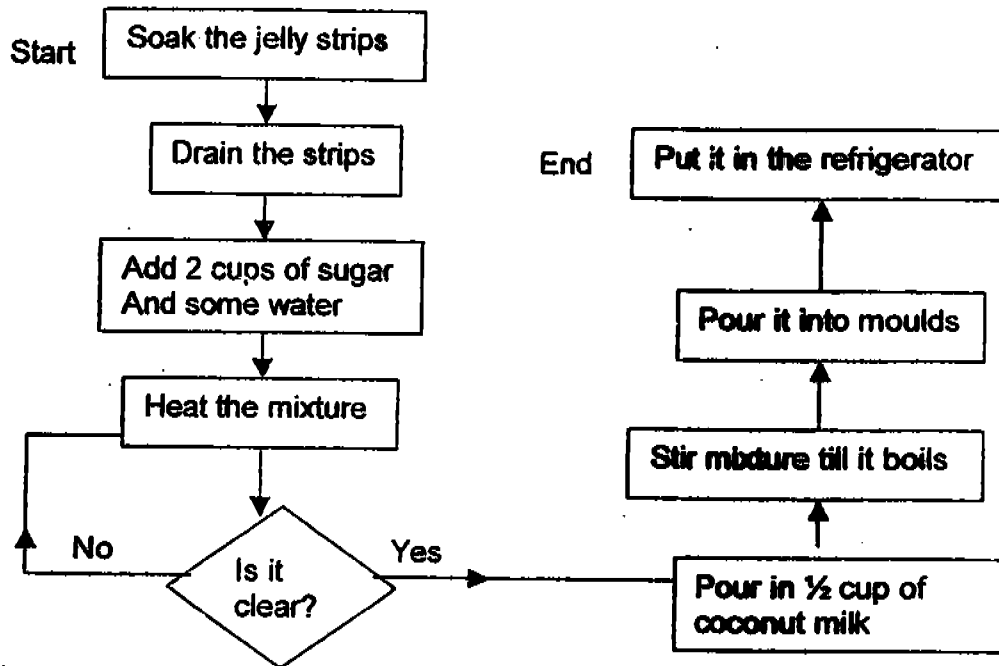
End of experiment

At the start of the experiment, the water level was at P. When a metal ball was dropped into the beaker of water, the water level rose to Q.

What does this experiment show?

- (1) The metal ball has mass.
- (2) Water can be compressed.
- (3) Water does not have a definite volume.
- (4) The metal ball has a definite volume and it takes up space.

6. The flow chart below shows how Lily makes a tray of jelly. Study the chart carefully.



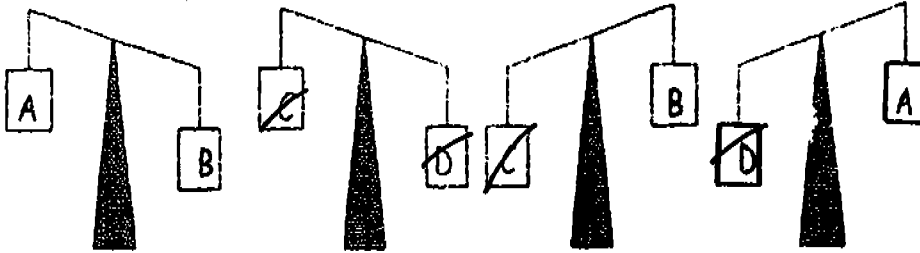
What does Lily need to do when she finds that the jelly mixture is not completely clear?

- (1) She has to drain the jelly mixture.
 - (2) She has to continue to heat the mixture.
 - (3) She has to pour the mixture into moulds.
 - (4) She has to pour in half a cup of coconut milk.
7. A substance "Z" is put into a container. It is found that it takes the shape of the container and can be compressed.

Which one of the following is likely to be substance "Z"?

- | | |
|----------------|--------------|
| (1) Plasticine | (2) Nitrogen |
| (3) Kerosene | (4) Mercury |

8. Four objects, A, B, C and D are placed on beam balances as shown below.



Their masses, (not arranged in order) are 300g, 250g, 200g and 100g.

