

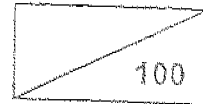
NANYANG PRIMARY SCHOOL  
PRIMARY 4 SCIENCE  
FIRST CONTINUAL ASSESSMENT 2004

C 47

Name : \_\_\_\_\_ ( ) Date : \_\_\_\_\_

Class : Primary 4 ( ) Duration : 1 h 30 min

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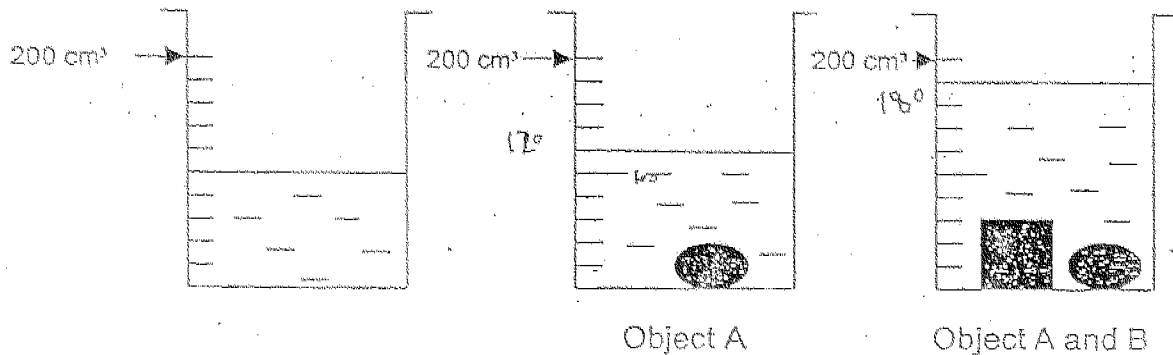
Setters: Joseph Poon and Elaine Ho

Section A (30 x 2 marks = 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 provided.

1. When air is pumped into a balloon, it gets bigger. This shows that air \_\_\_\_\_
  - (1) is heavy
  - (2) has volume
  - (3) cannot be compressed
  - (4) has definite shape
  
2. Bala used a piece of plasticine to make a model of a house. He used the same piece of plasticine to make a model of a cat.  
Which one of the following statements is true?
  - (1) Both have same mass and shape.
  - (2) Both have same mass and volume.
  - (3) Both have same mass but different volume.
  - (4) Both have same volume but different mass.
  
3. What is the process when water changes to water vapour?
  - (1) freezing
  - (2) condensation
  - (3) melting
  - (4) evaporation

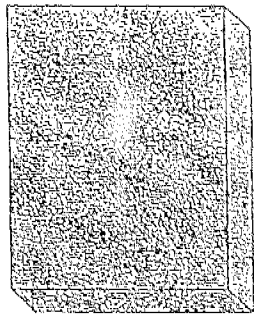
4. What is the change of state when water freezes to ice?
- (1) liquid state → solid state
  - (2) solid state → liquid state
  - (3) gaseous state → solid state
  - (4) liquid state → gaseous state
5. Which one of the following is the best way to show the presence of air in a sponge?
- (1) Pour water into it
  - (2) Squeeze it in water
  - (3) Squeeze it in the air
  - (4) Blow some air into it
6. Study the diagram below.



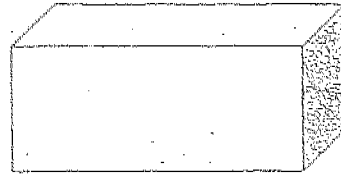
What is the volume of the object B?

- (1) 40 cm<sup>3</sup>
  - (2) 60 cm<sup>3</sup>
  - (3) 140 cm<sup>3</sup>
  - (4) 160 cm<sup>3</sup>
7. Which one of the following pair of things are in the liquid state?
- (1) oil and syrup
  - (2) egg and flour
  - (3) salt and pepper
  - (4) apple juice and bread

8. Study the 2 objects below.



2 kg of gold



2 kg of wool

Which one of the statements below is true?

