

**ANGLO-CHINESE SCHOOL  
(PRIMARY)**

**MID-YEAR EXAMINATION 2007**

**SCIENCE**

**BOOKLET A**

**Name:** \_\_\_\_\_ (    )

**Class:** Primary 4 \_\_\_\_\_

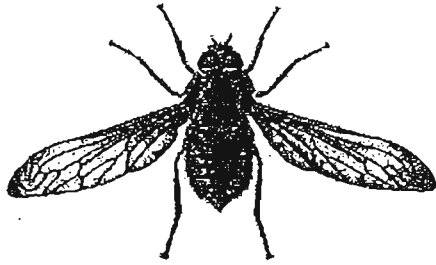
**Date:** 10<sup>th</sup> May 2007

**Duration of paper:** 1 h 45 min

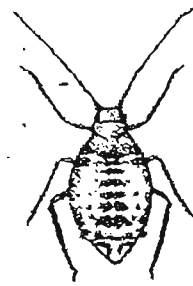
**THIS BOOKLET CONTAINS 17 PAGES.  
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.  
FOLLOW ALL INSTRUCTIONS CAREFULLY.**

1 Which of the animals below is **NOT** an insect?

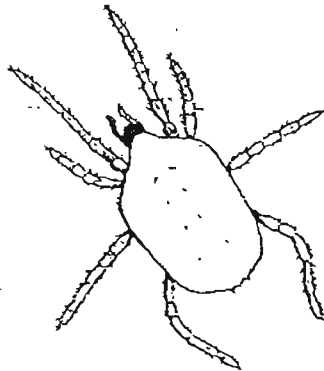
(1)



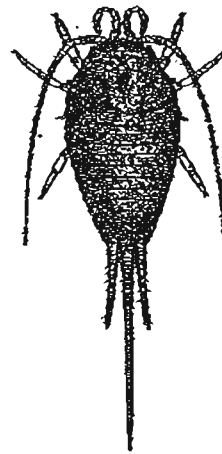
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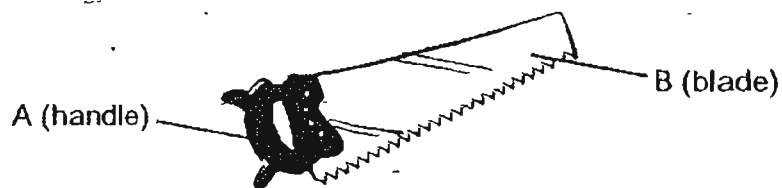
(3)



(4)



2 The tool shown in the diagram below is used for sawing wood.

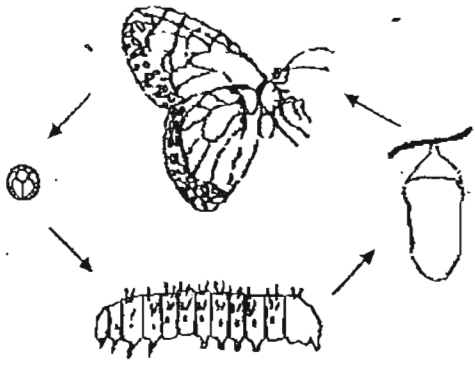


What materials are most suitable to make A and B?

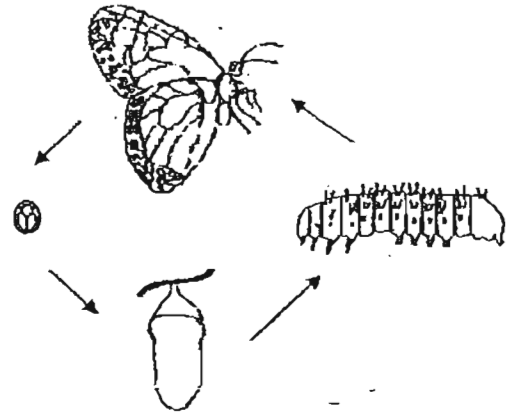
	A	B
(1)	plastic	metal
(2)	wood	glass
(3)	glass	metal
(4)	plastic	wood

3 Which of the following shows the correct life cycle of an insect?

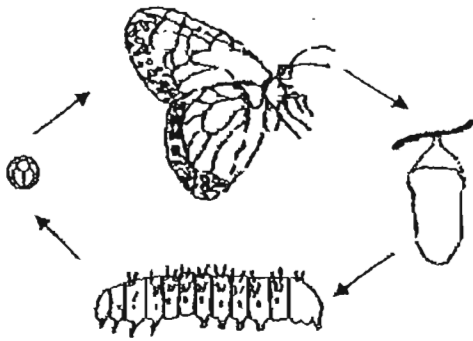
(1)



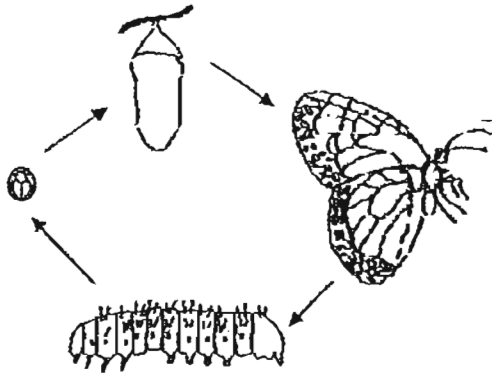
(2)



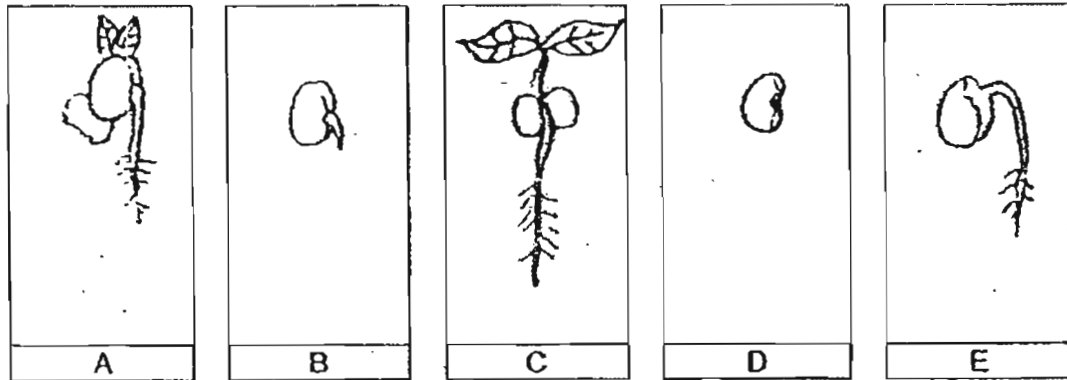
(3)



(4)

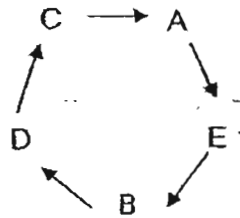


4 The picture below shows the different stages of the growth of a bean seed.

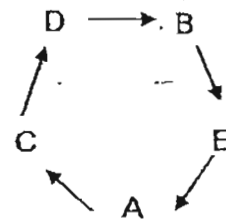


Which of the following shows the correct order of growth?

