

ANGLO-CHINESE SCHOOL
(JUNIOR)



SEMESTRAL ASSESSMENT 1 (2012)
PRIMARY 5

SCIENCE

BOOKLET A

Monday

14 May 2012

Name : _____ ()

Class : P5 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 25 questions in this booklet.

Answer ALL questions.

INFORMATION FOR PUPILS

The total marks for this booklet is 50.

The total time for Booklets A and B is 1 hour 30 minutes.

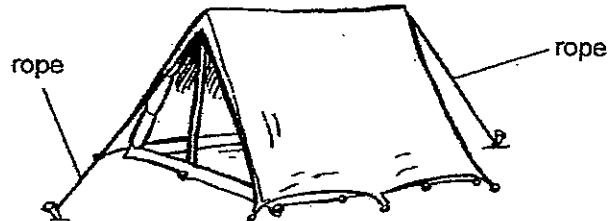
This question paper consists of 14 printed pages. (Inclusive of cover page)



Section A (50 marks)

For each question from 1 to 25, four options are given. One of them is the correct answer. Choose the correct option (1, 2, 3 or 4) and shade the correct oval on the Optical Answer Sheet (OAS).

- 1 The diagram below shows a tent with ropes pulled tight.



Which of the following properties of the rope is most important for holding the tent in place?

- (1) Mass
- (2) Strength
- (3) Flexibility
- (4) Hardness

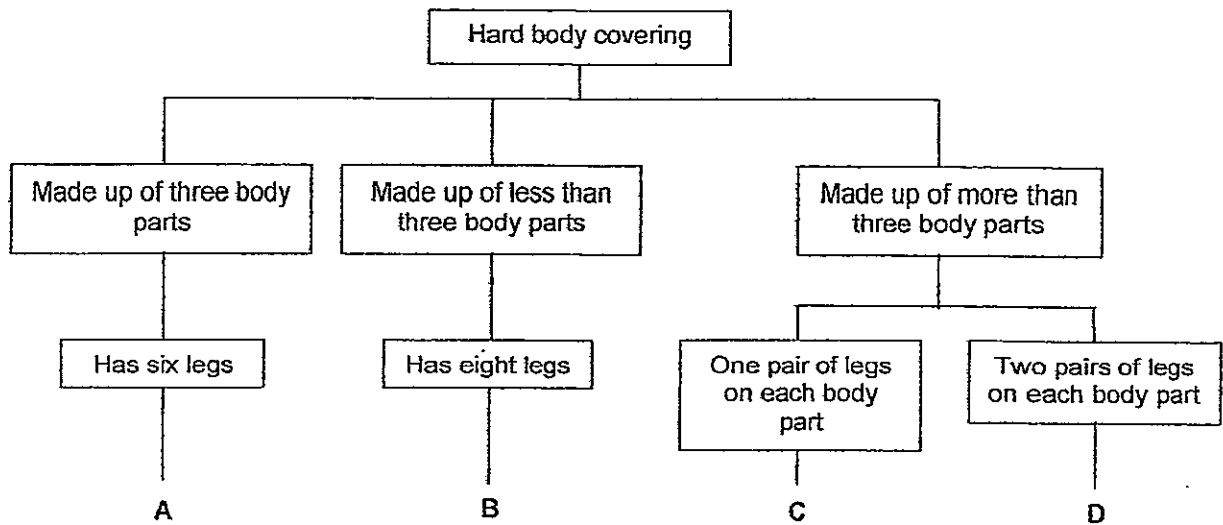
- 2 What do the following living things have in common?



- A They are non-living things.
- B They need air, food and water.
- C They can make their own food.
- D They can only be seen through a microscope.

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

3 Study the classification table below.



Which letter A, B, C or D best represents the animal shown below?



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

4 Substance X freezes at 60°C and boils at 650°C. Which one of the following shows the correct state of substance X at 39°C and 400°C?

State of substance X at	
39°C	400°C
(1) Solid	Gas
(2) Solid	Liquid
(3) Liquid	Gas
(4) Liquid	Solid