- (1) The gold is heavier than the wool.
  - (2) Both the gold and the wool have the same mass.
  - (3) Both the gold and the wool have the same colour.
  - (4) Both the gold and the wool have the same volume.
9. Chung Kiat carried out an experiment. He poured an equal amount of tea into 3 cups, each made of different material (X, Y and Z). He then recorded the temperature of the tea in each cup over a period of time in a table as shown below.

| Time / (min) | Temperature / (°C) |    |    |
|--------------|--------------------|----|----|
|              | X                  | Y  | Z  |
| 0            | 80                 | 80 | 80 |
| 5            | 50                 | 65 | 50 |
| 10           | 40                 | 55 | 35 |
| 15           | 35                 | 40 | 25 |
| 20           | 30                 | 35 | 23 |
| 25           | 28                 | 30 | 20 |
| 30           | 28                 | 30 | 20 |

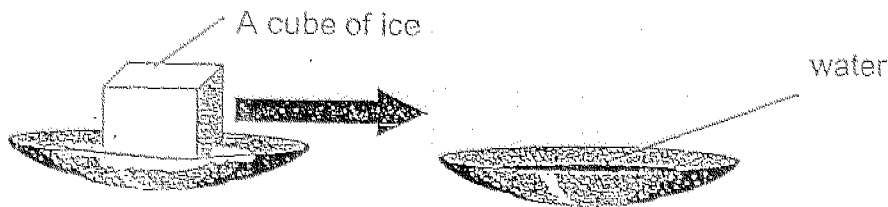
Which cup would be the best for keeping a drink hot?

- (1) Cup X
- (2) Cup Y
- (3) Cup Z
- (4) All of the above

10. Ling Ling said, "The air is very humid today."  
Which one of the following statements best explains why she said that?

- (1) The air was very stale. ✗
- (2) She could see water droplets on the table.
- (3) Her perspiration evaporated very quickly.
- (4) Her clothes took a longer time to dry than usual.

11. An ice cube was placed on a saucer at room temperature. After some time, a puddle of water could be seen.

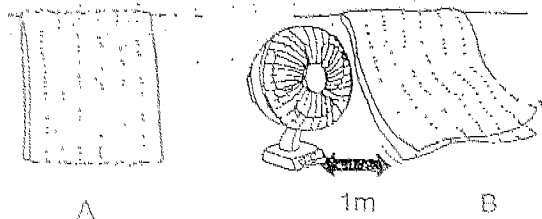


What had happened to the ice cube as shown below?

- A It had taken in heat.
- B It had given out heat.
- C It had changed state.
- D It had changed shape.

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

12. Ann placed 2 identical towels A and B in the room. A fan was placed 1m behind towel B as shown in the diagram.



Which one of the following best explains why towel B dried first?

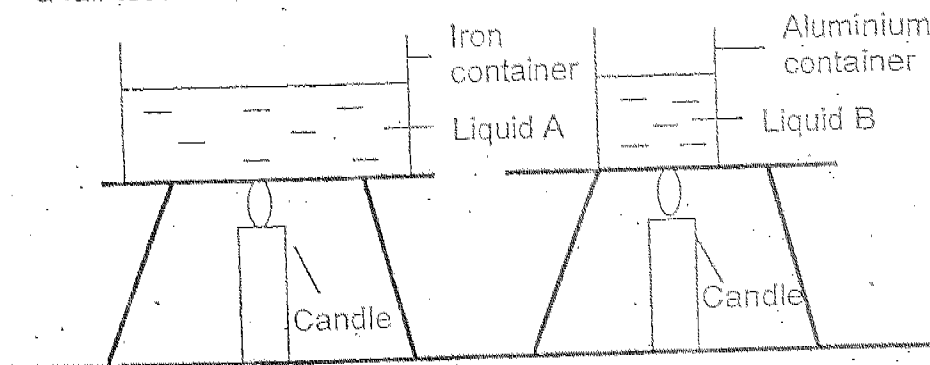
- (1) The towel gained heat.
- (2) The fan absorbed the water from the towel.
- (3) Towel B has a bigger area of exposed surface.
- (4) The wind from the fan increases the rate of evaporation.

13. After stepping out of the air-conditioned school bus, Kelvin's spectacles became misty.



Which process had taken place?

- (1) melting  
(2) freezing  
(3) evaporation  
(4) condensation
14. Jiajia wanted to find out which liquid would boil faster as shown in the diagram below. However, her mother pointed out to her that it was not a fair test.



Why did she say that it was not a fair test?

- A The containers were of different material.  
B The type of liquid used was not the same.  
C The amount of water used was not the same.
- (1) A only.  
(2) A and B only.  
(3) A and C only.  
(4) A, B and C

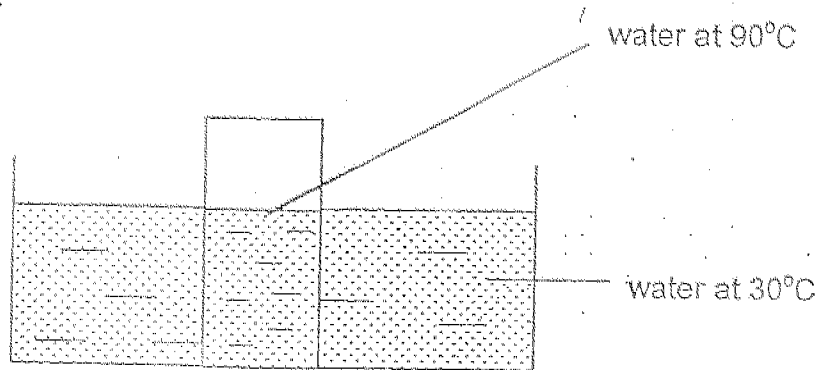
15. Study the table as shown below.

| Group A  | Group B |
|----------|---------|
| sugar    | lime    |
| candy    | lemon   |
| lollipop | vinegar |

Which one of the following is used in the classification table above?