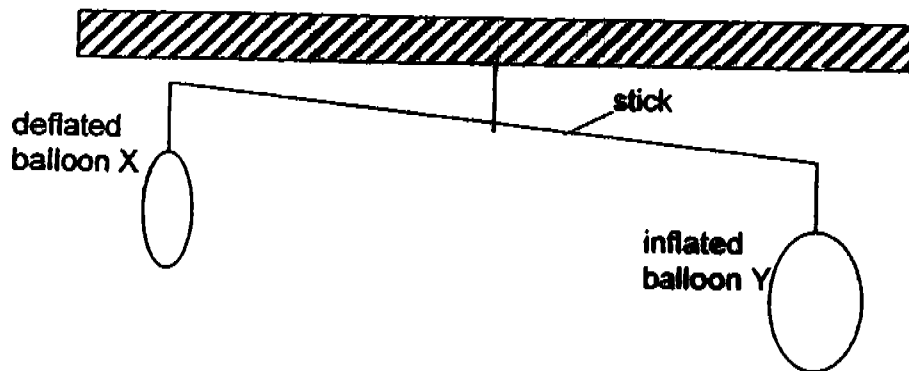
What is the mass of object C?

- (1) 100g
- (2) 200g
- (3) 250g
- (4) 300g

9. Which one of the following shows the changes in state when a candle is lighted and allowed to burn for a while?

- (1) Liquid state → gaseous state → solid state
- (2) Liquid state → solid state → gaseous state
- (3) Solid state → gaseous state → liquid state
- (4) Solid state → liquid state → gaseous state

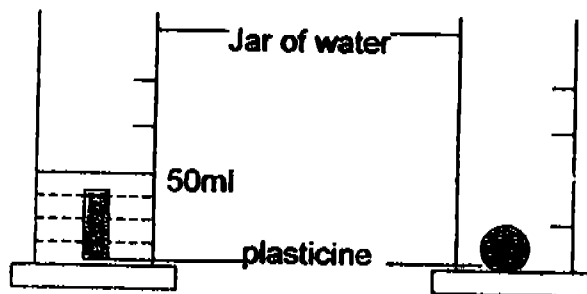
10. The diagram below shows 2 balloons hung from a stick. Balloon X is deflated while Balloon Y is inflated.



What does this experiment show?

- (1) Air has mass.
- (2) Air is around us.
- (3) Air can be compressed.
- (4) Air has a definite volume.

11. Study the diagram below.

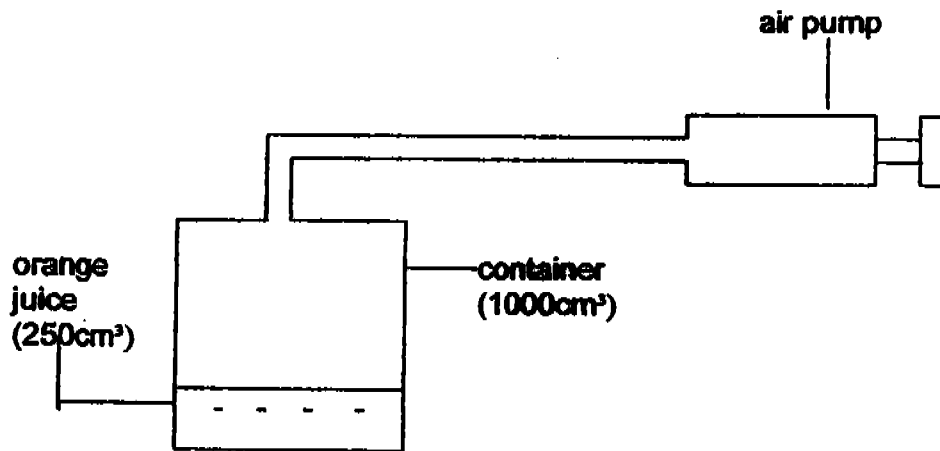


John put a piece of plasticine into a jar of water. He observed that the volume of water rose to 50ml. Then, he took out the piece of plasticine and rolled it into a ball. He then placed it back into the same jar of water again.

What will the water level be now?

- | | |
|----------|-----------|
| (1) 25ml | (2) 50ml |
| (3) 75ml | (4) 100ml |

12. A 1000cm^3 container is filled with 250cm^3 of orange juice. 500cm^3 of air is then pumped into the container as shown below.