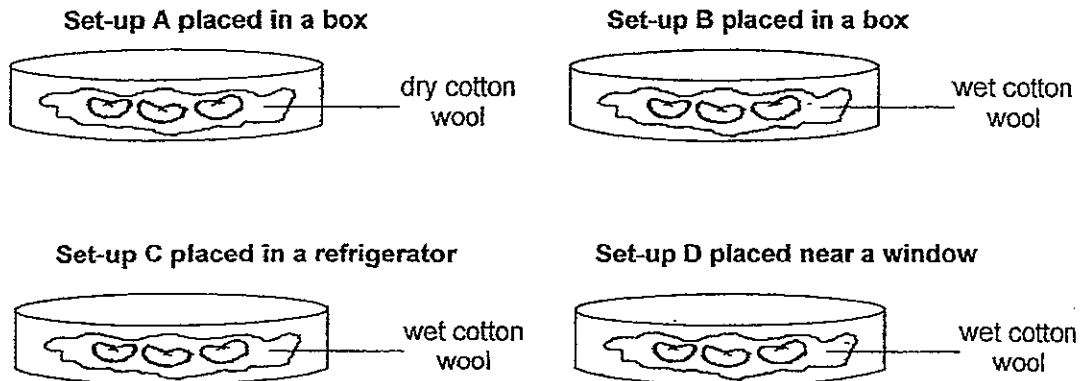
5 How are the young of the butterfly and the grasshopper similar?



- A They moult.
- B They have no wings.
- C They will turn into a pupa.
- D They resemble their parents.

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

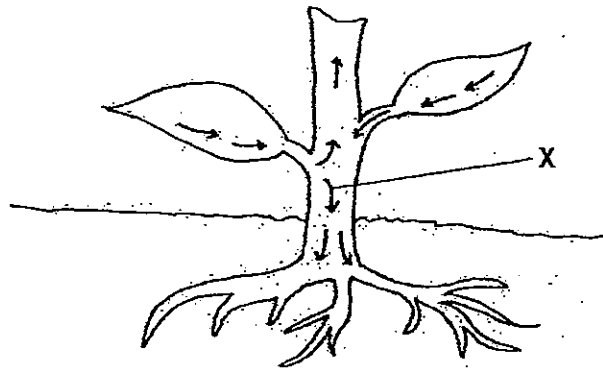
6 Austin wanted to find out whether sunlight is necessary for a seed to germinate into a young plant. He prepared four set-ups as shown below.



Which of the two set-ups shown above should Austin use for his experiment?

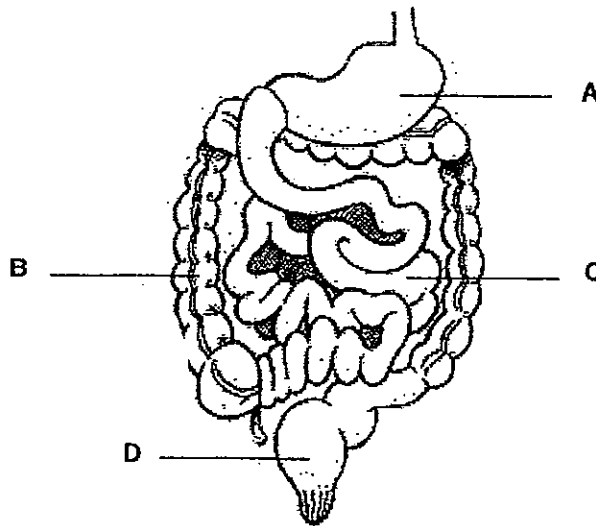
- (1) A and B
- (2) B and C
- (3) B and D
- (4) A and D

- 7 The diagram shows a plant and the path (→) taken by X after photosynthesis.



What is X?

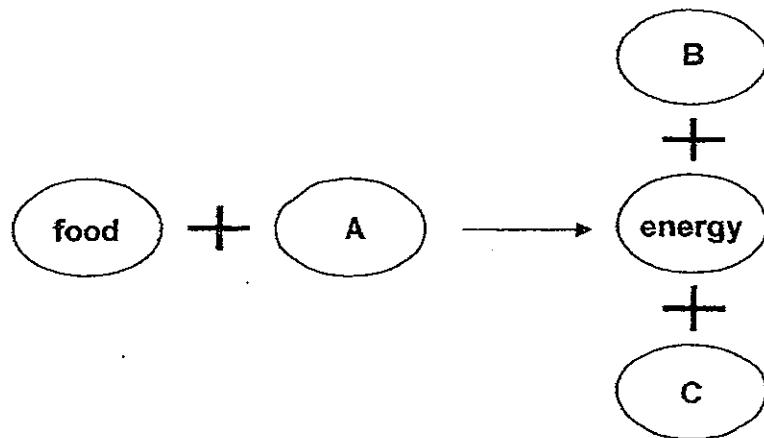
- (1) water
 - (2) glucose
 - (3) chlorophyll
 - (4) mineral salts
- 8 The diagram below shows part of the human digestive system.



In which part, A, B, C or D, is digested food absorbed into the bloodstream?