- (1) size
- (2) taste
- (3) colour
- (4) shape

16. Jeya did an experiment as shown below. He placed a bottle of hot water in a basin of water as shown in the diagram.



What would happen to the water in the bottle after five minutes?

- (1) All the water evaporated to form steam
- (2) The temperature of the hot water decreased.
- (3) The temperature of the hot water would remain at 30°C.
- (4) The temperature of the water would be at its boiling point.



22. Which one of the following is/are not the reason(s) you will consider when choosing the material for making raincoats?

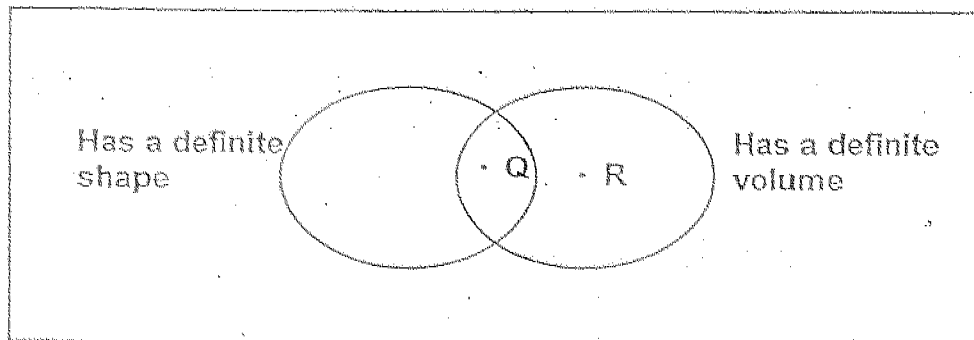
- A It is heavy.
- B It is thin and light.
- C It does not absorb water.

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

23. Which one of the following materials comes from animals?

- (1) latex
- (2) clay
- (3) cotton
- (4) leather

24. Study the Venn diagram below.



Which one of the following best represents Q and R?

|     | Q     | R     |
|-----|-------|-------|
| (1) | Wood  | Water |
| (2) | Air   | Water |
| (3) | Water | Wood  |
| (4) | Wood  | Air   |

25. Which one of the following is not an example of matter?

- (1) noise
- (2) balloon
- (3) oil
- (4) milk



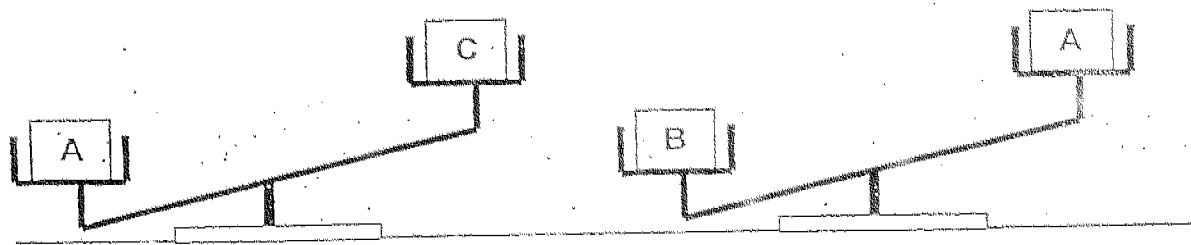
26. Which one of the following statements describes the properties of oxygen?

- (1) It has mass and texture.
- (2) It has colour and texture.
- (3) It has mass and volume.
- (4) It has definite shape and size.

27. Which one of these changes is caused by a rise in temperature of the surroundings?

- (1) Ice becomes water.
- (2) Liquid wax hardens.
- (3) Liquid jelly becomes solid jelly.
- (4) Water vapour condenses to form dew.