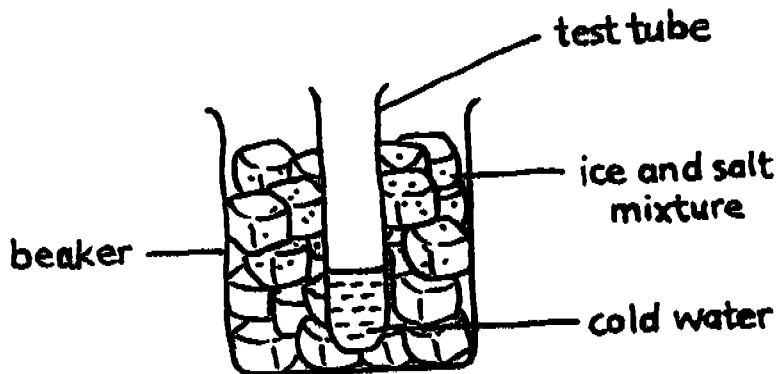
What is the final volume of the air in the container?

- (1) 750cm^3 (2) 1000cm^3
 (3) 1250cm^3 (4) 1500cm^3
13. Which one of the following will cause water to change from the liquid state to the gaseous state?

Water will change from liquid state to gaseous state _____.

- (A) when heat is lost from the water.
 (B) when the water gains heat.
 (C) at any temperature.
 (D) when water is put into a different container.
- (1) A and D only (2) B and C only
 (3) A, B and D only (4) B, C and D only

14. Nelson placed a test tube containing some cold water into a beaker of ice and salt mixture as shown below.



After a short while, the cold water turned into ice.

Which one of the following statements best explains why this happened?

- (1) The salt got into the cold water in the test tube.
 (2) The cold water lost heat to the ice and salt mixture.
 (3) The cold water became cold due to the ice and salt mixture.
 (4) The ice and salt mixture, which was at 0°C , caused the cold water to freeze.

15. Which one of the following is caused by an increase in temperature?

- A. Ice cubes changing into water.
 B. Water changing into ice cubes.
 C. Water droplets changing into water vapour.
 D. Water vapour changing into water droplets.

- (1) A only
 (3) A and C only

- (2) B only
 (4) B and D only

16. What happens when ice melts?

There is a change in _____.

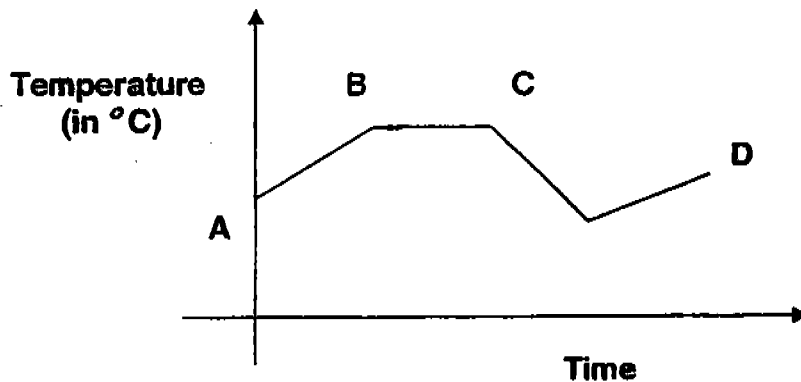
- (A) state
- (B) volume
- (C) amount of heat
- (D) substance

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

17. Which one of the following ways will make the water (at room temperature) in a small bottle evaporate faster?

- (1) Pour the water into a large bowl.
- (2) Use a spoon to stir the water in the bottle.
- (3) Add some salt to the water in the bottle.
- (4) Cover the mouth of the bottle with a stopper.

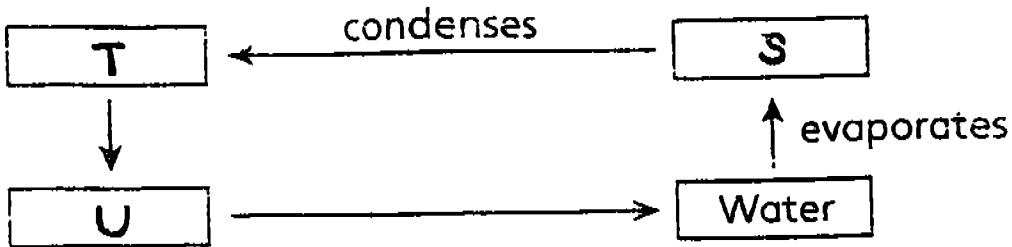
18. The graph below shows the changes in temperature of a beaker of water.



At which point did the beaker of water start to lose heat?

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

19. Study the diagram of the water cycle shown below carefully.



What do the letters S, T & U in the boxes represent?