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

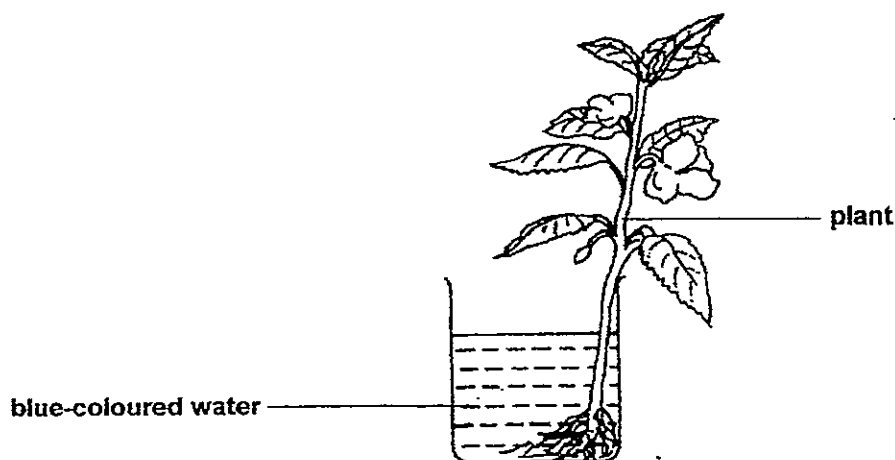
9 The diagram shows the process of respiration in plants.



Which of the following represents A, B and C in the diagram?

	A	B	C
(1)	water	light	oxygen
(2)	oxygen	carbon dioxide	light
(3)	light	carbon dioxide	water
(4)	oxygen	water	carbon dioxide

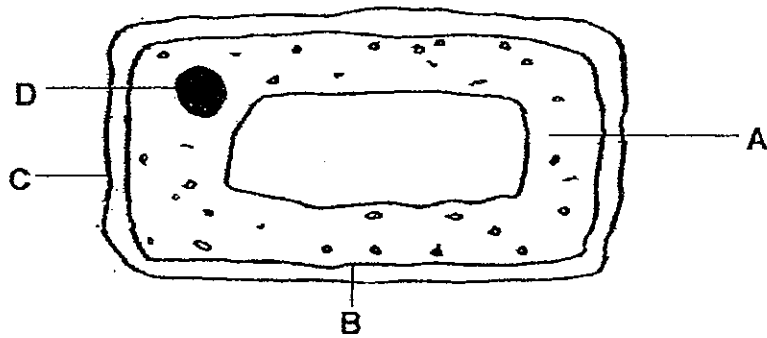
10 Craig placed a plant with white flowers into a beaker of water in which some blue food-dye had been added. The following day, he observed that the flowers turned from white to blue.



Which of the following statements is true about Craig's observation?

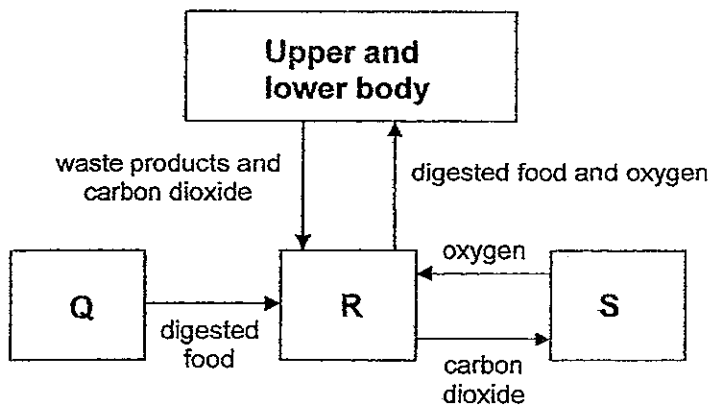
- (1) The roots absorbed the blue-coloured water.
- (2) The plant needs blue-coloured water to survive.
- (3) The blue-coloured water makes the stem stronger.
- (4) The blue-coloured water travels only to the flowers.

- 11 The diagram shows a cell. Which part, A, B, C or D, allows some but not all substances to pass in and out of the cell?



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

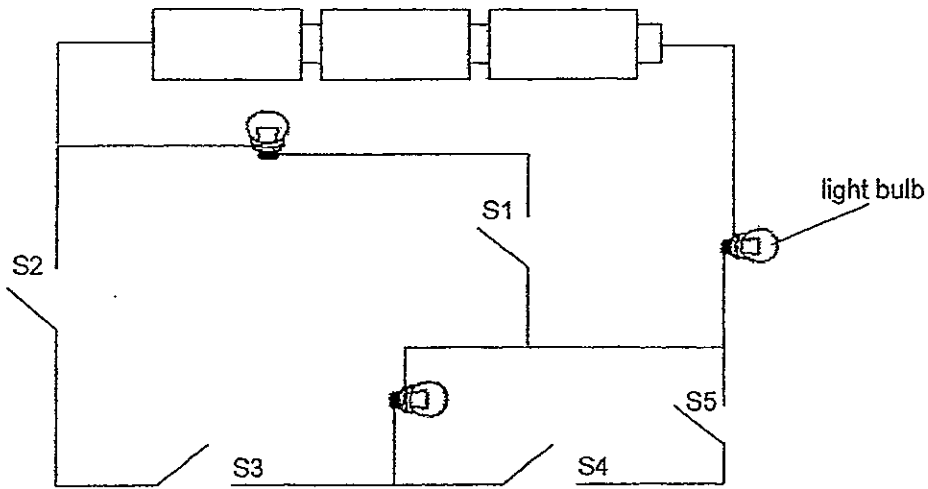
- 12 The diagram below shows the different systems in the human body working together.