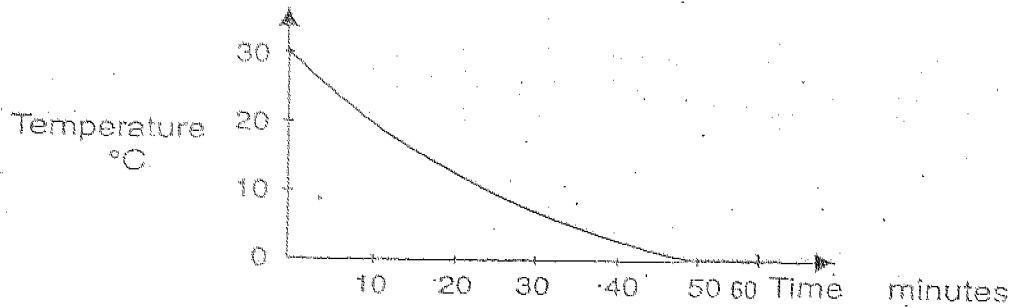
28. Study the diagrams as shown below.



Arrange the masses A, B and C from the lightest to the heaviest.

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

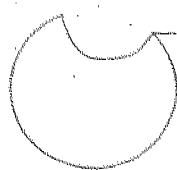
29. Study the graph as shown below.



Which one of the following change in state of water can be represented by the graph?

- (1) gas to liquid
- (2) liquid to gas
- (3) liquid to solid
- (4) solid to liquid

30. A ping pong ball was dented as shown in the diagram.



A dented ping-pong ball

What happened to the air in the ping pong ball?

- (1) Its volume increased.
- (2) Its volume decreased.
- (3) Its volume remained the same.
- (4) Its volume increases, then decreased.

Name : \_\_\_\_\_ ( ) Date \_\_\_\_\_

Class : Primary 4 ( )

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Section B (40 marks)

Write your answers for each question 31 to 46 in the blank spaces provided. Marks will be deducted for wrong spelling of key words.

31. Study the table below which compares the mass of a pair of scissors on Earth and on the Moon.

(a) Use the following helping words to complete the table. (1 mark)

|             |              |              |
|-------------|--------------|--------------|
| equal to 40 | more than 40 | less than 40 |
|-------------|--------------|--------------|

|                            | On Earth | On Moon |
|----------------------------|----------|---------|
| Mass of scissors (g)       | 40       |         |
| Weight of scissors (units) | 40       |         |

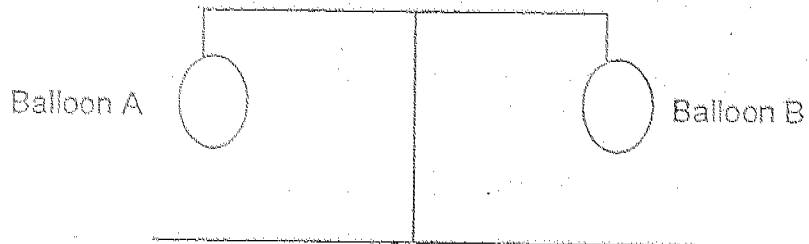
(b) Explain your answer in (a). (1 mark)

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32. Allan hangs two similar balloons on the ends of an equal-armed lever as shown in the diagram below. Both balloons are inflated to the same size to ensure that the lever is balanced.



- (a) What can Allan do to the setup above to show that air has mass? (1 mark)

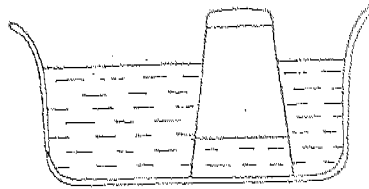
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- (b) Draw the possible result in the space below. (1 mark)

A large, empty rectangular box with a thin black border, intended for the student to draw a possible result of the experiment.

33. Jess places an inverted glass into a basin of water as shown in the figure below. She observes that the glass is not completely filled with water.



- (a) Explain why water does not flow into the glass. (1 mark)

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- (b) If she tilts the inverted glass at an angle still under water, what will she observe? (1 mark)

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- (c) Explain your observation in (b). (1 mark)