	S	T	U
(1)	Clouds	Rain	Water vapour
(2)	Water vapour	Rain	Clouds
(3)	Clouds	Water vapour	Rain
(4)	Water vapour	Clouds	Rain

20. Which one of the following is not one of the uses of water?

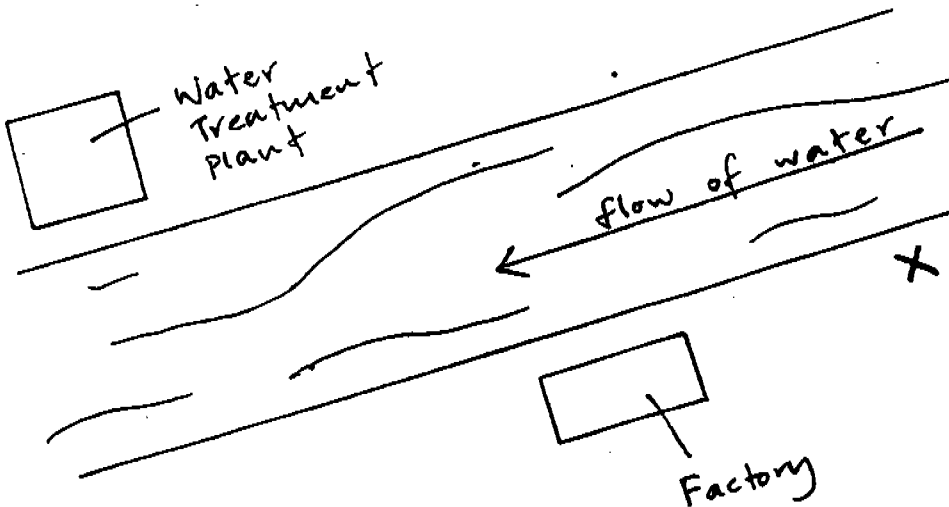
- (1) We use water to put out fire.
- (2) We use water for sea sports.
- (3) We use water to do our laundry.
- (4) We use water to support burning.

21. Many fishes were found dead in a lake near a factory. What could be the most possible cause of their death?

- (1) Air pollution
- (2) Land pollution
- (3) Noise pollution
- (4) Water pollution

22. Which one of the following will not increase the supply of fresh water?
- Desalination of seawater.
 - Carrying out water ration exercises.
 - Treating waste water at Sewerage Treatment Works.
 - Collecting rainwater in reservoirs and treating it in the waterworks.
23. Which one of the following does not represent the 3Rs in water conservation?
- Recycle our household waste water.
 - Reuse the water whenever possible.
 - Reduce the amount of water that we use.
 - Reserve water at home to ensure enough water for future use.
24. Which of the following are ways of conserving water?
- Taking a long bath
 - Washing dishes in a basin of water.
 - Collecting rainwater to water plants.
 - Washing your face under a running tap.
- | | |
|------------------|------------------|
| (1) B and D only | (2) A and B only |
| (3) B and C only | (4) A and D only |

25. The picture below shows a river flowing through a small town called Smallville.



Situated near the river is a water treatment plant. It purifies the water from the river and then pumps it to the housing estate in the town. There is also a factory that illegally dumps harmful substances into the river. Which of the following statement(s) is/are correct?

- (A) Smoke from the factory causes air pollution.
 (B) The water pumped up by the water treatment plant is polluted.
 (C) A better location for the water treatment plant is further upstream at X.

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

26. Which of the following statement(s) about breathing is/are true?

- (A) Our lungs expand when we breathe in and contract when we breathe out.
 (B) The air we breathe in contains more carbon dioxide than the air we breathe out.
 (C) Breathing through our nose helps to prevent too much dust from entering our lungs.

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

27. A healthy young man carries out 3 different activities as shown in the table below.

Which of the following correctly shows the rates of his breathing?

Number of heartbeats per minute		
60	70	96
(1) Sleeping	Cooking	Running
(2) Cooking	Sleeping	Running
(3) Sleeping	Running	Cooking
(4) Running	Cooking	Sleeping

28. Which of the following processes cause an increase in the amount of carbon dioxide in the air?

- A: Respiration
- B: Photosynthesis
- C: Deforestation
- D: Burning

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

29. Thomas wants to find out whether the rate of a person's heartbeat will change when he is in different positions such as standing, squatting or lying down.

Which of the following variables does he need to keep the same?

