

SAT

ANGLO-CHINESE SCHOOL (JUNIOR)
SEMESTRAL ASSESSMENT 1 (2005)
SCIENCE
PRIMARY FOUR

NAME : _____ ()
CLASS : P4 _____
DATE : 12th May 2005

BOOKLET A

Total Time (Booklets A and B) : 1 hour and 30 minutes

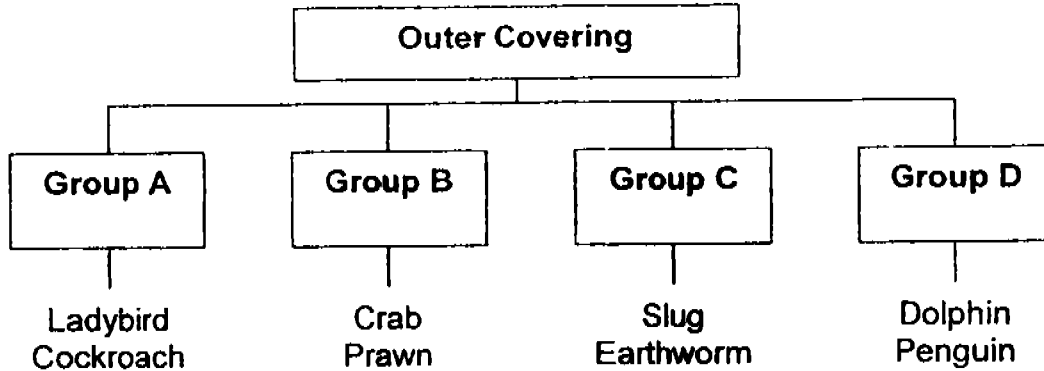
Do not open the booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

18

Part I (60 marks)

Choose the correct answer for each question and shade its number on the OAS provided.

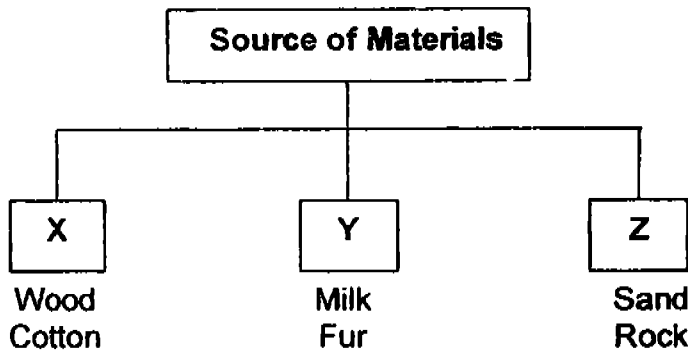
- 1 The table shows some animals which have been classified according to their outer covering.



One of the animals has been **incorrectly** classified and should be replaced with "pigeon". Which one is it?

- (1) Slug
- (2) Crab
- (3) Dolphin
- (4) Ladybird

- 2 The table shows some things which have been classified according to where they come from.

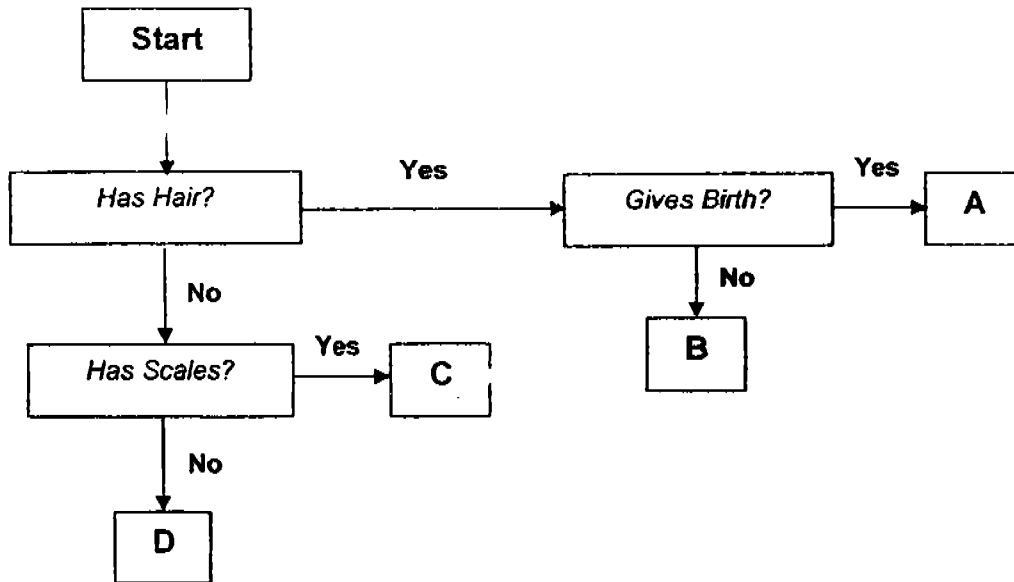


Which one of the following can be classified as X, Y and Z?

	X	Y	Z
(1)	Marble	Charcoal	Silk
(2)	Charcoal	Marble	Silk
(3)	Silk	Paper	Charcoal
(4)	Charcoal	Silk	Marble

19

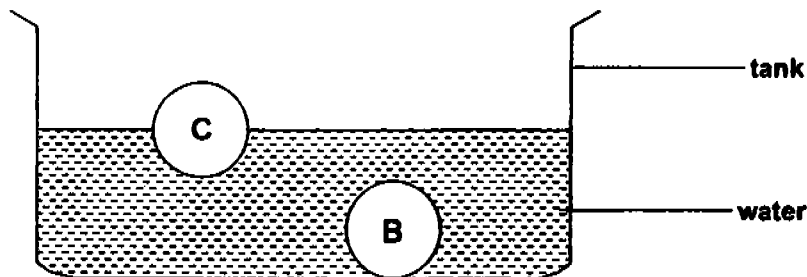
3 Study the flow chart below



Which of the following animals can best represent A and C?

	Animal A	Animal C
(1)	Monkey	Dolphin
(2)	Shark	Toad
(3)	Deer	Cobra
(4)	Ostrich	Crocodile

4 Two identical solid balls made of different materials are placed in a tank of water. The diagram below shows their positions in the water.

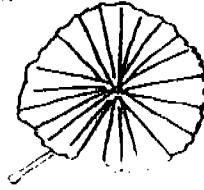


Which materials are B and C most likely to be made of?

	B	C
(1)	Iron	Plasticine
(2)	Cork	Wood
(3)	Glass	Cork
(4)	Plasticine	Glass

20

5 The diagram below shows leaf X.



Which one of the following is most similar to leaf X?

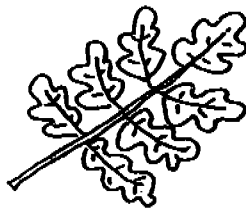
(1)



(2)



(3)

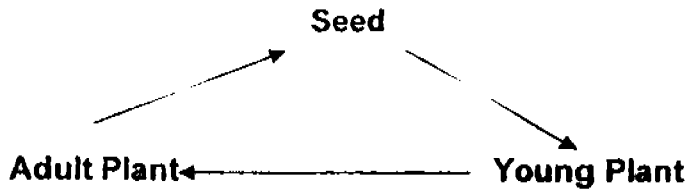


(4)



21

6 Most plants with seeds go through the life cycle shown in the diagram.



Which one of the following plants does not go through such a life cycle?