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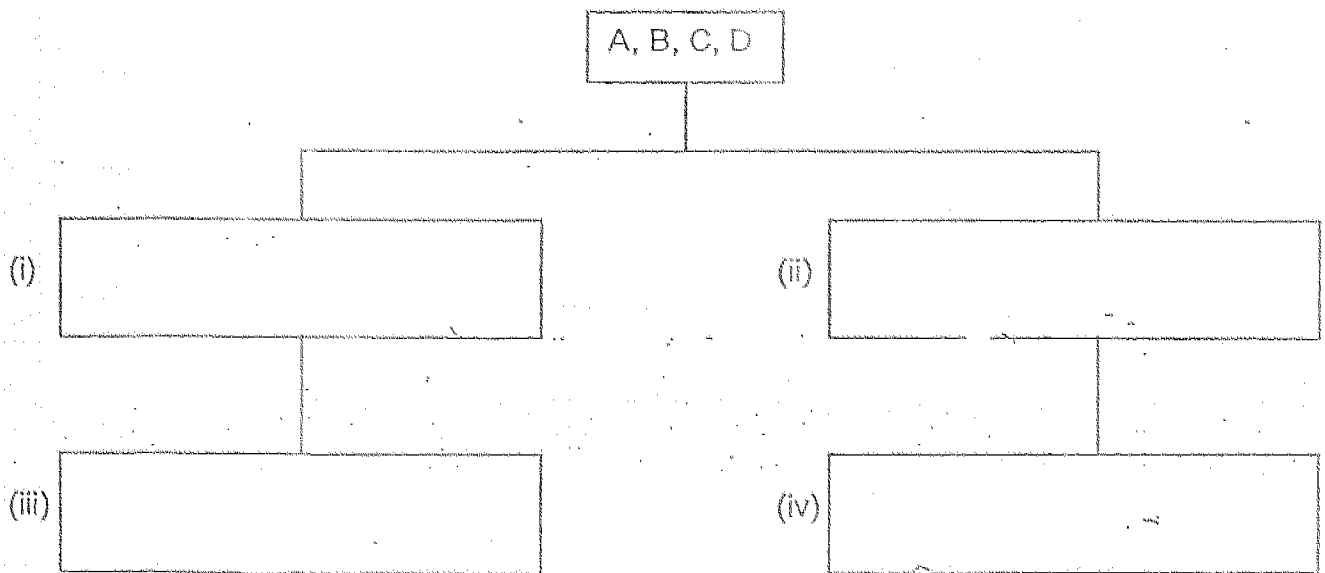
34. Study the shapes as shown below.



- (a) Write down one property that you can use to classify the shapes. (1 mark)

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- (b) Using the property stated above or otherwise, complete the classification table below by filling in the group headings in (i) and (ii) and the letters representing the shapes in (iii) and (iv). (2 marks)

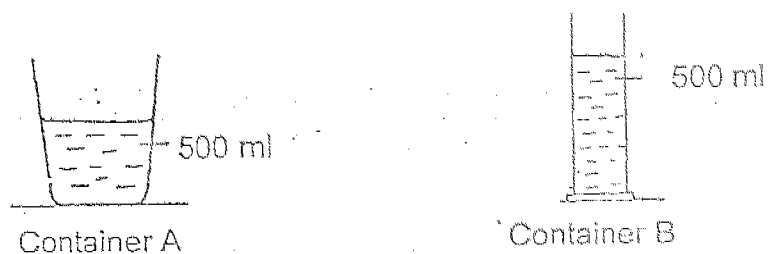


35. Using the words given below, classify the objects into the correct states. (½ mark x 4 = 2 marks)

|      |                |       |        |
|------|----------------|-------|--------|
| milk | carbon dioxide | steam | sponge |
|------|----------------|-------|--------|

| Solid State | Liquid State | Gaseous State |
|-------------|--------------|---------------|
|             |              |               |

36. Study the diagram below.



Jane measured 500 ml of water and poured it into Container A. She also measured another 500 ml of water and poured it into Container B.

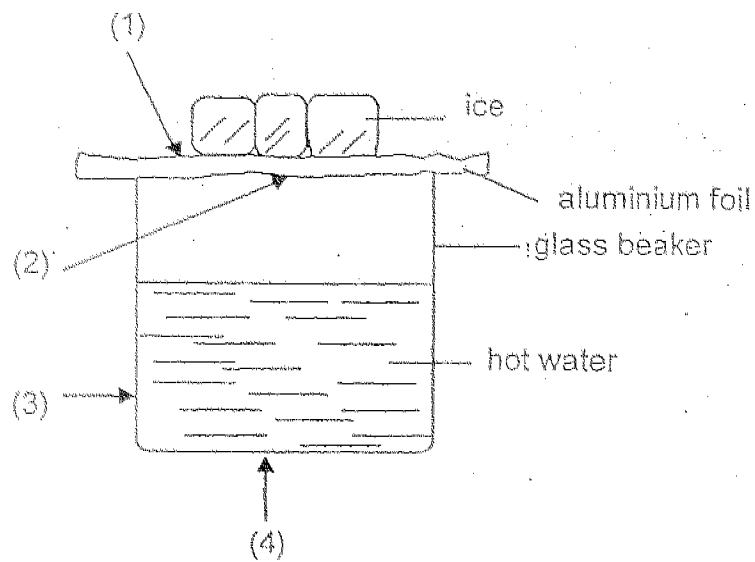
What are the two properties of water that Jane can conclude from this experiment? (2 marks)

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37. Rahimah set up an experiment as shown in the diagram below.



She placed an aluminium foil over the beaker of hot water. There were a few ice cubes on top of the aluminium foil. After a while, she noticed that some water droplets were formed.