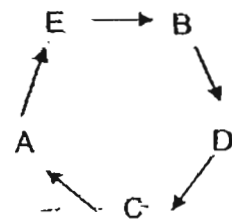
(1)



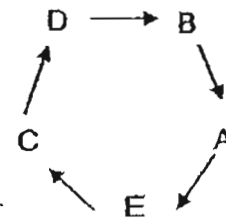
(2)



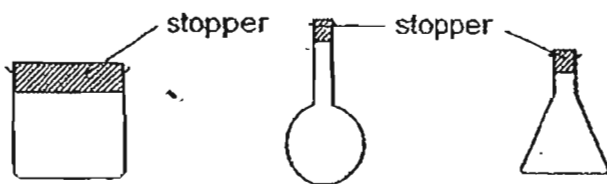
(3)



(4)

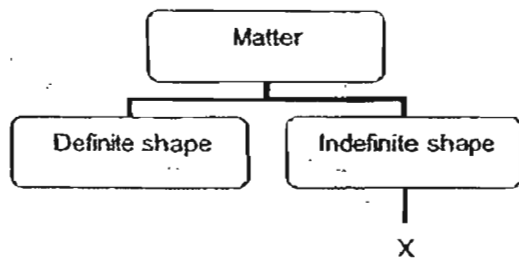


- 5 May filled each of the containers shown below with X. She noticed that X took the shape of all the containers

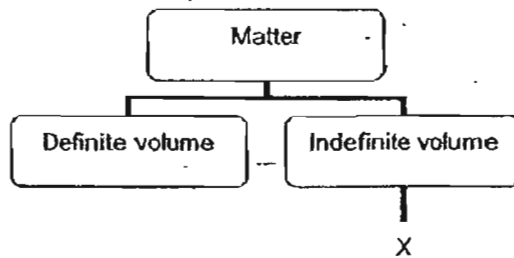


Based on the information above, which of the following charts **DOES NOT** show a possible classification for X?

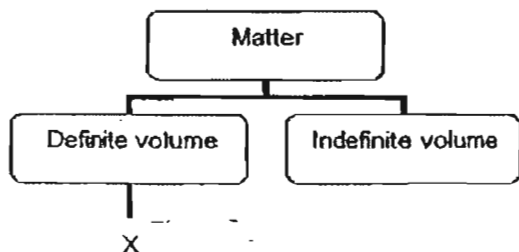
(1)



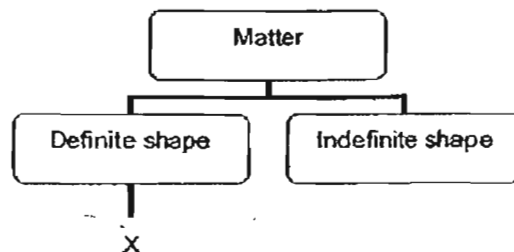
(2)



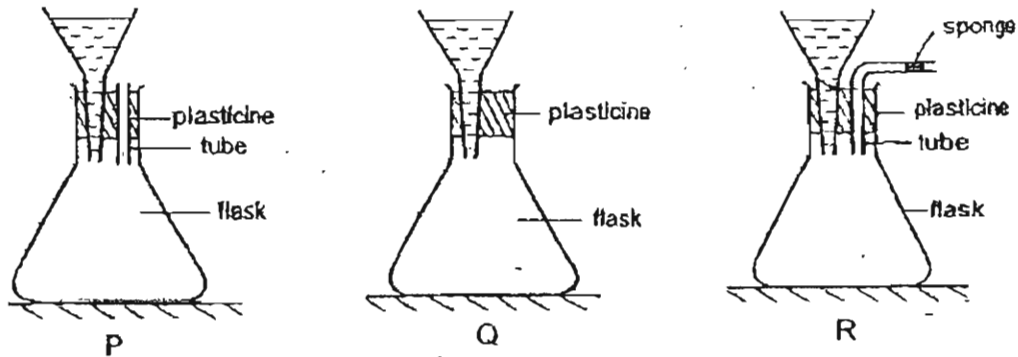
(3)



(4)

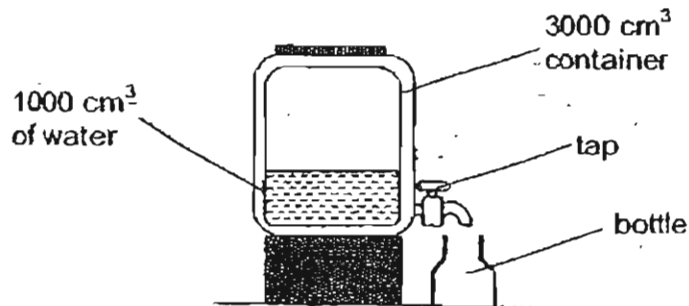


- 6 Lydia set up P, Q and R as shown below using similar funnels and flasks for each set-up. The mouth of each flask was sealed with plasticine. Same amount of water was poured into the funnels at the start of the experiment. She wanted to find out which flasks would collect the most water after 5 seconds.



Arrange the set-ups, P, Q and R according to the amount of water collected in the flask from the least to the most.

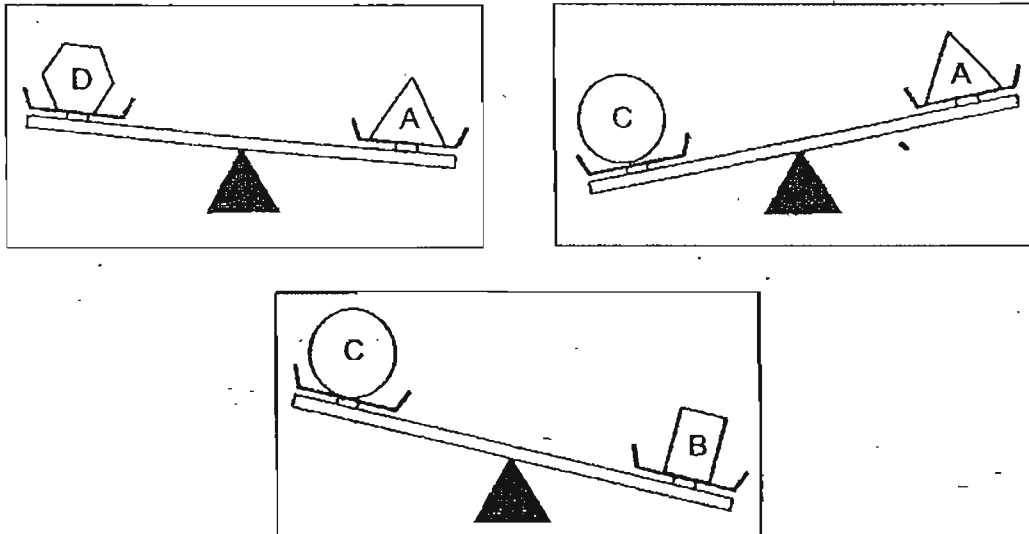
- (1) P, R, Q
  - (2) P, Q, R
  - (3) Q, R, P
  - (4) R, P, Q
- 7 The diagram below shows a water container holding  $1000 \text{ cm}^3$  of water. The capacity of the container is  $3000 \text{ cm}^3$ .



When the tap of the container is turned on and off,  $500 \text{ cm}^3$  of water is collected in the bottle. What is the final volume of air in the container?