Based on the diagram above, which of the following correctly represents Q, R and S?

	Q	R	S
(1)	Respiratory	Circulatory	Digestive
(2)	Digestive	Respiratory	Circulatory
(3)	Circulatory	Digestive	Respiratory
(4)	Digestive	Circulatory	Respiratory

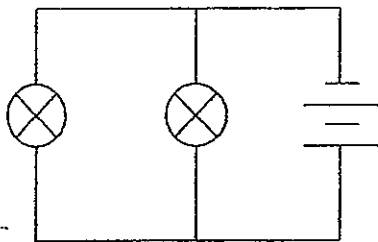
13 Study the circuit shown below.



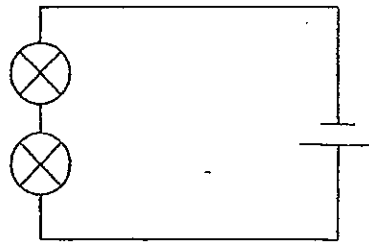
What is the least number of switches that must be closed for all the bulbs to light up?

- (1) 2 switches only
- (2) 3 switches only
- (3) 4 switches only
- (4) 5 switches only

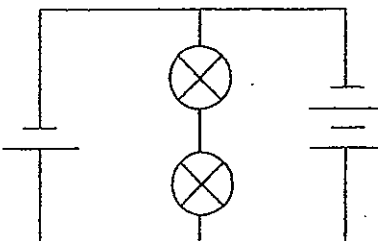
14 Keith is trying to find out the relationship between the arrangement of bulbs and the brightness of the lighted bulbs. Which two circuits should he use to make the comparison?



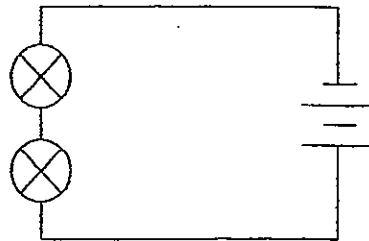
Circuit A



Circuit B



Circuit C

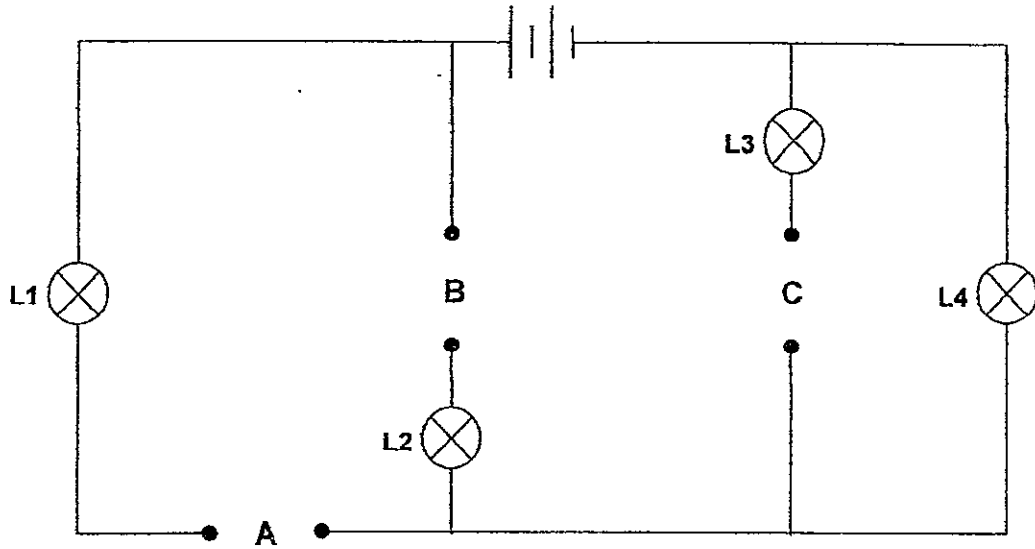


Circuit D

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

15

Leeyi constructed a circuit as shown below. He used three similar rods X, Y and Z of different materials and placed them in various positions A, B and C.