- A: The position he is at.
- B: The person carrying out the experiment.
- C: The amount of time he spends at each position.

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

30. The table below compares the respiratory systems of a fish and man.

Which pair of statements is incorrect?

	Fish	Man
(1)	Gaseous exchange takes place in the gills.	Gaseous exchange takes place in the lungs.
(2)	Gills are protected by the scales.	Lungs are protected by the diaphragm.
(3)	Gill covers enable breathing to take place.	Rib-cage and diaphragm enable breathing to take place.
(4)	Takes in dissolved oxygen in water.	Takes in oxygen from the air.

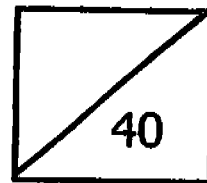
End of Part 1



Rosyth School
First Semestral Assessment for 2005
SCIENCE
Primary 4

Name: _____

Total
Marks:



Class: Pr 4 _____

Register No. _____

Duration: 1 h 30 mins

Date: 11 May 05

Parent's Signature: _____

Booklet B

Instructions to Pupils:

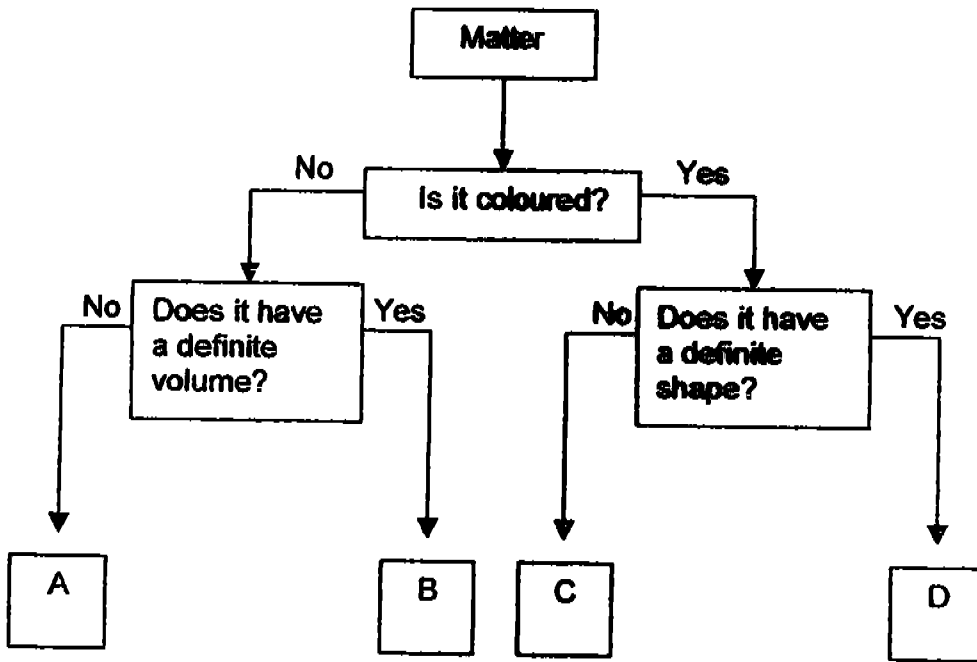
1. For questions 31 to 46, give your answers in the spaces given in this Booklet B.

* This booklet consists of 9 pages .

PART II (40 MARKS)

For questions 31 to 46, write your answers in this booklet.

31. Study the classification chart below.



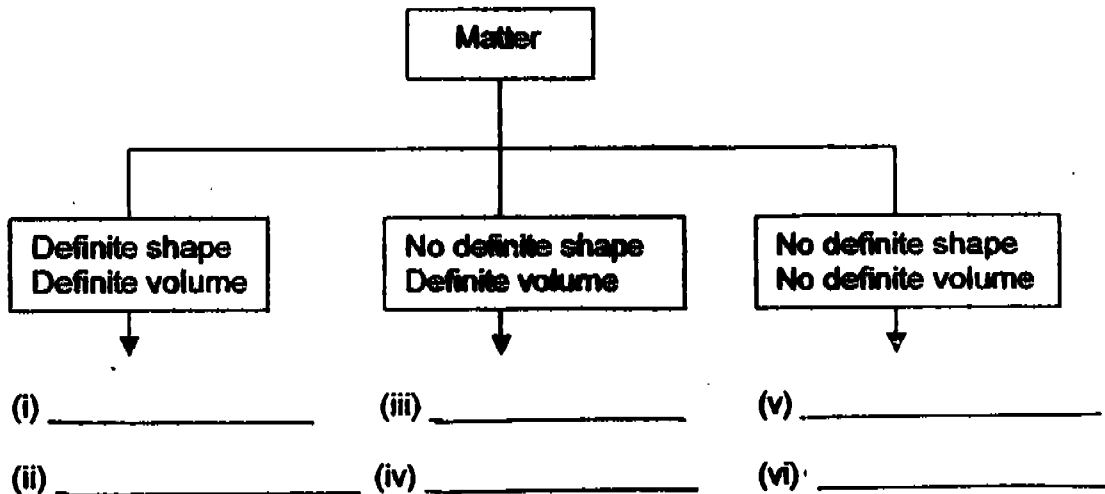
(a) Write down the characteristics of "B" based on the classification above. (1 m)