- (1)  $1500 \text{ cm}^3$
- (2)  $2000 \text{ cm}^3$
- (3)  $2500 \text{ cm}^3$
- (4)  $3000 \text{ cm}^3$

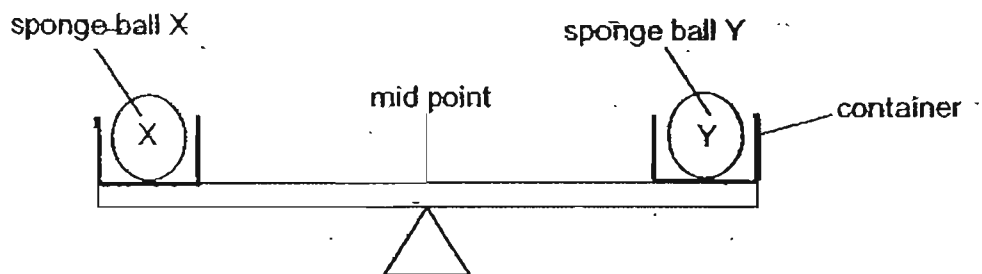
8 Muthu compared the objects A, B, C and D on balances as shown below.



Arrange the objects, A, B, C and D according to their masses from the lightest to the heaviest.

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

9 An experiment was carried out with two identical sponge balls, X and Y, a ruler and a triangular support. At the beginning, the sponge balls balanced each other on the ruler placed with its mid point on the support as shown in the diagram below.

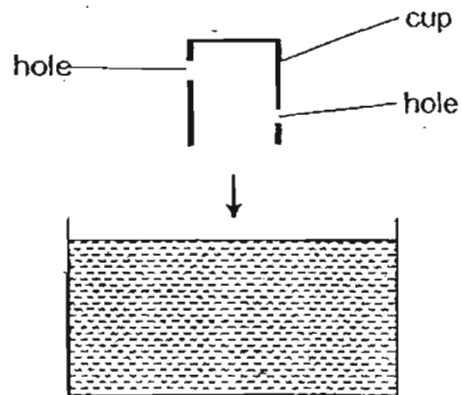


When one of the balls was soaked in water and put on the ruler, the ruler tilted in the direction of the soaked ball.

Based on this experiment, what can you infer?

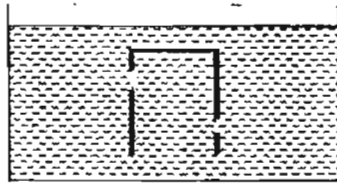
- (1) Water has mass.
- (2) Water takes up space.
- (3) X occupies more space than Y.
- (4) Air in the sponge balls have mass.

- 10 Two holes are made on the sides of a plastic cup as shown in the diagram below. The cup is then pushed vertically into a basin of water.

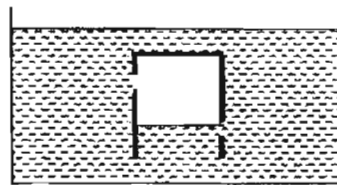


Which one of the diagrams below correctly shows the water level in the cup?

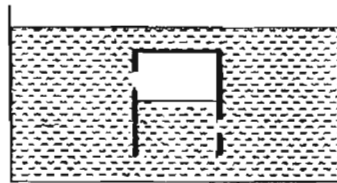
(1)



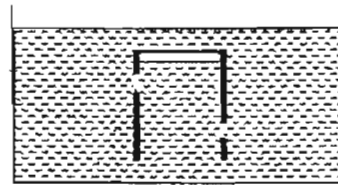
(2)



(3)

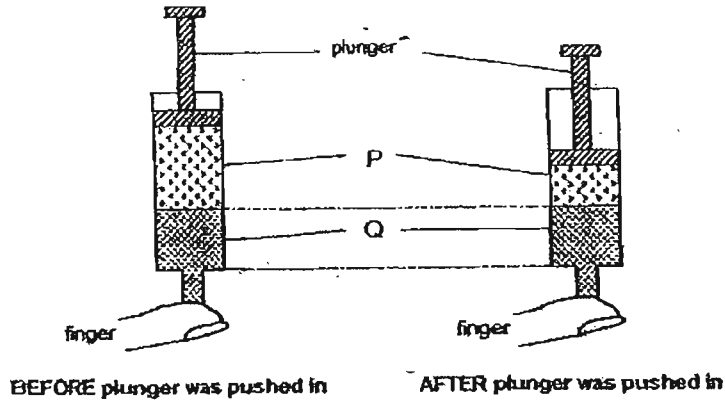


(4)





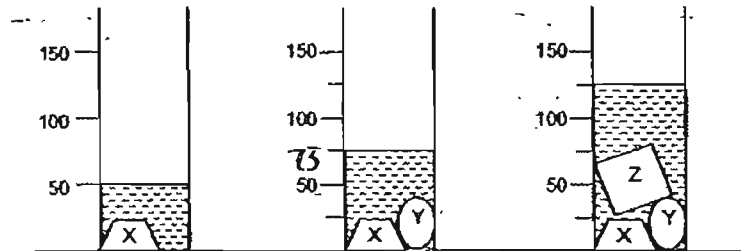
- 11 Amanda filled a syringe with two substances, P and Q. The diagrams below show the syringe before and after the plunger was pushed in.



Which one of the following would most likely be P and Q?

	P	Q
(1)	Oil	Salt
(2)	Rice	Oxygen
(3)	Nitrogen	Water
(4)	Flour	Water vapour

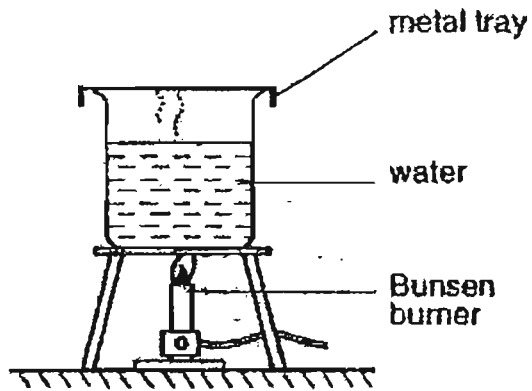
- 12 Mustafa has 3 objects, X, Y and Z. First he put X into a measuring cylinder with 30ml of water. The water level rises. Then he put object Y and Z into the same measuring cylinder. The diagram below shows the changes in water level as each object is put in.



Based on the diagrams above, we can conclude that the volume of water is greater than the volume of \_\_\_\_\_.

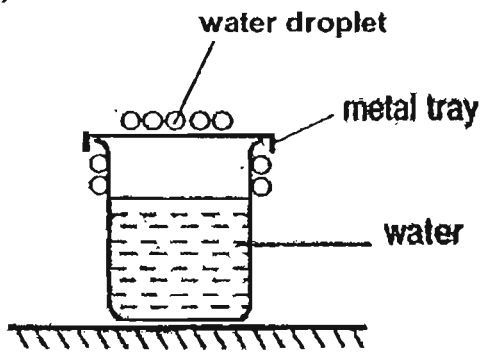
- (1) X only
- (2) Y only
- (3) X as well as Y only
- (4) X, Y as well as Z

- 13 In an experiment, a metal tray was used to cover a beaker of heated water as shown below. The beaker and the metal tray were then removed from the tripod stand and were left on a table.

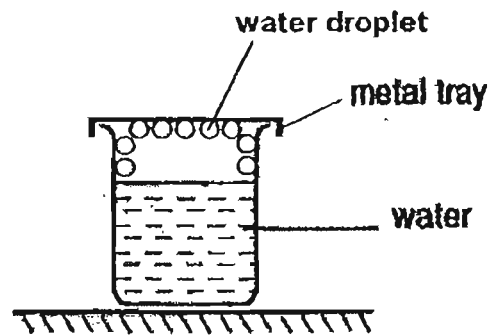


After 2 minutes, which of the following can be observed?