(a) At which part of the diagram (1, 2, 3 or 4) were the water droplets formed? (1 mark)

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(b) Explain why water droplets were formed. (1 mark)

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(c) If the ice cubes were removed, would there be more or less water droplets formed? (1 mark)

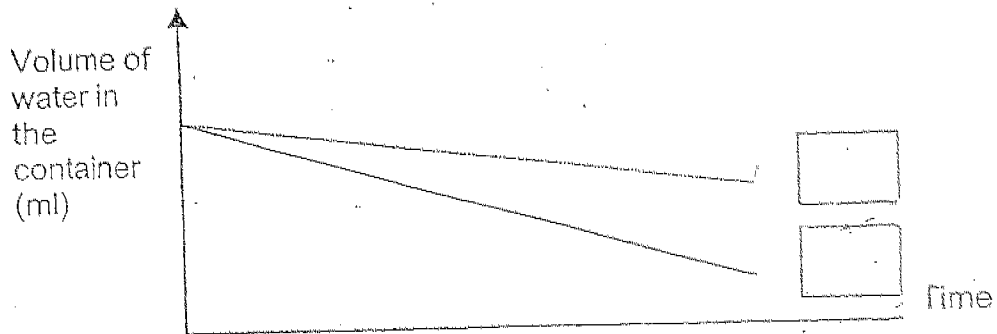
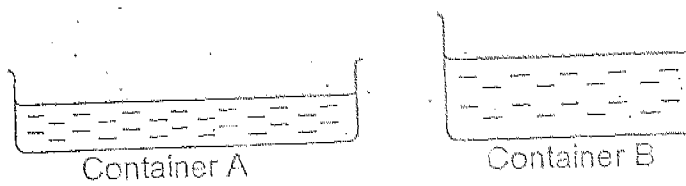
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(d) Explain your answer in (c). (1 mark)

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38. Chin Feng set up an experiment as shown below. Both containers had the same volume of water and were placed in a sunny place in the open for several days. Study the graph below to answer the following questions.



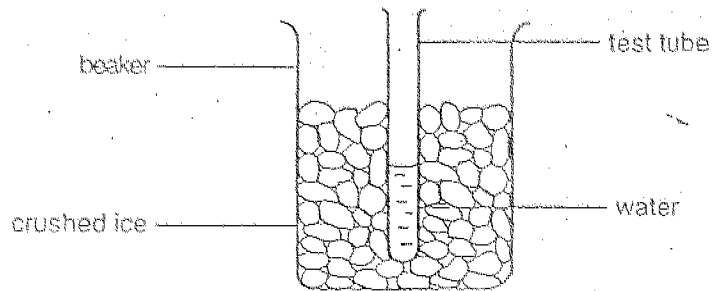
- (a) Write A or B in the boxes in the graph above to identify the correct container. (1 mark)
- (b) Explain your answer to (a). (1 mark)

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39. Mary set up an experiment in a non air conditioned room as shown in the diagram below. The temperature of the water in the test tube was  $27^{\circ}\text{C}$ .



- (a) What could she observe in the beaker of crushed ice after some time? (1 mark)

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- (b) Mary was told that she could use the setup above to freeze the water in the test tube. Suggest how she could do that whilst still keeping the setup on the table in the same room. (1 mark)

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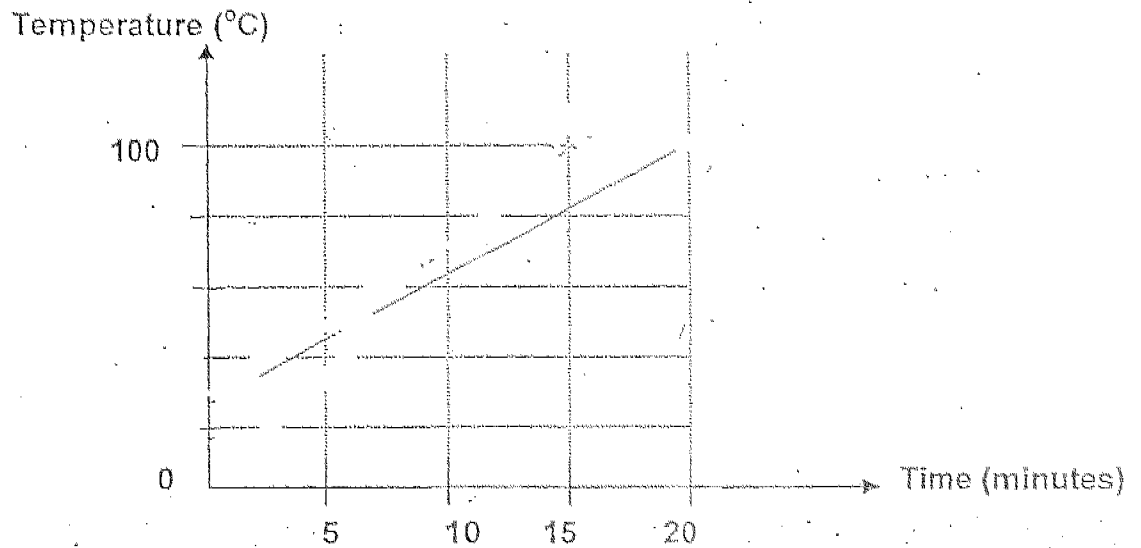
- (d) Explain why the water in the test-tube could freeze in (b). (1 mark)