(b) Based on the information given, state the difference between C and D. (1 m)

(c) Where would you put "oxygen" in the classification chart above? (1 m)

32. Group the objects listed below under the correct headings. (3 m)

ice	stoom	carbon dioxide
paint	alcohol	wood



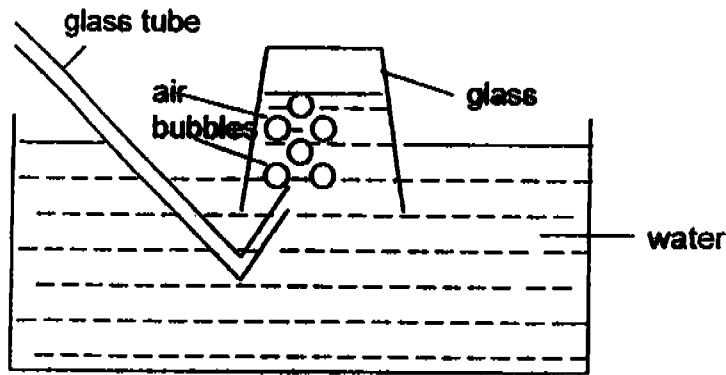
33. Ya Fa studied a sample of 50cm³ of air taken from a place just outside a factory. He recorded his findings in the table below.

Gas	Volume (cm ³)	Percentage (%)
Oxygen	13	26
Nitrogen	35	70
Carbon Dioxide	1	2
Water Vapour and Other Gases	1	2

Based on Ya Fa's findings, complete the following table by putting a tick (✓) in the correct boxes. (2 m)

	True	False	Not possible to tell
(a) There is more water vapour than carbon dioxide in the air.			
(b) There is more carbon dioxide than oxygen in the air.			
(c) There is ½ cm ³ of water vapour in the air.			
(d) There is more nitrogen than any other gas in the air.			

34. Paul blows into a glass tube as shown below.

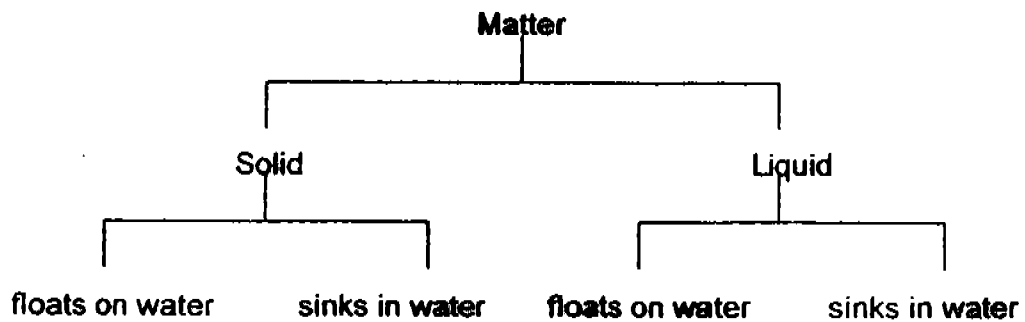


(a) What will happen to the water level in the glass after 1 to 2 minutes if Paul continues blowing into the glass tube? (1 m)