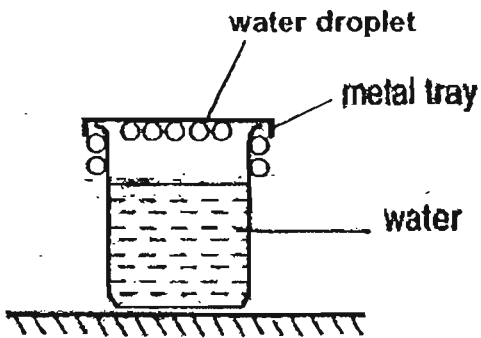
(1)



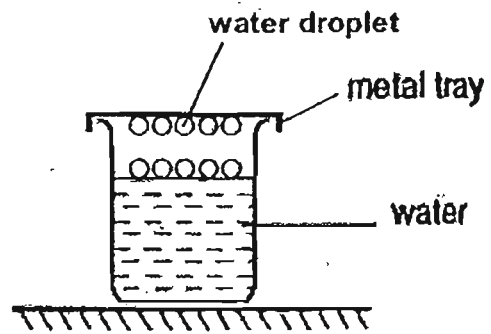
(2)



(3)

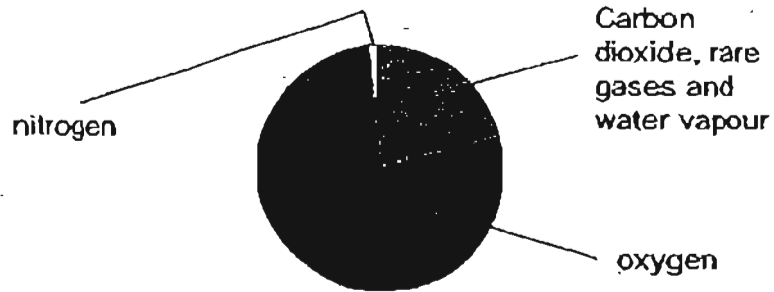


(4)

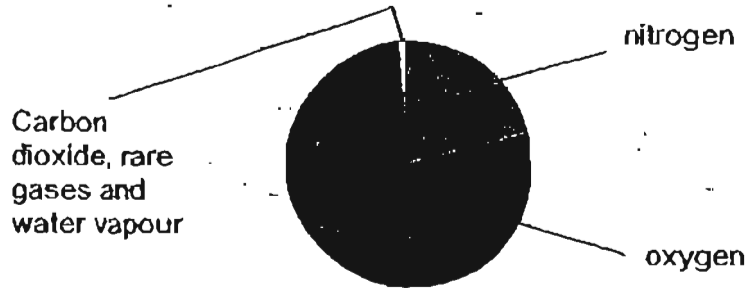


14 Which of the following pie charts shows the correct proportion of different gases in the atmosphere?

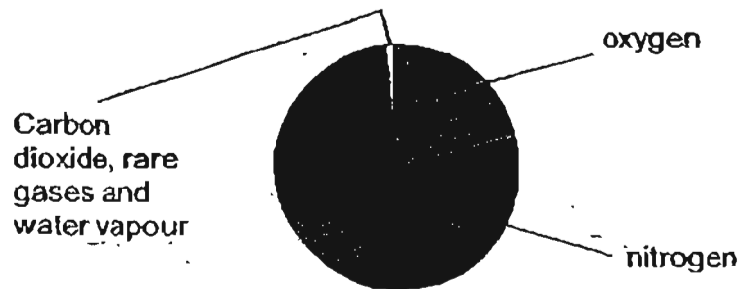
(1)



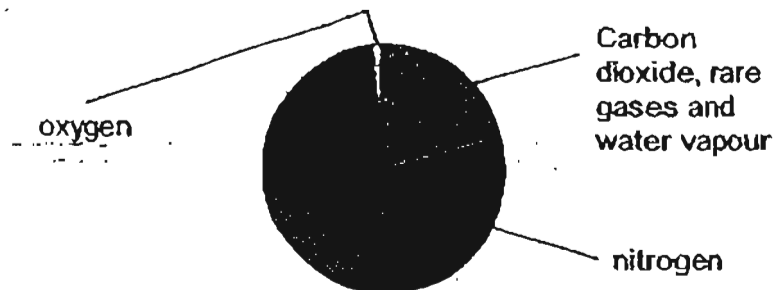
(2)



(3)



(4)



- 15 Matthew was trying to find out if the type of soil affects the growth of money plants. The table below shows the set-ups available for the test.

Set-up	Type of soil	Number of money plant	Amount of water given (ml)	Location of experiment
A	Sand	1	30	Sunny place
B	Garden soil	2	10	Sunny place
C	Clay	1	20	Shady place
D	Sand	2	10	Shady place
E	Garden soil	1	30	Sunny place
F	Clay	2	20	Shady place

Which two set-ups should he use to conduct a fair test?

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

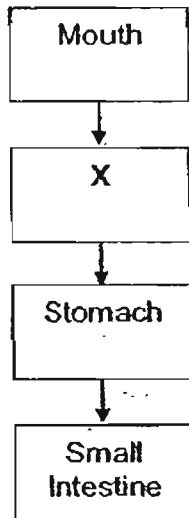
- 16 Joshua wanted to find out the rate of evaporation at two different locations of his neighbourhood. He emptied a 50ml bottle of water at each location to create 2 puddles. He then observed the 2 puddles of water and noticed that puddle A dried up faster than puddle B.

Which of the following are possible reasons for this?

- A: Puddle B has a smaller exposed surface area than puddle A.
- B: Puddle B was under the shade while puddle A was under direct sunlight.
- C: Puddle B was in the path of wind while puddle A had little wind.

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

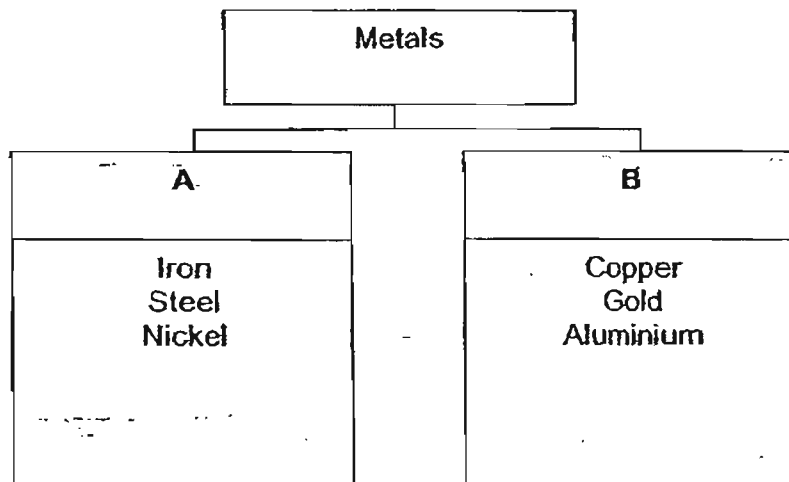
17 The following flowchart shows how food travels in the body during digestion.



Which part of the body does "X" best represents?