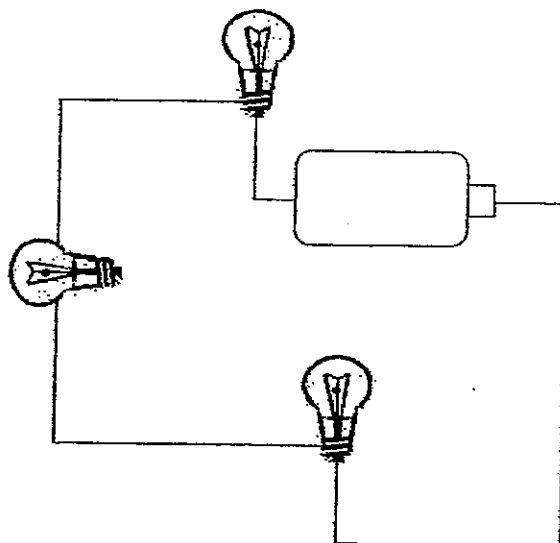
The results of the experiment are shown in the table below. A tick (✓) indicates that the light bulb lit up during the experiment.

Position			Light bulb			
A	B	C	L1	L2	L3	L4
Rod X	Rod Y	Rod Z	✓			✓

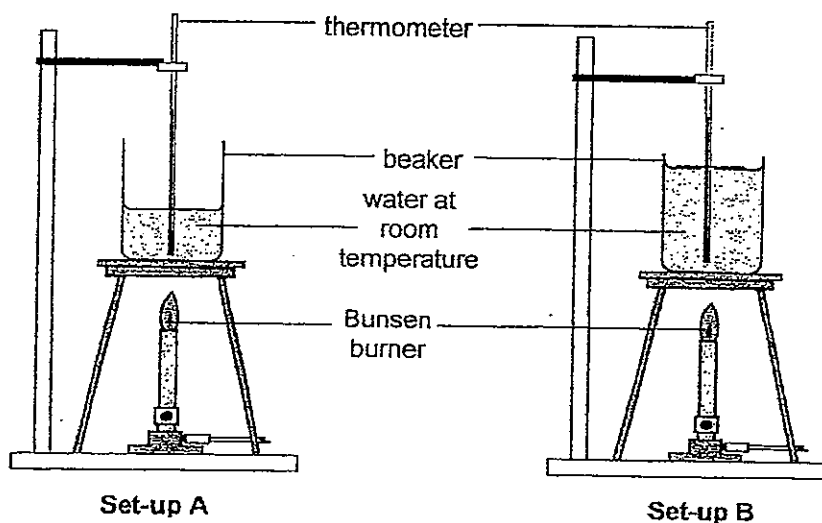
Which of the following shows the correct result if the rods X, Y and Z were placed at different positions?

	Position			Light bulb			
	A	B	C	L1	L2	L3	L4
(1)	Rod X	Rod Z	Rod Y	✓	✓		✓
(2)	Rod Y	Rod X	Rod Z		✓	✓	✓
(3)	Rod Z	Rod Y	Rod X			✓	✓
(4)	Rod Z	Rod X	Rod Y		✓		✓

- 16 Look at the circuit below. How many bulbs will light up?



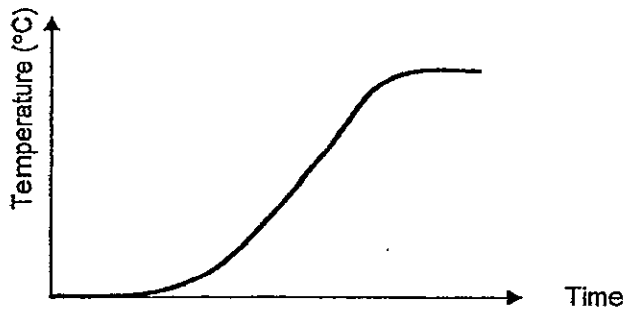
- (1) 3
 (2) 2
 (3) 1
 (4) 0
- 17 Evelyn conducted an experiment using the two set-ups as shown below. She heated both beakers until the water in both beakers boiled.



Which of the conclusion is the most accurate based on Evelyn's experiment?

- (1) Set-up A has more heat than Set-up B.
 (2) Both set-ups have the same amount of heat.
 (3) The lesser the volume of water, the faster it will take to reach boiling point.
 (4) The greater the volume of water, the faster it will take to reach boiling point.