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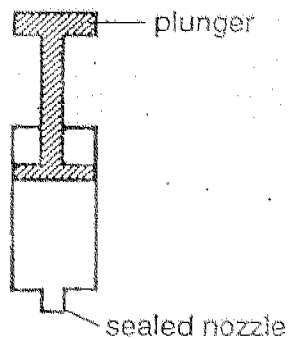
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40. Gina heated 500 ml of tap water at  $27^{\circ}\text{C}$  in a beaker for 15 minutes before it started to boil. She continued heating the water for another 5 minutes.

Draw in the space below a graph to show the change in temperature of water with time. (3 marks)



41. Study the diagram below which shows a syringe filled with air.



The plunger was pressed down while the nozzle was sealed.

- (a) What happened to the volume of air when the plunger was pressed down? (1 mark)

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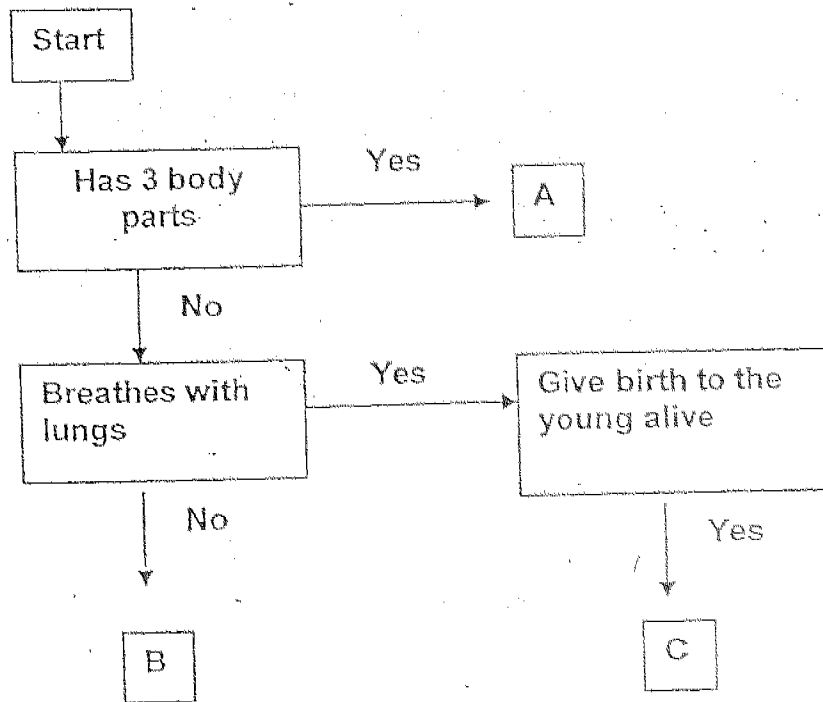
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- (b) Explain your answer to (a). (1 mark)

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42. Study the flow chart as shown below.



Match the animals given in the box below with the correct letters A, B and C. (3 marks)

seahorse    monkey    crocodile    grasshopper

Animal A is \_\_\_\_\_

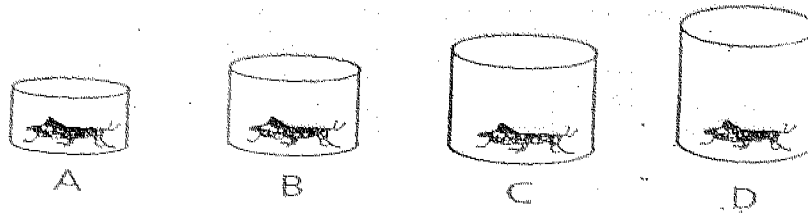
Animal B is \_\_\_\_\_

Animal C is \_\_\_\_\_

43. For each of the following statements below, write down either T for true or F for false in the brackets provided. (½ mark x 4 = 2 marks)

- (a) Fungi cannot make their own food. ( )
- (b) Fungi feed on decaying matter. ( )
- (c) All micro-organisms are harmful. ( )
- (d) Bacteria and yeast are micro-organisms. ( )

44. The diagram below shows four grasshoppers of the same size in different sealed containers A, B, C and D. Food and water are given to each grasshopper.