- (1) Nose
- (2) Gullet
- (3) Lungs
- (4) Windpipe

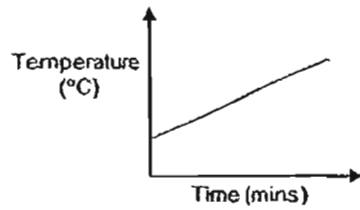
18 Saad created the following classification chart.



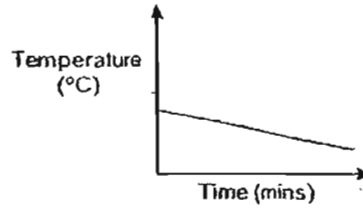
Which of the following titles are most suitable for this chart?

	A	B
(1)	Weak	Strong
(2)	Bendable	Not bendable
(3)	Magnetic	Non-magnetic
(4)	Non-Shiny	Shiny

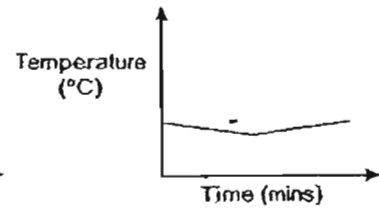
19 The following graphs record the temperature of water over a period of time.



Graph A



Graph B

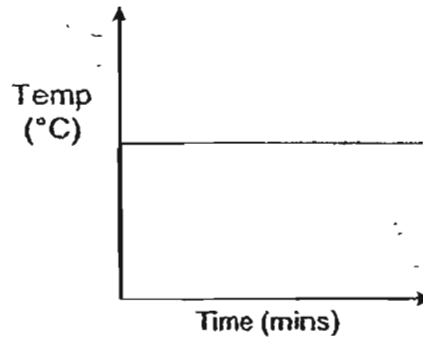


Graph C

In which of the graph(s) above would evaporation have taken place?

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

20 A beaker of water was placed over a bunsen burner for 10 minutes and the temperature of the water was recorded in the graph below.



At the start of the experiment, the beaker contained \_\_\_\_\_.

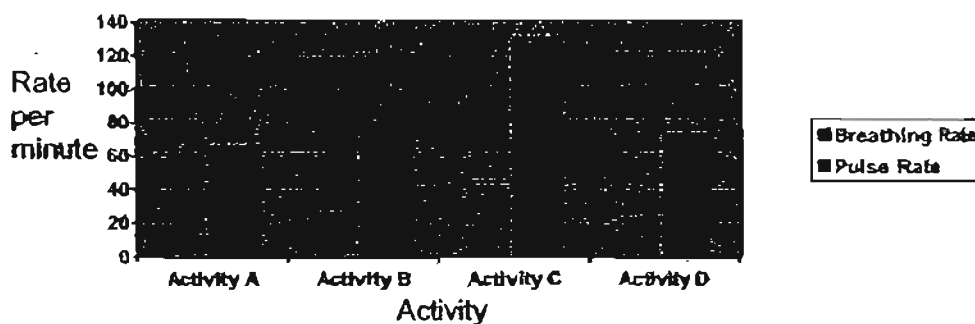
- (1) boiling water
- (2) ice and water
- (3) water at 50°C
- (4) water at room temperature

- 21 Four similar beakers containing the same amount of water were placed at four different locations, A, B, C and D. The conditions for each of the location are stated in the table below.

Factor	Location			
	A	B	C	D
Amount of sunlight	Some	A lot	Little	Some
Humidity level	Low	Low	High	Medium

Which of the following correctly lists the evaporation from the quickest to the slowest?

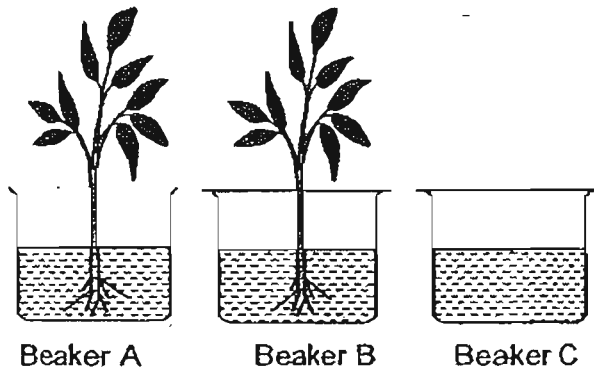
- (1) B, A, D, C  
 (2) B, D, C, A  
 (3) C, D, A, B  
 (4) A, D, C, B
- 22 The graph below shows Amos' breathing rate and pulse rate as he performed various activities. The four activities are: a normal night sleep, playing a soccer match, watching television and walking home from school.



Based on the graph above, which activity would best show Amos having a normal night sleep?

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

- 23 Jonathan setup 3 identical beakers with the same amount of water, under the sun, as shown below. After 3 hours, he measured the amount of water in each beaker.



What is the amount of water left in the beakers in descending order?

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

- 24 Wesley conducted a test based on the variables, as shown in the table below.

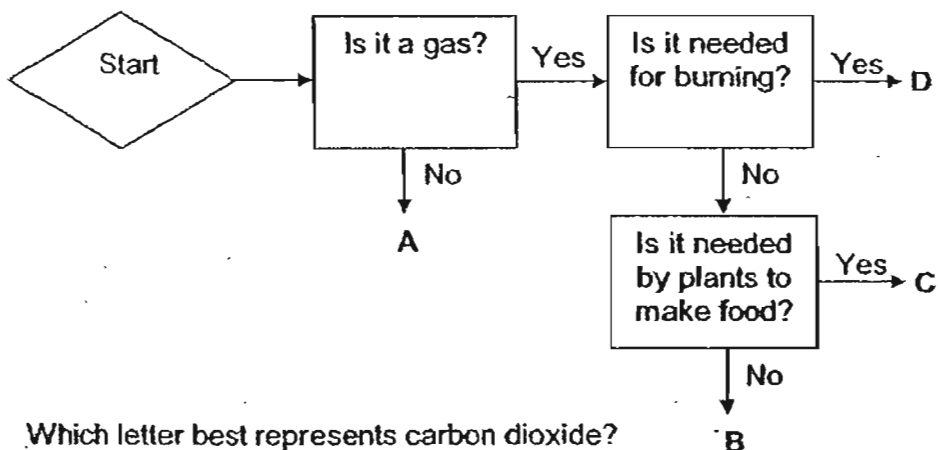
	Set-up A	Set-Up B	Set-Up C
Presence of wind	High	High	High
Amount of water	50 ml	50 ml	50 ml
Temperature of water	40°C	20°C	Room temperature
Humidity	Low	Low	Low

His most likely aim was to find out whether the \_\_\_\_\_

- (1) amount of water affects the rate of evaporation
- (2) presence of wind affects the rate of evaporation
- (3) temperature of water affects the rate of evaporation
- (4) humidity of the surrounding affects the rate of evaporation



Study the flowchart below and answer Question 25 and 26.



25 Which letter best represents carbon dioxide?

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

26 Which letter best represents mist?

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

27 Four similar towels, each having a surface area of  $100\text{cm}^2$ , were soaked with 25ml of water and left to dry on a laundry line. They were folded in several different ways and the time taken for each towel to dry was recorded in the table below.