- (1) Mango
- (2) Rambutan
- (3) Bird's Nest Fern
- (4) Long Bean Plant

7 Lenny conducted a study on Animal X and Animal Y. He used a checklist and placed a tick (✓) in the appropriate box when he made an observation. The completed checklist is as follows:

Observation	Animal X	Animal Y
Eggs are laid in water		✓
There are 4 stages in the life cycle		
It has six legs		✓

Which of the following could be Animals X and Y?

	Animal X	Animal Y
(1)	frog	mosquito
(2)	frog	dragonfly
(3)	mosquito	frog
(4)	dragonfly	frog

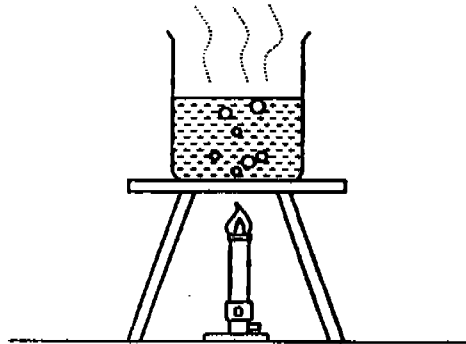
8 Hugh tested some properties of solids, liquids and gases. He recorded his results in a table shown below.

Property	P	Q	R
Has a fixed volume	No	Yes	Yes
Flows easily	Yes	Yes	No
Some are invisible	Yes	No	No

What should be the correct headings for P, Q and R respectively?

	P	Q	R
(1)	Solids	Liquids	Gases
(2)	Gases	Liquids	Solids
(3)	Liquids	Gases	Solids
(4)	Gases	Solids	Liquids

9 Tom heated a beaker of tap water until it boiled. He then continued to heat the boiling water for another 15 minutes. What changes will the boiling water undergo during the 15 minutes?

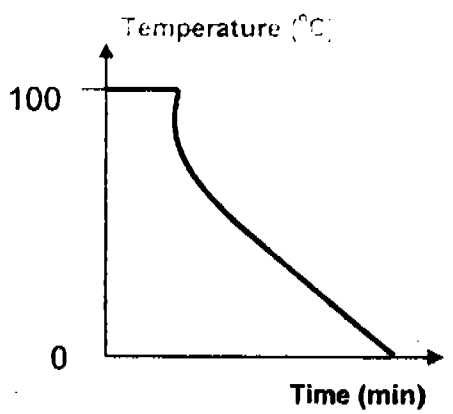


- A state
- B mass
- C volume
- D temperature

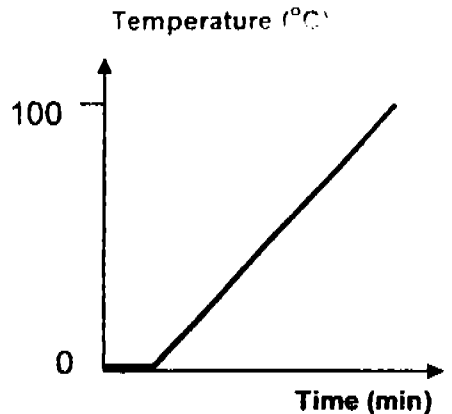
- (1) A and C only
- (2) B and D only
- (3) A, B and C only
- (4) A, B, C and D

10 The graphs below show the temperature of some substances going through different processes.

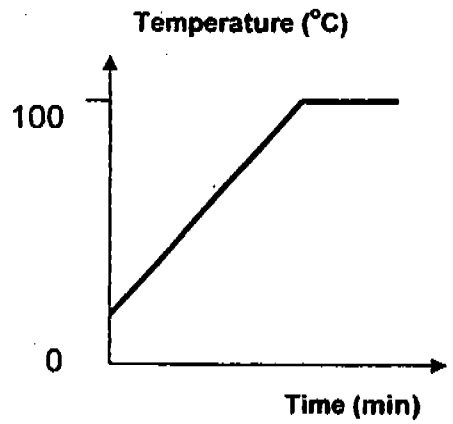
Graph A



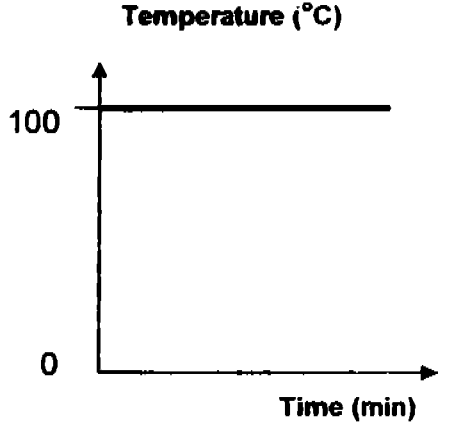
Graph B



Graph C



Graph D

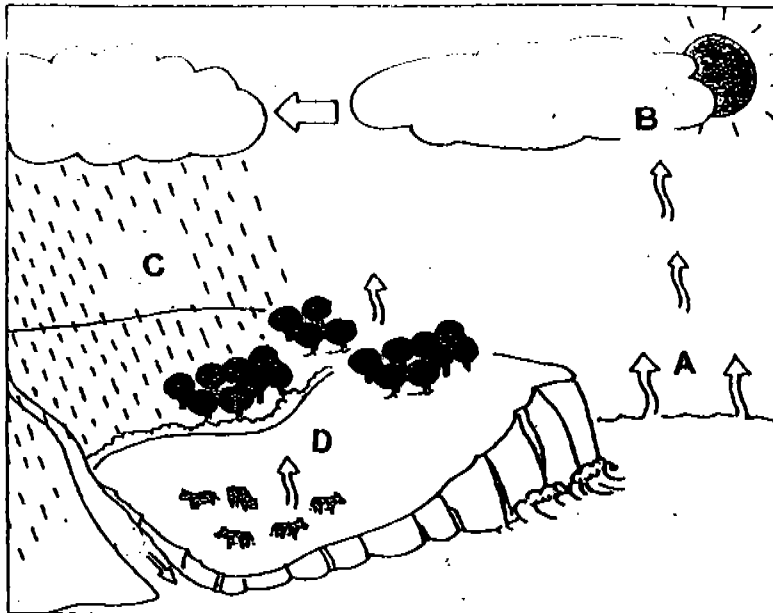


Which of them represent the temperature of tap water being heated until it boiled?

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

24

- 11 The diagram shows the different stages of the water cycle.



Which one of the statements about the stages of the water cycle is true.

- (1) Evaporation occurs only in stage A.
- (2) Condensation occurs only in stage B.
- (3) The animals in stage D give out water vapour.
- (4) The temperature of the water in stages B and C is the same.

- 12 Which one of the following activities does not help to conserve water?

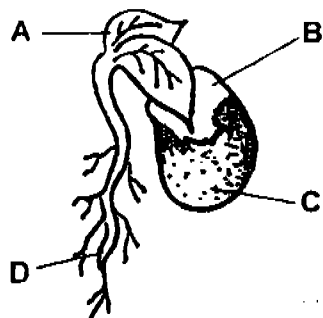
- (1) Watering plants with water from a hose.
- (2) Using a mug of water to brush your teeth.
- (3) Turning off the tap while shaving your face.
- (4) Washing the car using water from a bucket.

- 13 What is the function of the large intestine in our digestive system?

- (1) It digests food.
- (2) It passes the digested food to the blood.
- (3) It passes the undigested food out of the body.
- (4) It takes away water from the undigested food.