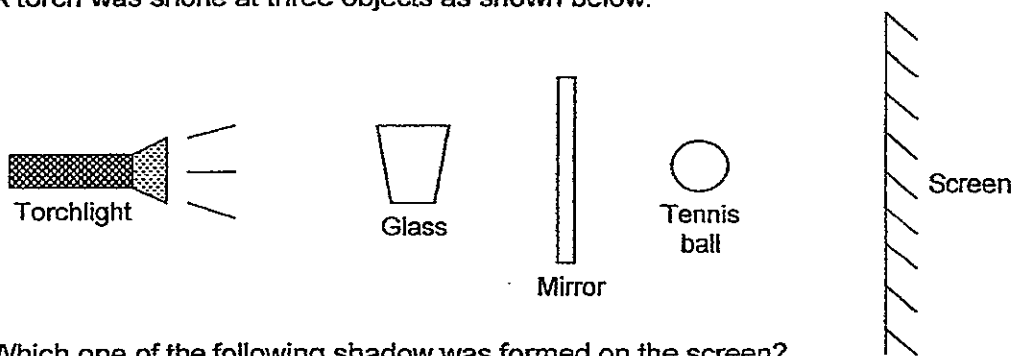
18 Study the graph below.



Which of the following would best produce the result as shown in the graph?

- (1) Freezing water.
- (2) Ice-cream melting.
- (3) A fan blowing a cup of hot coffee.
- (4) Adding ice into water at room temperature.

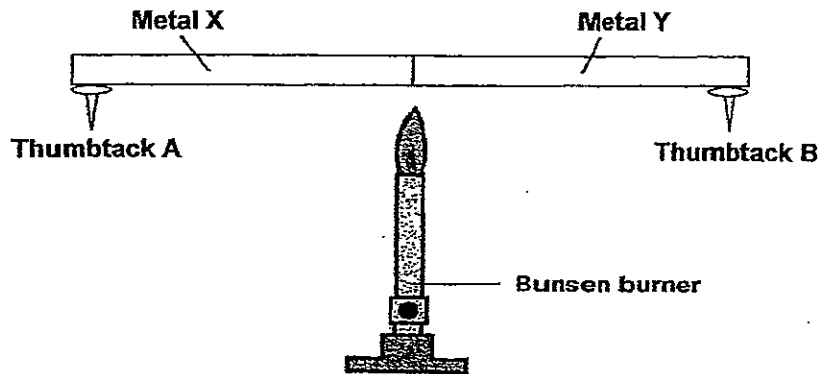
19 A torch was shone at three objects as shown below.



Which one of the following shadow was formed on the screen?

- (1)
- (2)
- (3)
- (4)

- 20 Jack set up an experiment to find out which metal is a better conductor of heat. He attached identical thumbtacks A and B at the end of each metal piece with candle wax. He heated both rods with a Bunsen burner.



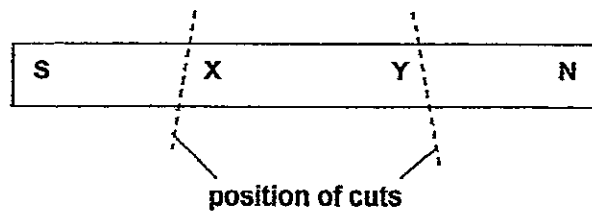
Jack conducted the experiment three times and recorded the time taken for each thumbtack to drop in the table below.

Thumbtack	Time taken for the thumbtack to drop		
	1 st timing	2 nd timing	3 rd timing
X	56 seconds	58 seconds	55 seconds
Y	78 seconds	77 seconds	75 seconds

Based on the results, which of the following statements are true?

- A Metal X gains heat faster than Metal Y.
 - B Metal Y loses heat faster than Metal X.
 - C Metal X is a better conductor of heat than Metal Y.
 - D Thumbtack B is a better conductor of heat than thumbtack A.
- (1) A and B only
 (2) A and C only
 (3) C and D only
 (4) All of the above
- 21 Which of the following ways can a magnet lose its magnetism?
- A By heating the magnet.
 - B By freezing the magnet.
 - C By dropping the magnet repeatedly.
 - D By hitting the magnet with a hammer repeatedly.
- (1) A and B
 (2) C and D
 (3) A, C and D
 (4) All of the above

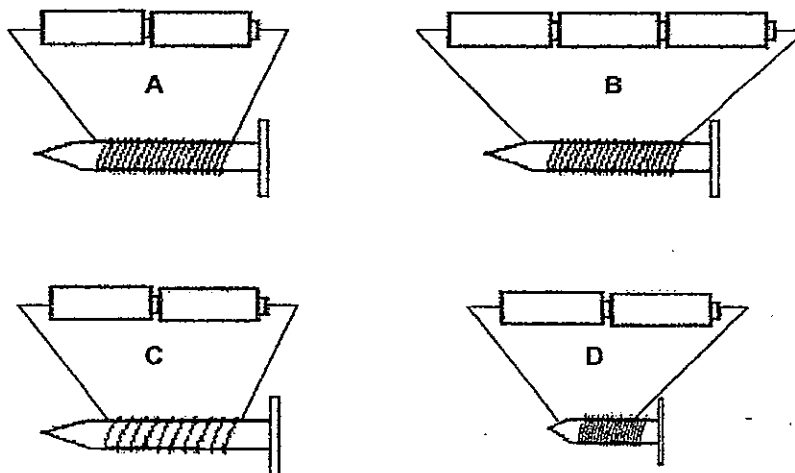
- 22 A bar magnet is cut into three parts as shown below.