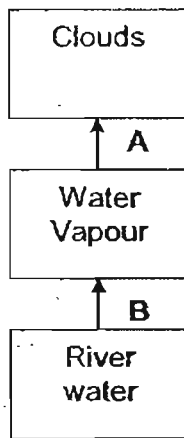
Towel	Exposed surface area ( $\text{cm}^2$ )
A	50
B	20
C	25
D	40

If the test were a fair one, which of the following variables were kept constant at the start of the experiment?

- A: Wetness of towel
- B: Location of experiment
- C: Exposed surface area of towel

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

- 28 The following flowchart shows the change in the state of water as part of the water cycle.



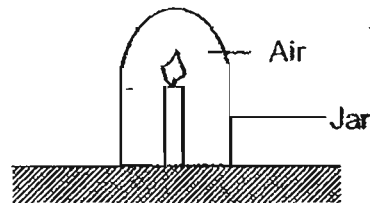
What could A and B represent?

	A	B
(1)	evaporation	evaporation
(2)	evaporation	condensation
(3)	condensation	evaporation
(4)	condensation	condensation

- 29 Which one of the following statements about our skeletal system is **FALSE**?

- (1) It gives us our shape.
- (2) It helps support our body.
- (3) It carries blood around the body.
- (4) It protects the internal organs of our body.

- 30 The diagram below shows a burning candle in a jar filled with atmospheric air.



What would be the changes to the mass of the gases in the air after the flame has burnt out?

	Nitrogen	Oxygen	Carbon dioxide
(1)	No change	More	Less
(2)	More	Less	No change
(3)	Less	Less	Less
(4)	No change	Less	More

ANGLO-CHINESE SCHOOL  
(PRIMARY)

MID-YEAR EXAMINATION 2007

SCIENCE

BOOKLET B

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

Class: Primary 4 \_\_\_\_\_

Date: 10<sup>th</sup> May 2007

Duration of paper: 1 h 45 min -

\_\_\_\_\_  
Parent's Signature

Booklet	Maximum marks	Marks obtained
A	60	
B	40	
Total	100	

THIS BOOKLET CONTAINS 10 PAGES.  
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.  
FOLLOW ALL INSTRUCTIONS CAREFULLY.

31 John's robotic dog can run and bark when he touches its head.  
He says his robotic dog behaves like a living thing.

(a) Based on the description above, write down one characteristic of living things which John's robotic dog shows. [1]

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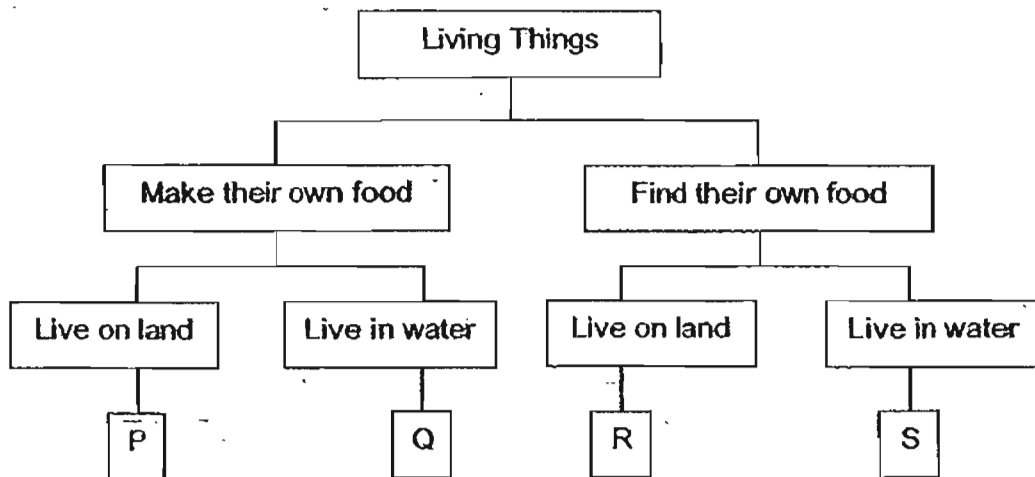
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(b) Name 3 basic things living things need to survive but John's robotic dog does not need. [2]

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32 A group of living things, P, Q, R and S are classified in the chart below.  
Use the information in the chart to answer the questions.



(a) How are living things R and S similar? [1]

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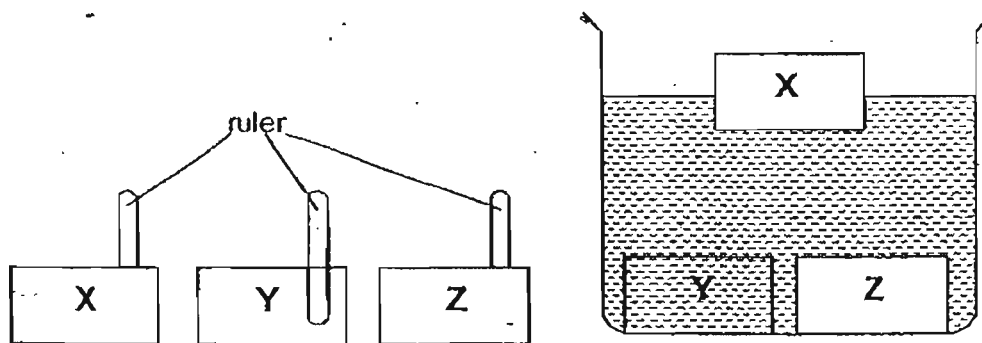
(b) How are living things P and R similar? [1]

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(c) How is Q different from S? [1]

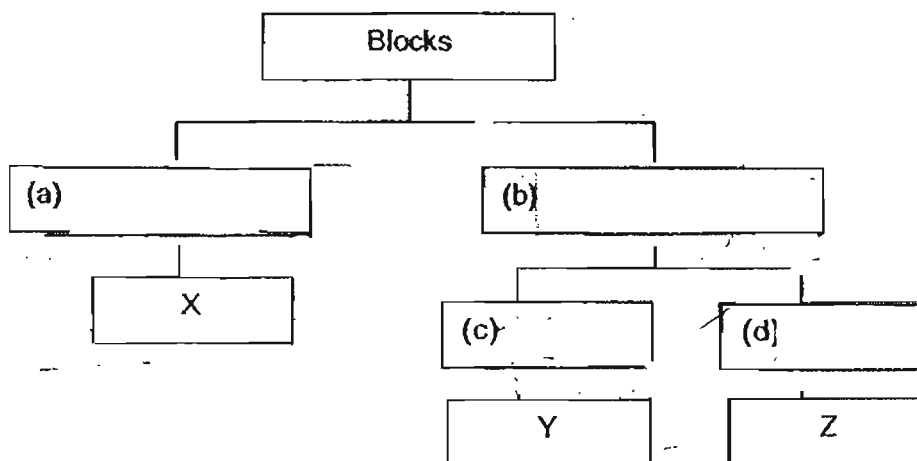
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- 33 There are three blocks, X, Y and Z. They are made of different materials. The following diagrams show the observations when a similar ruler is placed behind each block and when the three blocks are dropped in a tank of water.



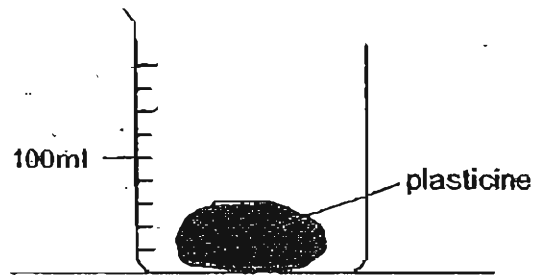
Based on the above observations, the three blocks can be classified as shown below. Complete the chart by filling in the blank boxes with the correct headings.