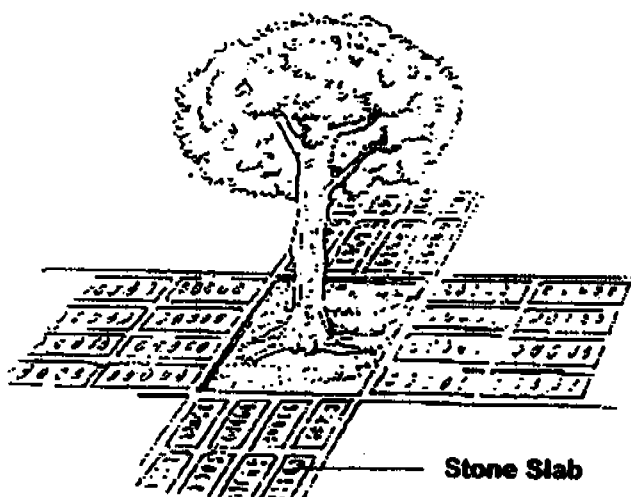
25

- 14 The diagram shows a seedling.
Which part of the seedling takes in water?



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

- 15 Some places in Singapore have stone slabs laid above the ground close to the roots of trees. The stone slabs are designed and placed there so that _____.

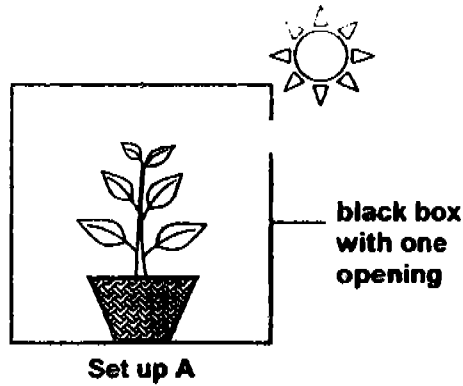


- (1) they can support the roots of the tree
- (2) the roots of the tree can grow out of the ground
- (3) air and water will be able to get to the roots of the tree
- (4) the seeds of the tree will be able to fall back into the ground

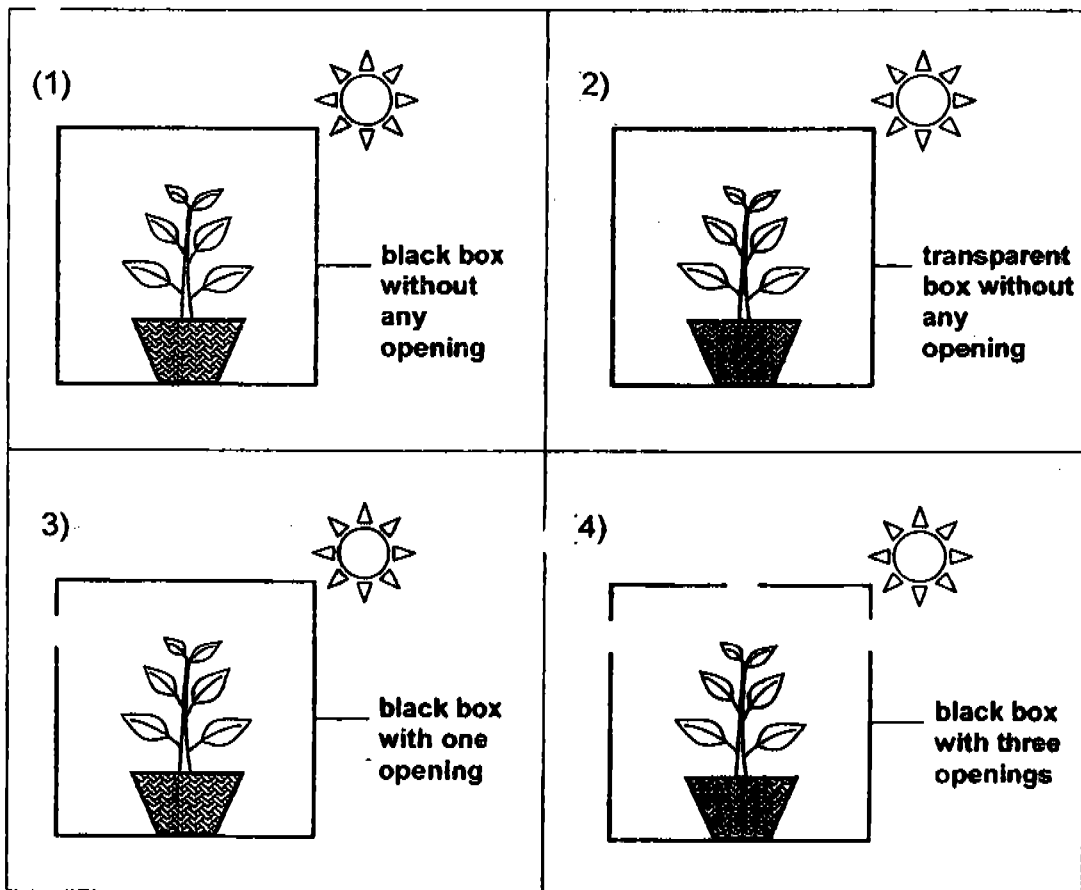
26

16

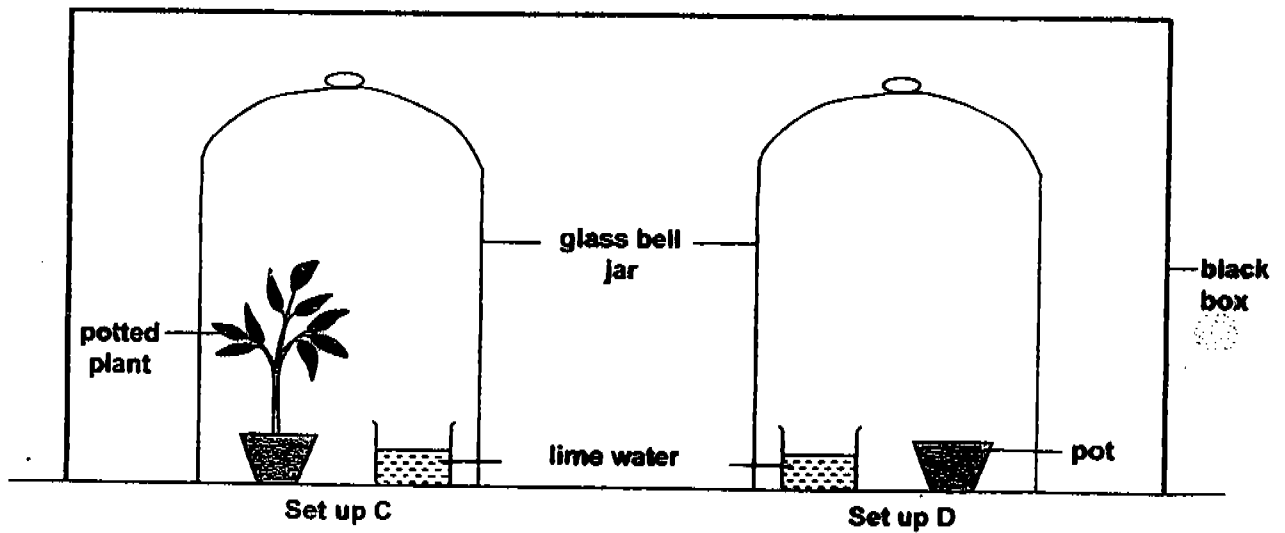
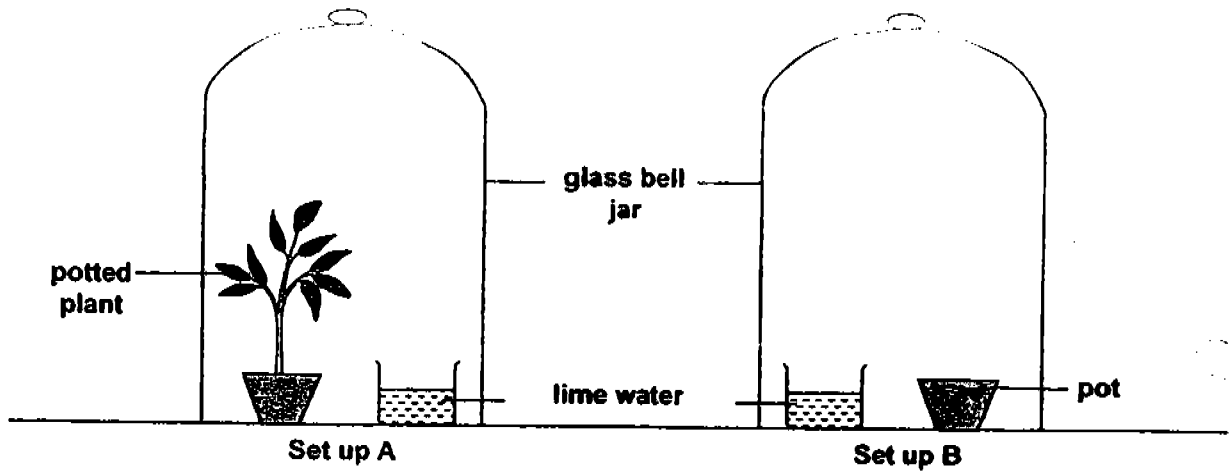
Patma wanted to find out if plants grow towards light. She prepared set up A as shown in the diagram.