What would the poles at X and Y be?

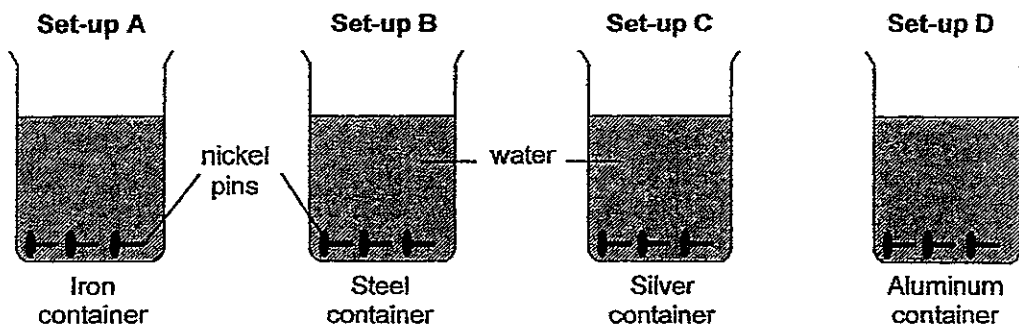
	X	Y
(1)	N-pole	S-pole
(2)	S-pole	N-pole
(3)	N-pole	N-pole
(4)	S-pole	S-pole

- 23 Ahmad wants to find out if the number of coils of wire around the nail affects the strength of an electromagnet. Which two arrangements shown below should he use to conduct a fair test?



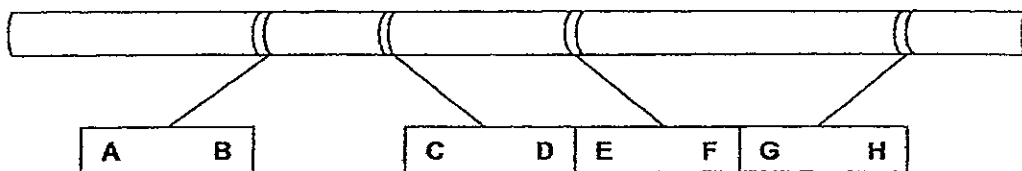
- (1) A and B
 (2) A and C
 (3) A and D
 (4) C and D

- 24 There are some nickel pins in each of the four containers of water. Without getting the magnet wet, Peter placed a strong magnet at the bottom of each container and slid the magnet upwards along the side of the container until its opening.



In which set-ups would Peter be able to remove the nickel pins from?

- (1) A and B only
 - (2) B and D only
 - (3) C and D only
 - (4) None of them
- 25 The diagram below shows four identical magnets hanging on a pole.



Which of the following statement is true?

- (1) C will repel H.
- (2) B and D are like poles.
- (3) A will be attracted to G.
- (4) A and H are unlike poles.

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(JUNIOR)



SEMESTRAL ASSESSMENT 1 (2012)
PRIMARY 5

SCIENCE

BOOKLET B

Monday

14 May 2012

Name : _____ ()

Class : P5 _____

INSTRUCTIONS TO PUPILS

DO NOT TURN OVER THE PAGES UNTIL YOU ARE TOLD TO DO SO

Follow all instructions carefully.

There are 14 questions in this booklet.

Answer **ALL** questions.

INFORMATION FOR PUPILS

The number of marks is given in brackets [] at the end of each question or part question.

The total marks for this booklet is 40.

The total time for Booklets A and B is 1 hour 30 minutes.

This question paper consists of 15 printed pages. (Inclusive of cover page)

BOOKLET A	/ 50
BOOKLET B	/ 40
TOTAL	/ 90
Parent's signature/ Date:	

PART II (40 marks)

For questions 26 to 39, write your answers in this booklet.
The number of marks available is shown in brackets [] at the end of each question or part question.

26 Study the diagrams below.



mould



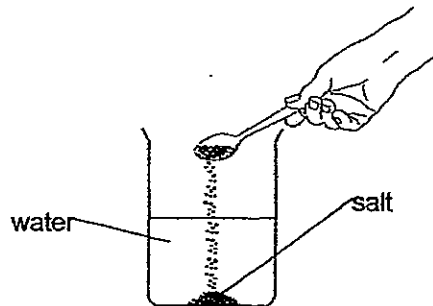
mushroom

(a) On each of the diagrams above, draw an arrow (→) pointing to the parts that produce spores. [1]

(b) Under what group of living things would mould and mushroom be classified under? [1]

(c) How do mould and mushroom obtain food?