- (a) In which container will you expect the grasshopper to live the longest? (1 mark)

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

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45. The table below shows the number of fish in a pond from the Years 2001 to 2003.

| Year | Number of fish in the pond |
|------|----------------------------|
| 2001 | 25                         |
| 2002 | 50                         |
| 2003 | 40                         |

- (a) Give one possible reason why the number of fish increased in Year 2002? (1 mark)

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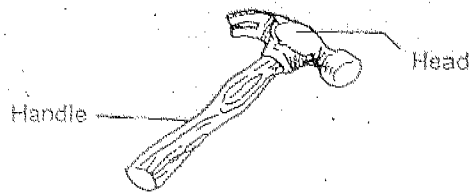
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- (b) Give one possible reason why the number of fish decreased in Year 2003? (1 mark)

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46. The picture below shows a hammer.



- (a) Describe one property of the material to make the head of the hammer. (1 mark)

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- (b) Name a suitable material for making the head of the hammer. (1 mark)

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- (c) Name a suitable material for making the handle of the hammer. (1 mark)

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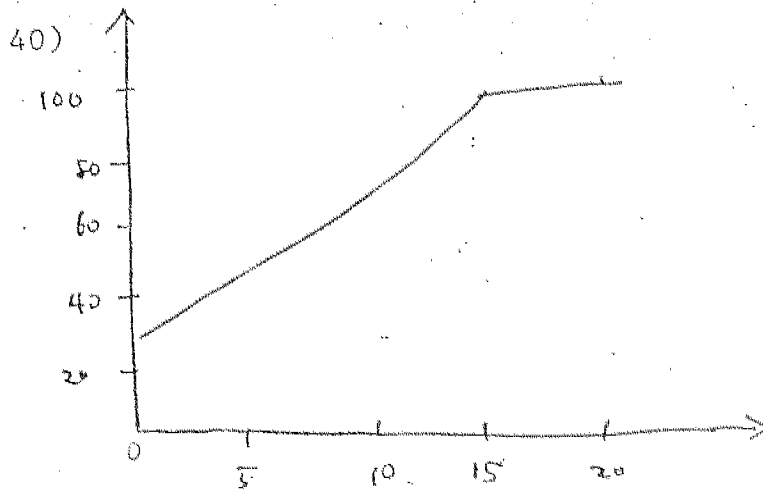
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- 1) 2      29) 3      31) a) equal to 40  
 2) 2      30) 2           less than 40  
 3) 4                b) Earth has gravity while the moon  
 4) 1                     has less gravity, gravity makes  
 5) 2      32) a) He can blow more air into Balloon  
 6) 2                     A and measure which is heavier.  
 7) 1                     b)  
 8) 2                       
 9) 2      33) a) The water in the glass takes up  
 10) 4                     the space of the water.  
 11) 4                     b) There will be bubbles and the  
 12) 4                          water will flow into the cup.  
 13) 4                     c) Water enters to replace the space  
 14) 3                          that was occupied by air.  
 15) 2      34) a) The number of sides.  
 16) 2                     b) i) 4 sides      ii) 5 sides  
 17) 1                          iii) A, B, C      iv) D  
 18) 4      35) sponge      milk      steam  
 19) 4                          carbon dioxide  
 20) 1      36) Water has a definite volume but no  
 21) 4                          definite shape.  
 22) 1      37) a) The water droplets formed at part 2  
 23) 4                          b) When the water vapour from the  
 24) 1                               water touched the cold aluminium  
 25) 1                               foil, it condenses and forms water  
 26) 3                               droplets.  
 27) 1                               c) Lesser water droplets will be  
                                         formed.  
                                         d) The aluminium gain the coldness  
                                         from the ice cubes.  
 38) The bigger area of exposed surface,  
 the faster rate of evaporation will  
 take place.

- 39) She would observe the ice in the beaker started to melt.
- b) She could put salt in the ice.
- c) The temperature of the mixture of crushed ice and salt fell below  $0^{\circ}\text{C}$  to allow water in the test tube to freeze.



- 41) a) The volume of air decreased.
- b) Air does not have a definite volume and so it can be compressed.
- 42) grasshopper  
seahorse  
monkey
- 43) a) T  
b) T  
c) F  
d) T
- 44) a) In container D's, grasshopper will be able to live the longest.
- b) Container D has the most amount of oxygen and living things need air to stay alive.
- 45) a) The fishes may have given birth.
- b) Some of the fish may have die of old age.
- 46) a) It is bud.
- b) The material is metal
- c) The material is wood.