Which one of the following set-ups should she also prepare in order to make a fair comparison?



- 17 Takeshi set up an experiment as shown below. Set ups A and B are placed in an open field and set ups C and D are placed in a dark box.



In which one of the following set ups will the lime water turn chalky after two days?

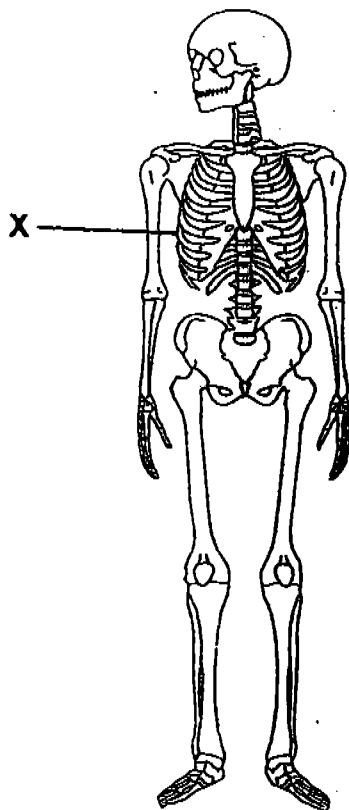
- (1) A
- (2) B
- (3) C
- (4) D

28

18 The digested food that is not used up by the body will be _____.

- (1) stored as body fats
- (2) passed out of the body
- (3) stored in the digestive tract
- (4) dissolved and removed during perspiration

19 The diagram shows the human skeleton.



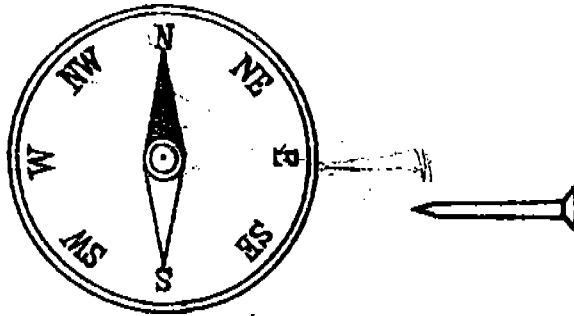
What does X protect?

- (1) Lungs and heart only.
- (2) Lungs, heart and stomach only.
- (3) Liver, kidney and stomach only.
- (4) Liver, heart, kidney and stomach only.

29

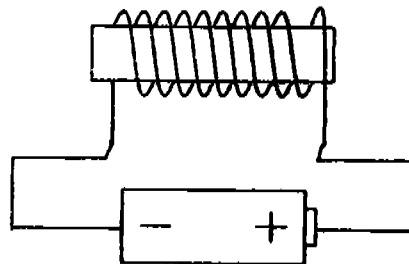
20

Look at the diagram below. When the nail is brought near the compass, the pointer will _____.



- (1) remain still
- (2) spin around
- (3) move towards the nail
- (4) move to an East-West direction

21 The metal bar in the following set-up did not become an electromagnet. What could be possible reasons?

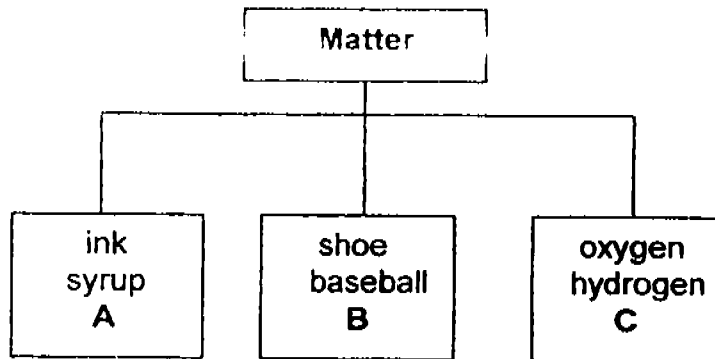


- ~~A~~ The battery was flat.
- ~~B~~ The set-up was wrong.
- ~~C~~ The bar was made of zinc.
- ~~D~~ The wire was not long enough.

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

30

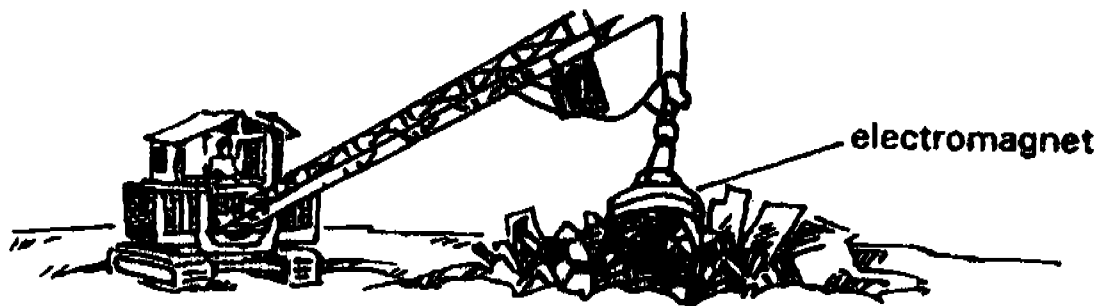
22 The classification chart shows 3 groups of matter.



Which of the following correctly represents A, B and C?

	A	B	C
(1)	cake	petrol	nitrogen
(2)	nitrogen	magnet	honey
(3)	milk	vase	helium
(4)	oil	carbon dioxide	rock

23 The diagram shows a crane attached with an electromagnet .

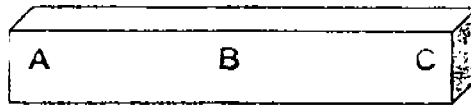


The electromagnet is used to separate pieces of _____ from the rest of the rubbish.