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

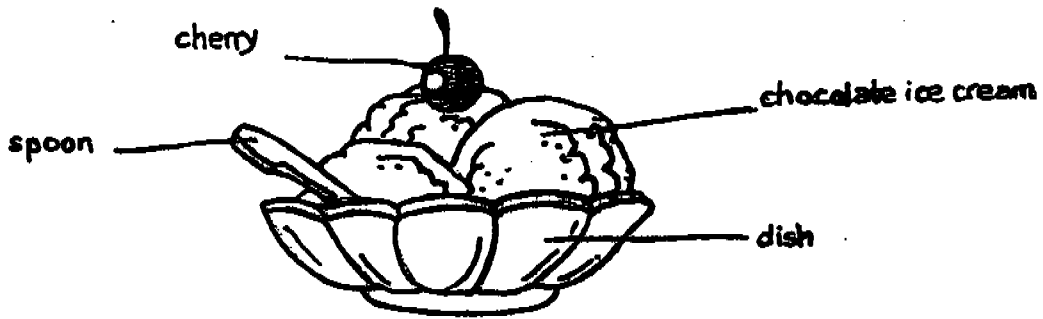
35. Study the classification chart below and group the following things listed below correctly. (2 m)

mercury cork petrol gold



(a) _____ (b) _____ (c) _____ (d) _____

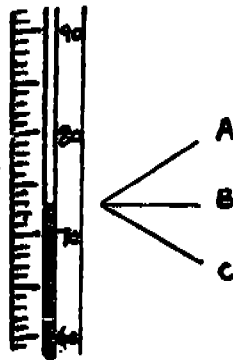
36. A bowl of ice cream with a cherry was left on the table for 5 minutes. (2 m)



Classify the items shown in the diagram above under the correct headings.

Item(s) that lost heat	Item(s) that gained heat

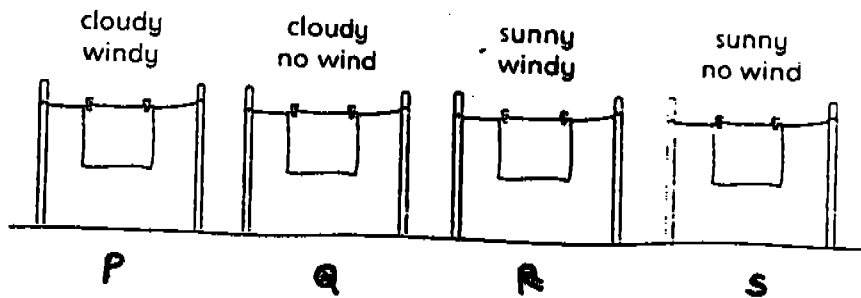
37. The diagram below shows part of a thermometer.



- (a) The temperature shown on the thermometer is _____ °C. (1m)
- (b) At which position (A, B or C) should a person look from in order to get an accurate reading of the temperature? (1 m)

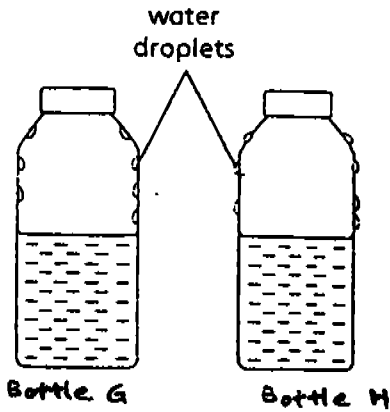
38. In the experiment below, 50ml of water is poured over each of the 4 identical towels, P, Q, R and S. The towels are then left to dry under 4 different conditions.

The time taken for each of the towels to be dry was then noted.



- (a) Which towel (P, Q, R or S) will dry in the shortest time? (1 m)
-
- (b) Based on this experiment, name one factor that affects the rate of evaporation. (1 m)
-
39. In the water cycle, heat is needed for water to evaporate.
- (a) Where does this heat come from? (1 m)
-
- (b) Why is the water cycle important to all living things? (1 m)
-
-

40. The diagram below shows 2 bottles, G and H. One bottle contains hot tea and the other bottle contains iced tea.



- (a) Which bottle contains hot tea? (1 m)
- _____
- (b) Name the process that has taken place in Bottle H. (1 m)
- _____
- (c) Name the sources of water droplets for the 2 bottles. (2 m)

Bottle G: _____

Bottle H: _____

41. Drinking water is important to all living things. In Singapore, our tap water is safe for drinking.

(a) Name the process that water from the reservoirs goes through before reaching our homes. (1 m)

(b) Give one example how Singapore can solve the problem of limited water supply. (1 m)

42. The table below shows the amount of water used by three families.

Amount of water used in the month of	Family		
	Kong	Samy	Zulami
October	38m ³	50m ³	42m ³
November	41m ³	45m ³	40m ³
December	39m ³	48m ³	43m ³