[2]

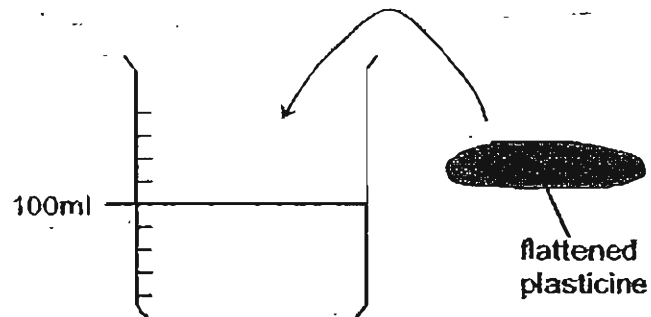


34 Jamal lowered a lump of plasticine into a beaker containing 100ml of water. The volume of plasticine was  $40\text{cm}^3$ .

(a) Draw the water level in the diagram below. [1]



(b) He then took the same amount of plasticine and flattened it before he lowered it into another beaker containing 100ml of water as shown below.



What would be the new water level when he lowered the flattened plasticine into the beaker gently? [1]

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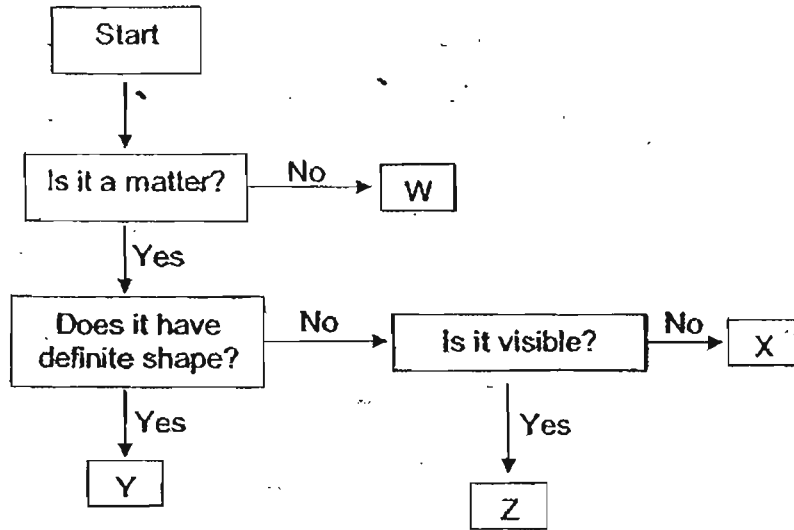
---

(c) What does (a) and (b) show us about the property of plasticine? [1]

---

---

- 35 The chart below classifies things into 4 groups, W, X, Y and Z according to their properties.



- (a) Write the words "petrol", "noise", "steam" and "ice" against the group they belong to. [2]

W: \_\_\_\_\_

X: \_\_\_\_\_

Y: \_\_\_\_\_

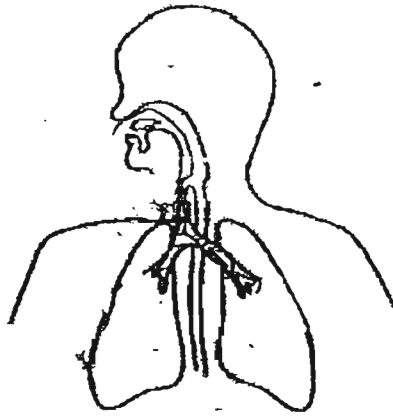
Z: \_\_\_\_\_

- (b) Name one difference between Y and X. [1]

\_\_\_\_\_

\_\_\_\_\_

36 The diagram below shows part of the human respiratory system.



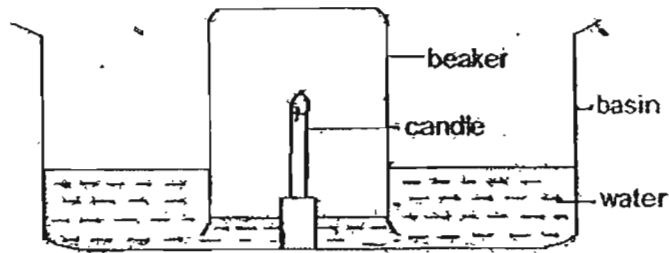
- (a) In the diagram above, label clearly the part that allows air to flow from the nostrils to the lungs. [1]
- (b) Draw arrows to show the complete movement of air as you breathe in. [1]
- (c) A mirror turns misty when you breathe into it. What does that tell you about the air you breathe out? [1]

---

---



37 Study the diagram below.



(a) What will happen to the candle flame in the beaker after 15 minutes? [1]

\_\_\_\_\_

(b) Explain your answer in (a)? [1]

\_\_\_\_\_

\_\_\_\_\_

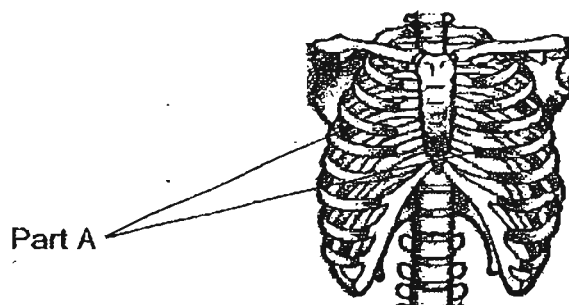
(c) What will happen to the water level in the beaker? [1]

\_\_\_\_\_

38 Fill in the blanks with the most suitable words. [2]

Our bones are stiff and hard but light. They cannot \_\_\_\_\_. Hence, all our bones are connected with joints. Examples of joints are: ball and socket joint, and \_\_\_\_\_ joint. The muscular system works together with the \_\_\_\_\_ system to enable us to \_\_\_\_\_ our body.

39 The diagram below shows a part of our skeletal system.



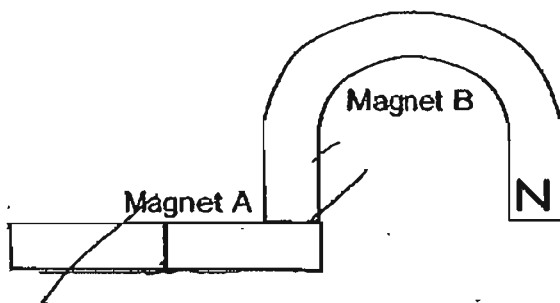
(a) Name part A. [1]

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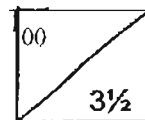
(b) List two organs that part A protects. [1]

---

40 A bar magnet and a horseshoe magnet were attracted to each other as shown below.



In the diagram above, identify and label the poles of Magnet A and Magnet B. One has been done for you. [1½]



41 The table below describes two substances, A and B.

	Substance A	Substance B
Is water in the gaseous state	✓	✓
Formed when water gains heat	✓	✓
Can only be formed when water gains heat till 100°C	✓	
Can be formed at any temperature		✓

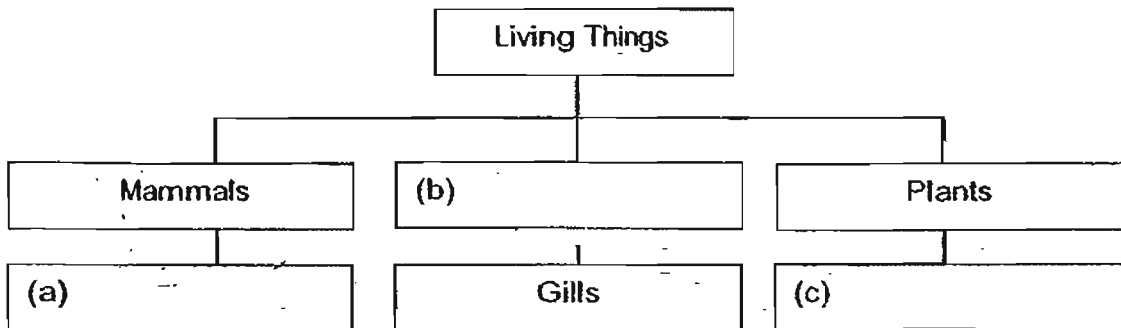
What are Substance A and Substance B?