- (1) iron and tin
- (2) iron and steel
- (3) aluminium and tin
- (4) aluminium and steel

31

24 The diagram below shows a bar magnet.



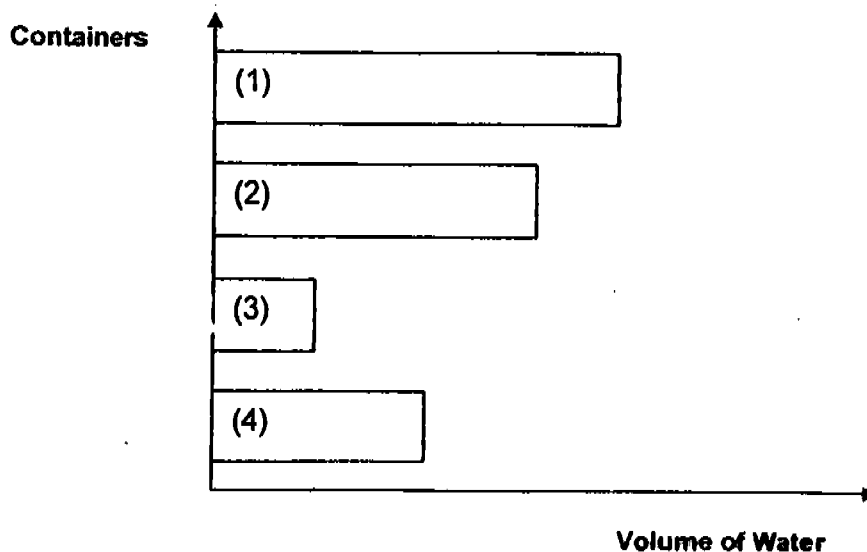
The pull of the magnet is strongest at _____.

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

25 Four identical containers W, X, Y and Z were filled with the same volume of water. They were left in four places with different conditions for 6 hours, as shown in the table.

Container	W	X	Y	Z
Conditions	<i>sunny low breeze high humidity</i>	<i>cloudy windy low humidity</i>	<i>cloudy no breeze high humidity</i>	<i>sunny windy low humidity</i>

The graph below shows the volume of the water in containers W, X, Y and Z after 6 hours. Which one of the following bar in the graph represents the volume of water left in Container Y?

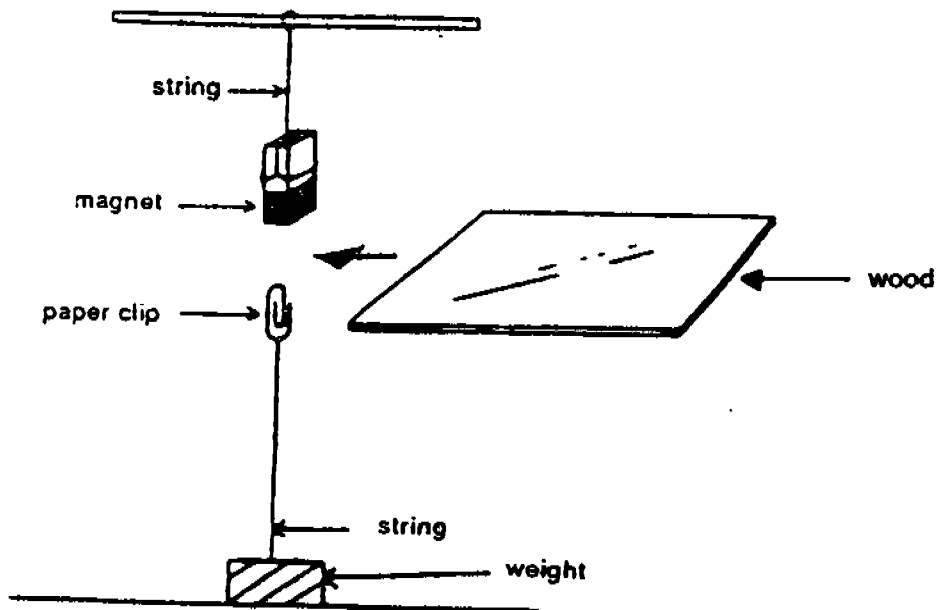


26 Ally, Beth and Cassidy wanted to find out who among them had the biggest lung capacity. They decided to blow into a balloon with one breath and see who could blow the biggest balloon. Which of the following factors must they keep the same to make the test a fair one?

- A Size and shape of the balloon.
- B Colour and design on the balloon.
- C Blowing into the balloon with one breath.
- D Starting time of blowing into the balloon.

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

27 Sean hung a bar magnet above a paper clip which had been tied to a weight by a string. The magnet pulled the paper clip up.



When he placed a thin piece of wood between the magnet and the clip, the clip remained where it was. Next he replaced the wood with material P but this time the paper clip dropped down. What could material P be?

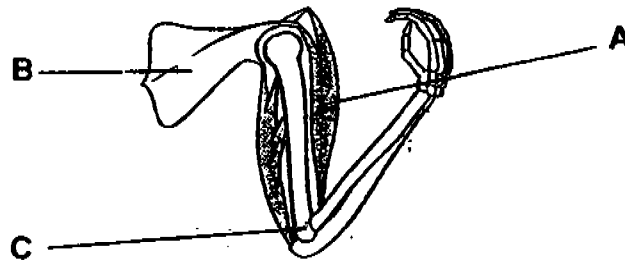
- (1) glass
- (2) paper
- (3) nickel
- (4) copper

28 Sherine stepped out of her apartment. She then went back home to put on a jacket as it was windy. She started walking to the bus-stop. Before she reached the bus-stop, her friends called her from across the road and she turned around to greet them

Which of the following senses did she use in the above situation?

- (1) sense of sight and taste
- (2) sense of touch, smell and taste
- (3) sense of sight, touch and hearing
- (4) sense of hearing, touch and smell

29 The diagram below shows the upper arm with its muscles.



Which one of the following correctly represents the parts of the arm?

	Bone	Muscle	Joint
(1)	B	A	C
(2)	A	C	B
(3)	A	B	C
(4)	C	B	A

30 The table shows the comparison of the characteristics between a young and an adult cockroach.

Which of the following is incorrect?

	Characteristic	Young	Adult
(1)	Has wings	No	Yes
(2)	Has feelers	Yes	No
(3)	Lives on land	Yes	Yes
(4)	Moults a few times	Yes	No

**ANGLO-CHINESE SCHOOL (JUNIOR)
SEMESTRAL ASSESSMENT 1 (2005)
SCIENCE
PRIMARY FOUR**

NAME : _____ ()
CLASS : P4 _____
DATE : 12th May 2005

BOOKLET B

Total Time (Booklets A and B) : 1 hour and 30 minutes

**Do not open the booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.**

_____ Parent's Signature
_____ Date

BOOKLET A	/60
BOOKLET B	/40
TOTAL	/100





Part II (40 marks)

Write your answers to questions 31 to 46 in the spaces provided.

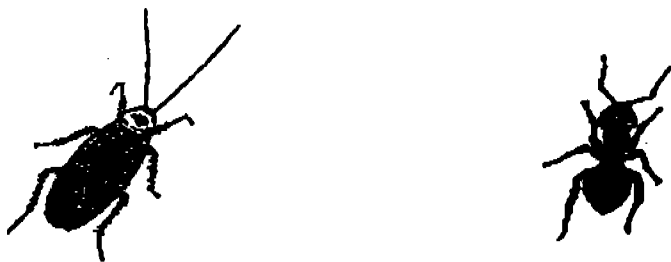
31 The table below shows the characteristics of four things A, B, C and D.