(a) Which family used the most amount of water over the three months? (1 m)

(b) One of the families decided to conserve water at home in the month of December. Which family is most likely to be the one? (1 m)

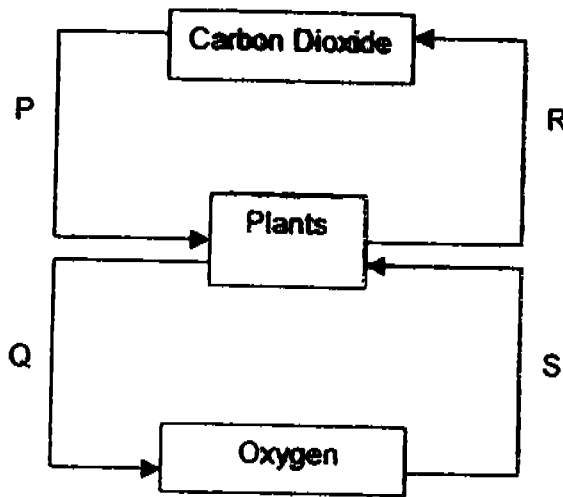
43a. State 2 causes of water pollution. (2 m)

(i) _____

(ii) _____

(b) Based on one of the causes mentioned above, suggest one way we can prevent water pollution. (1 m)

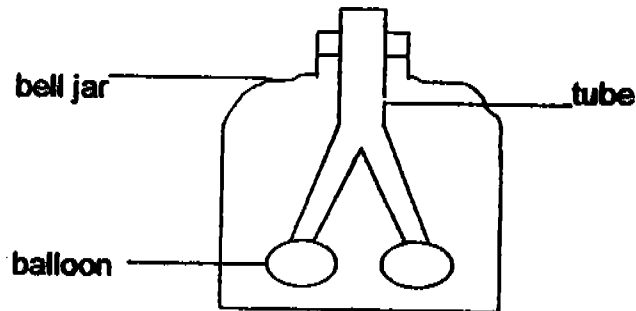
44. Study the diagram below.



(a) Identify two arrows (P, Q, R or S) which represent photosynthesis in plants. (2 m)

(b) Identify two arrows (P, Q, R or S) which represent respiration in plants. (2 m)

45. Edward made a model of the human respiratory system using the materials as shown below.



What do the following materials represent in a human respiratory system?
(3 m)

- (a) Balloon: _____
(b) Tube: _____
(c) Bell Jar: _____

46. When the leaf of a balsam plant is placed in a beaker of hot water, tiny bubbles appear on the surface of the leaf.

- (a) Which part of the leaf do these bubbles come from? (1 m)

- (b) On which side of the leaf would you expect to see more of these bubbles? (1 m)

End of Paper

- 1) 2
2) 4
3) 1
4) 3
5) 4
6) 2
7) 2
8) 3
9) 4
10) 1
11) 2
12) 1
13) 2
14) 2
15) 3
16) 3
17) 1
18) 3
19) 4
20) 4
21) 4
22) 2
23) 4
24) 3
25) 1
26) 3
- 27) 1
28) 4
29) 3
30) 2
31) a) It is colourless and has a definite volume.
b) Object C does not have a definite shape but Object D has a definite shape.
c) In A
32) i) ice iii) paint v) steam
ii) eood iv) alcohol vi) carbon dioxide
33) a) False
b) False
c) Not possible to tell
d) True
34) a) The water level in the glass will fall and air will take up the space.
b) Air takes up space.
35) a) cork b) gold c) petrol d) mercury
36) Dish Chocolate ice-cream
Spoon
Cherry
37) a) 73°
b) Position B
38) a) Towel R
b) Presence of wind.

- 39) a) From the sun
b) It provides a continuous supply of water for the survival of all living things.
- 40) a) Bottle G
b) Condensation
c) Bottle G : Water vapour from the hot tea in Bottle G
Bottle H : Water vapour from the surrounding air outside Bottle H
- 41) a) Purification
b) Desalinate sea water so it can be used.
- 42) a) The Samy family
b) The Kong family
- 43) a) i) Dumping and littering into rivers.
ii) Oil spillage in the seas.
- 44) a) P and Q
b) R and S
- 45) a) lungs
b) windpipe
c) ribcage
- 46) a) From the stomata
b) On the underside of the leaf.