[2]

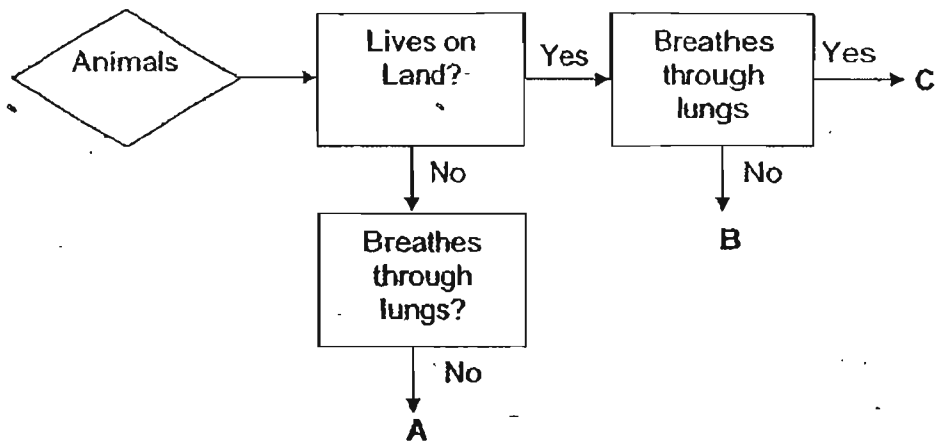
\_\_\_\_\_

\_\_\_\_\_

42 The following classification chart shows different groups of living things and their breathing organs. Complete the chart by filling in the boxes with the correct words. [1½]



43 The following flowchart describes 3 animals based on their characteristics.



(a) How is animal A and B similar? [1]

---

(b) What is the difference between animal B and animal C? [1]

---

(c) Give 2 examples of animal C. [1]

---

44 Four statements about air were made. For each statement, write 'T' for true or 'F' for false. [2]

(a) Moving air is called wind. ( )

(b) Water vapour in the air is fixed at 3% of the total air. ( )

(c) Carbon dioxide is needed by green plants to make food. ( )

(d) The air we breathe out contains less oxygen than the air we breathe in. ( )

- 45 Marcus placed part of a horseshoe magnet in a container filled with iron nails. He then lifted up the magnet and counted the number of nails that part attracted, and recorded it in the table below. He repeated the experiment with different parts of the magnet and the results are shown below.

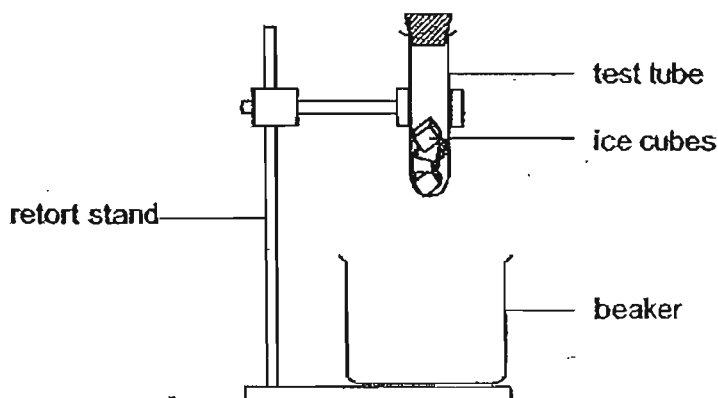
Part	Number of nails attracted
A	4
B	10
C	16
D	6
E	18

Which two parts are most likely to be the two ends of the horseshoe magnet?  
Give a reason to support your answer. [2]

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- 46 An experiment about water was setup in the classroom as shown in the diagram below.



After 20 minutes, substance X was seen in the test tube.

- a) What is substance X? Explain how it appeared? [2]

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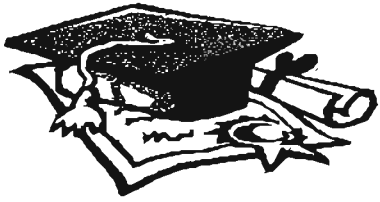
It was also observed that substance Y formed in the beaker.

- b) What is substance Y? Explain how it appeared? [2]

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END OF PAPER,



# ANSWER SHEET

A C S PRIMARY SCHOOL - PRIMARY 4 SCIENCE 2007  
SEMESTRAL ASSESSMENT (1)

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

31) a) It responds to changes all around  
b) Air, water, food

32) a) They find their own food.  
b) They both live on land.

c) C makes its own food while S finds its own food.

33) a) able to float on water.  
b) sinks in water.  
c) transparent  
d) opaque

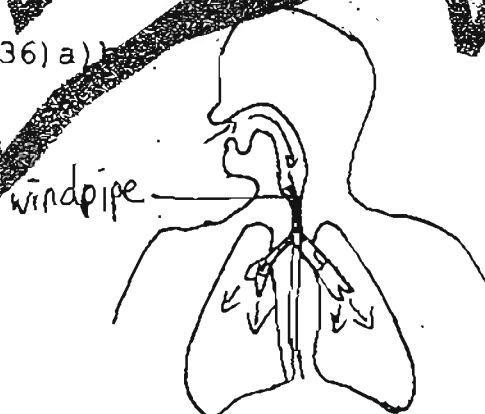
34) a)



b) 140ml  
c) It has a definite volume.

35) a) W: noise X: steam  
Y: ice Z: petrol  
b) Y has a definite shape but X has no definite shape

36) a)



36)c)The air that we breathe out has water vapour.

37)a) will go out.

b)Oxygen is inside the beaker, when it runs out, there is space for water to go in.

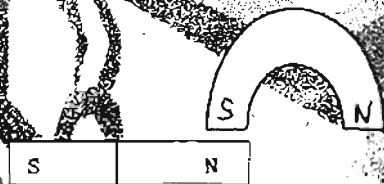
c)The water level will rise.

38)tuna, hinge, skeletal, move

39)A)rib cage.

B)heart and lungs.

40)



41) steam and water vapour

42)a)lungs b)fish c)stomach

43)a)they do not breathe through lungs.

b)Animal C breathe through lungs but animal B do not breathe through lungs.

44)a)T b)F c)T d)T

45)C and E They pick up the most nails.

46)a)Water vapour in the surrounding air condensed on the cooler surface of the test tube.

b)Water. After condensing to form water droplets, the drop of water on the test tube dripped into the beaker.