	Responds to changes	Needs air, food and water	Can fly
A	✓		
B	✓	✓	
C			✓
D	✓	✓	✓

Using the information, identify the things below by writing the correct letter in the boxes. [2]

			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

32 The diagram shows the outlines of 2 animals.



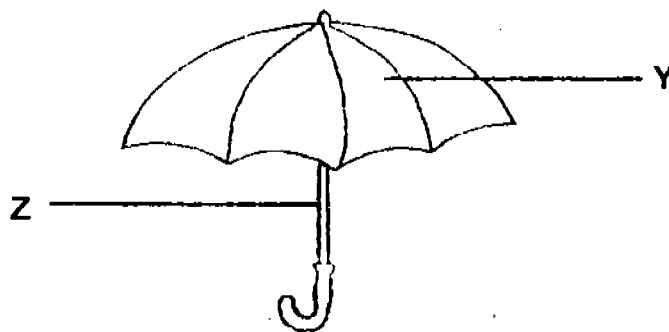
Based only on your observation, state 2 reasons why the 2 animals can be classified together. [2]

(a) _____

(b) _____

36

33 The diagram shows an umbrella.



(a) What is the one most important property that a material must have to make it suitable for making part Y of the above umbrella? [1]

(b) If paper was used to make part Y, what must be added to the paper to make it a suitable material? [1]

(c) Aluminium is often used to make part Z. Why is aluminium a better choice than iron? [1]

34 The Lim household practices the 3 Rs in order to conserve water by the following actions:

Action X	Using laundry water to flush the toilet.
Action Y	Purifying the swimming pool water so that it can be used over and over again.
Action Z	Taking showers instead of baths.

(a) Match the 3 Rs with the correct actions by writing X, Y and Z in the boxes. [1½]

Reuse	
Reduce	
Recycle	

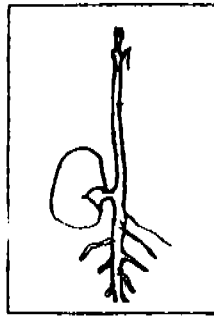
(b) Give another example of an action that helps to conserve water. [1]

37

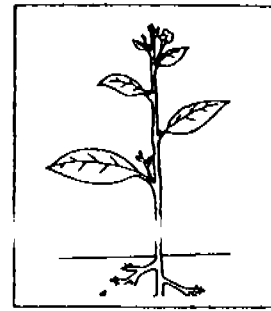
35 The pictures below show the different stages in the growth of a seed.



Stage A



Stage B



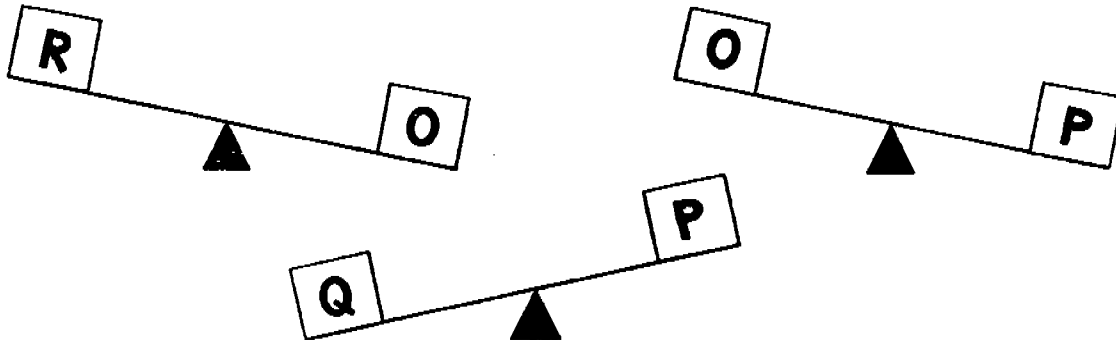
Stage C

(a) At which of the above stages would sunlight not be important?

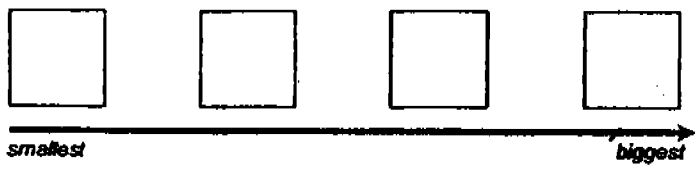
(b) Why would sunlight not be needed? [1]

(c) State the conditions needed for the seed to develop into stage B? [1]

36 The diagrams below show how the objects O, P, Q and R balance one another.



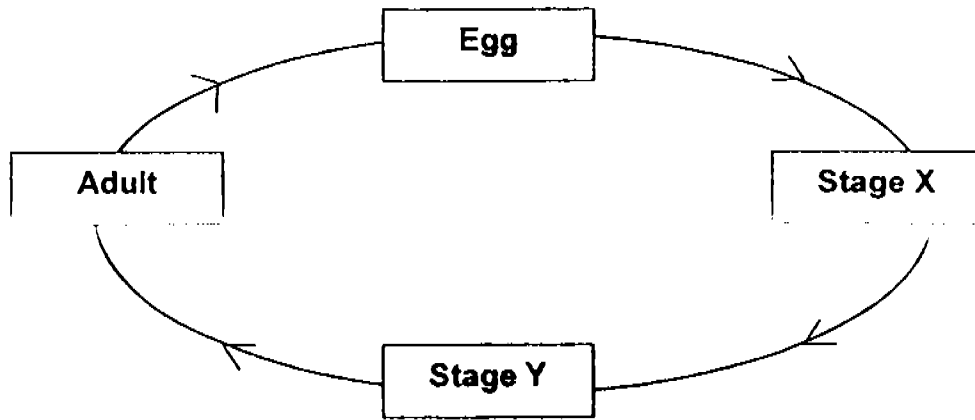
(a) Arrange the objects A, B, C and D in ascending order of their masses. [1]



(b) State the difference between the mass of a 3-cm wooden cube and a 3-cm iron cube. [1]

38

37 The diagram below shows the stages in the life cycle of a ladybird.



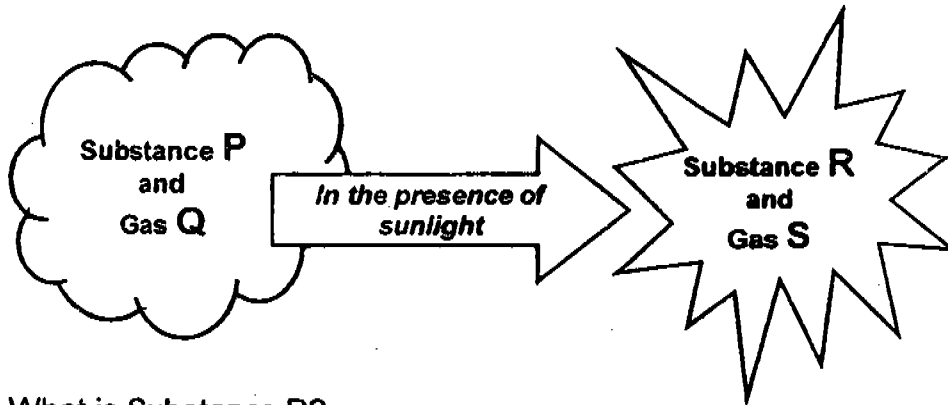
State 2 differences between Stage X and Stage Y.

[2]

Difference 1: _____

Difference 2: _____

38 The diagram is a representation of photosynthesis in green plants.

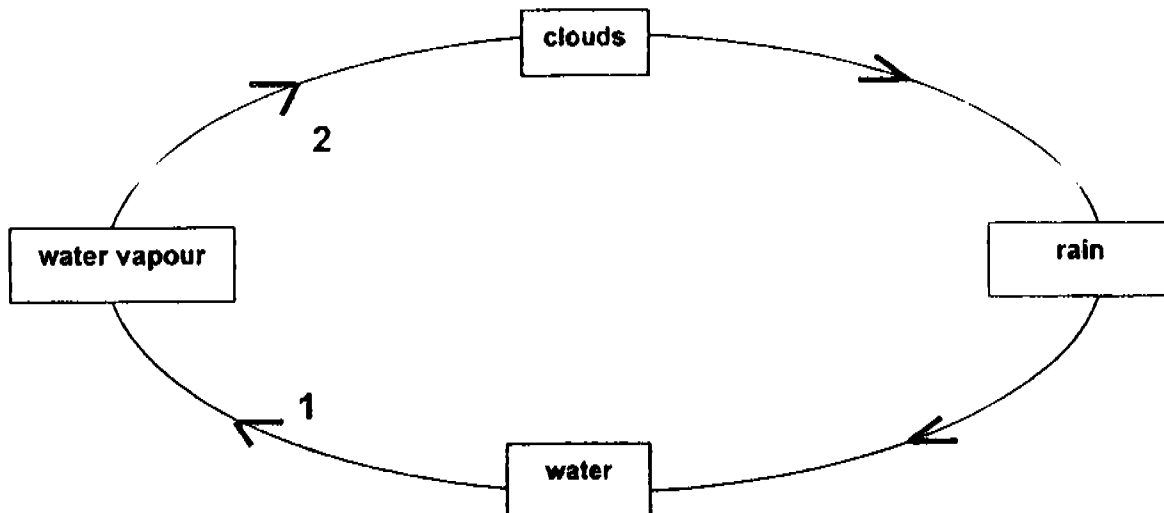


(a) What is Substance R?

[1]

(b) Explain how a green plant obtains Substance P and Gas Q.

[2]

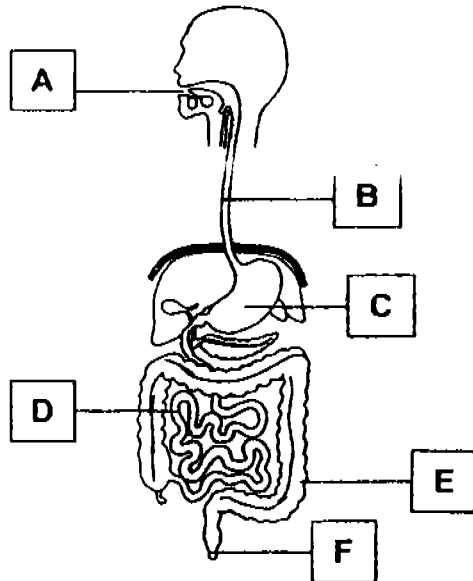


- (a) Complete the table by:
 (i) writing in the processes represented by the arrows [1]
 (ii) indicating whether heat was gained or lost by ticking the correct box. [1]

	Process	Tick (✓) if heat is gained	Tick (✓) if heat is lost
Arrow 1			
Arrow 2			

- (b) What is the role of plants in the water cycle? [1]

40 The diagram shows the human digestive system.



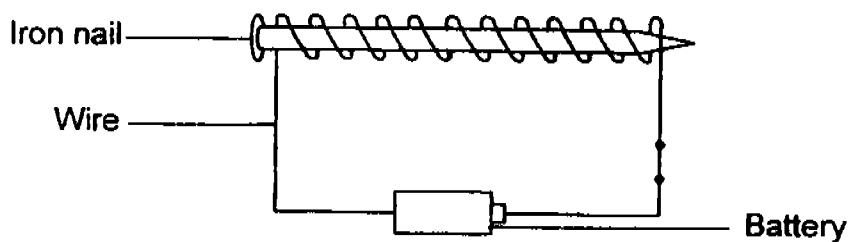
(a) Name the parts labelled C and E. [2]

C : _____

E : _____

(b) In which part of the digestive system (A, B, C, D, E or F) is the digestion of food completed? [1]

41 Ashley set up the following experiment to make an electromagnet.



(a) Suggest 2 ways in which he can make the magnet stronger. [2]

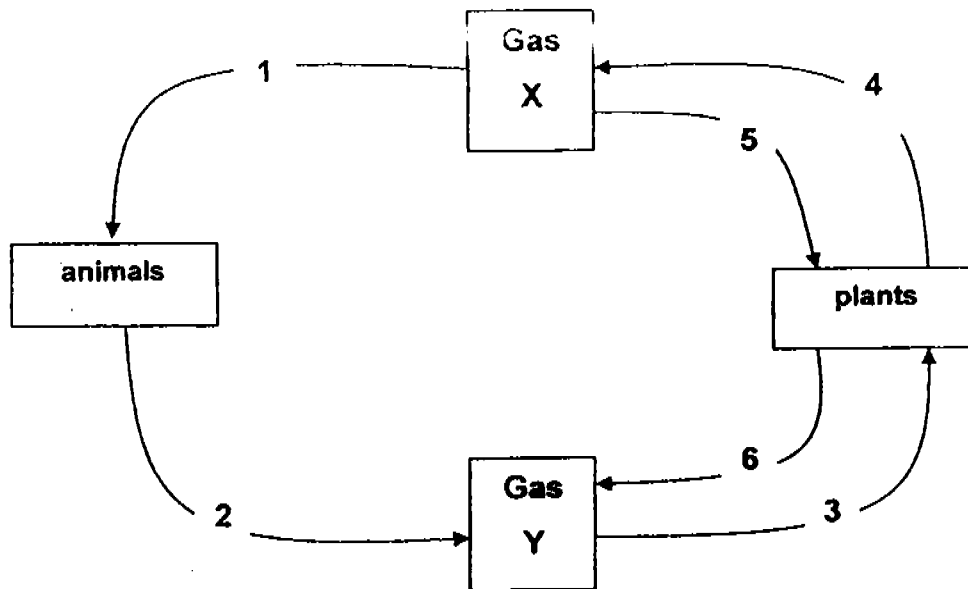
(i) _____

(ii) _____

(b) What would happen if he used a copper nail instead of an iron nail? Why? [1½]

41

- 42 The diagram shows the exchange of gases between living things and their environment.

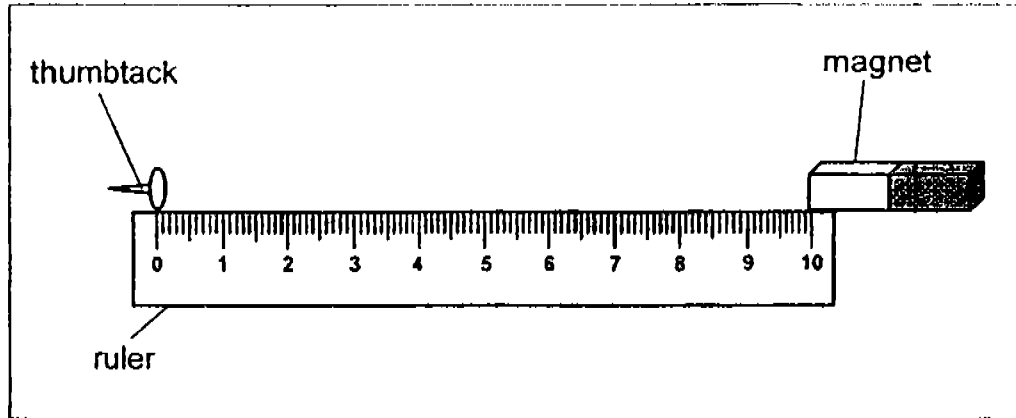


- (a) Which 2 arrows indicate the exchange of gases during photosynthesis? [1]

- (b) Besides photosynthesis, name the other process that is represented by the arrows in the diagram. [1]

- 43 Which part of the skeleton (the arm, leg or skull) does not have hinge joints? Explain why. [2]

44 The "pulling" distance of a magnet is the furthest distance from which it is able to attract a magnetic object. Elaine carried out an investigation to find out the "pulling" distance of 3 different types of magnets.



She recorded the "pulling" distance of the different magnets in the table below.

Results :

Magnet	"Pulling" Distance (cm)
Bar magnet	2.9
Ring magnet	0.8
U-shaped magnet	1.7

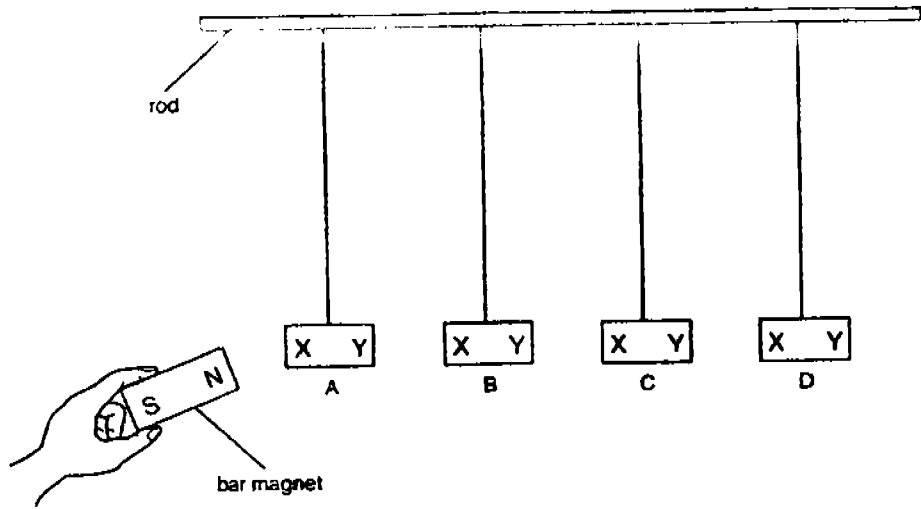
(a) List the magnets according to their strengths, from the weakest to the strongest. [1]

(Weakest) _____ (Strongest)

(b) State the relationship between the strength of the magnetic force and the pulling distance of the magnets. [1]

63

45 Four metal bars A, B, C and D are hung from a rod as shown below. The north pole of a bar magnet is brought near X, and then Y, of each metal bar.



The table below shows the observations made during the experiment.

Metal Bar	Observations	
	North Pole and X	North Pole and Y
A	repelled	attracted
B	nothing happened	nothing happened
C	attracted	attracted
D	attracted	repelled

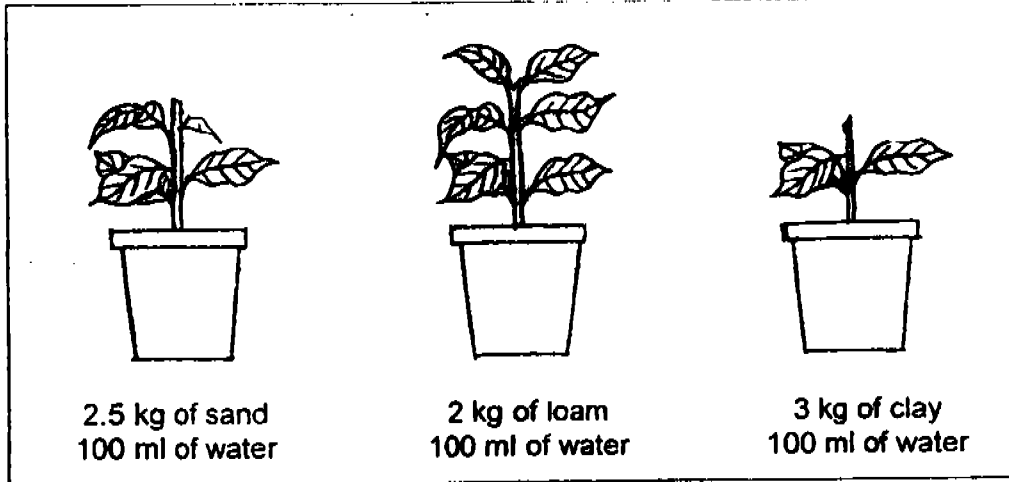
(a) Which of the metal bars are magnets? [1]

(b) Explain your choice in (a). [1]

(c) Which one of the metal bars is not a magnet but made of iron? [1]

64

46 Susan wanted to find out whether the type of soil affects how well a plant grows. She filled up 3 pots with different amounts of soil as shown below. She planted the same type of plants in each pot. She put the pots near the window and watered each pot with the same amount of water every day.



(a) Why was Susan's experiment not a fair one? [1]

(b) What would you do to make it a fair test? [1]

END OF PAPER

SAT

ANGLO CHINESE SCHOOL (JUNIOR)
SEMESTRAL ASSESSMENT 1 (2005)
SCIENCE
PRIMARY FOUR

01. 3	11. 3	21. 3
02. 4	12. 1	22. 3
03. 3	13. 4	23. 4
04. 3	14. 4	24. 3
05. 4	15. (3)	25. 1
06. 3	16. (3)	26. 1
07. 2	17. (3)	27. 3
08. 2	18. 1	28. 3
09. (3)	19. 1	29. 1
10. 3	20. (1)	30. 2

31) D B A C

32) a) Both animals have six legs.

b) Both animals have feelers.

33) a) A material must be waterproof to make it suitable for making part Y of the above umbrella.

b) Wax

c) Aluminium is lighter than iron, this makes aluminium a better choice than iron.

34) a) X

Z

Y

b) Turn off the top when soaping yourself.

35) a) Stage A and B

b) This is because in Stage A, the seed will get food from the seed leaves so it does not need sunlight to photosynthesize.

c) Air, water and warmth.

36) a) R O P Q

B) The mass of a 3-cm wooden cube is smaller than the mass of 1 3-cm iron cube.

37) Difference 1 : The larva of the ladybird moves around in Stage X while it does not in Stage Y.

Difference 2 : The larva of the ladybird eats in Stage X while it does not in Stage Y.

38) a) Sugar

b) A green plant obtains substance P which is absorbed by the roots while a green plant obtains Gas Q which is passed through the stomata of the leaf.

39) a) Arrow 1 : Evaporation

Arrow 2 : Condensation

b) The plant will give out some water vapour which will then rise and condense to form clouds.

40) a) C : Stomach

E : Large intestine

b) Part D

41) a) i) Increase the number of batteries used.

ii) Coil the wire around the iron nail more times.

b) The copper nail will not be able to magnetise. This is because non-magnetic materials cannot be magnetised and copper is a non-magnetic material.

42) a) Arrows 3 and 4

b) Respiration

43) The skull. The skull does not need to move.

44) a) Ring magnet, U-shaped magnet and bar magnet.

b) If the strength of the magnetic force of the magnet is strong, the pulling distance of the magnet will be longer.

45) a) Metal bars A and D.

b) When the bar magnet was brought near metal bars A and D, they repelled the bar magnet. This means they are magnets.

c) Metal bar C

46) a) Size of the plant is different. Amount of soil is different.

b) Use a similar size plants. Some amount of soil in each pot.

47
END!