27 Jerome poured 50g of salt into a container of 100ml of water.

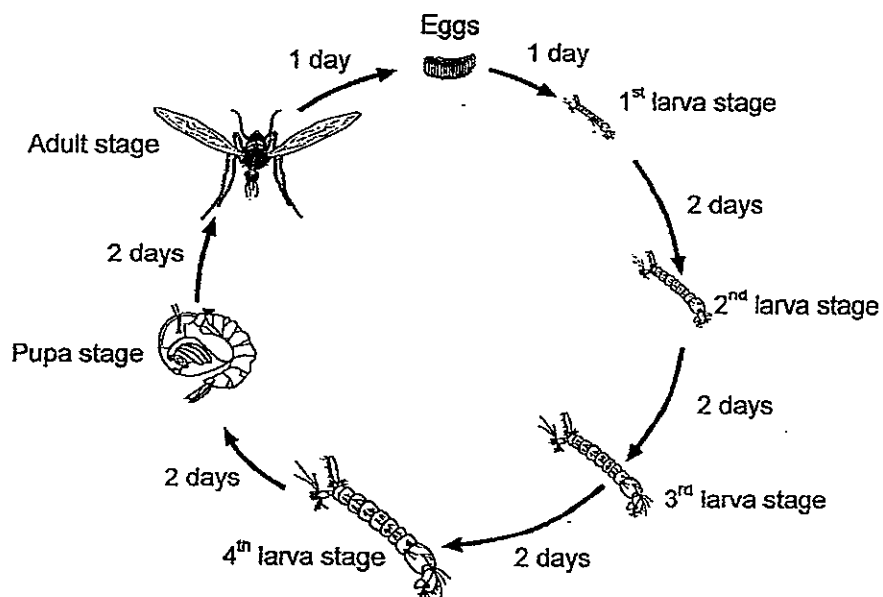


(a) What will happen to the water level in the container? Why? [1]

Score	
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- (b) What will happen to the water level in the container after Jerome stirs the water until all the salt is completely dissolved? Why? [1]

28 The diagram below shows a detailed life cycle of a mosquito.



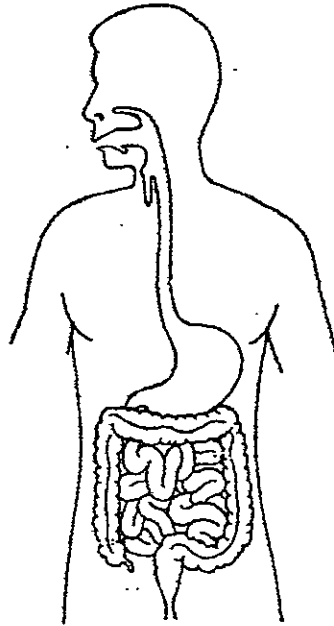
- (a) How many stages are there in the life cycle of a mosquito? [1]

- (b) At which stage(s) of the life cycle of the mosquito can it be found in water? [1]

- (c) How long does it take for the mosquito to become an adult? [1]

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29 The diagram below shows the human digestive system.

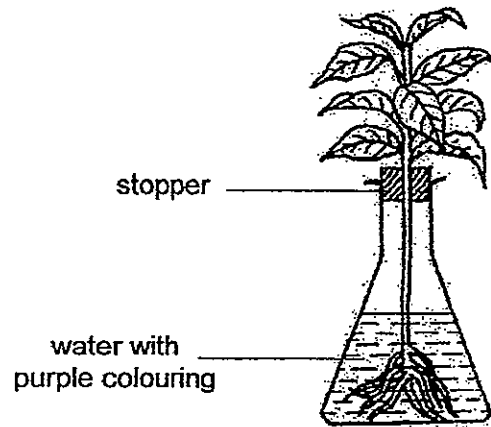


(a) State the functions of the small intestine. [1]

(b) Based on the diagram, name all the parts of the digestive system where digestion takes place. [1]

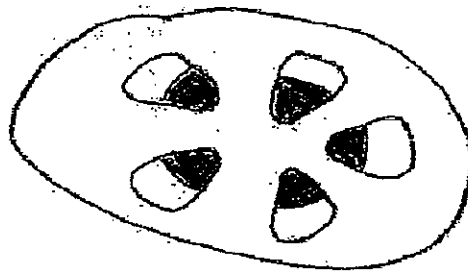
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- 30 Luke set up an experiment as shown below and placed it next to a window. After 5 days, he observed that the water level had decreased.



- (a) Explain why the water level decreased. [1]

Luke removed the plant from the set-up and cut its stem. He noticed that the cross-section of the stem had parts that were stained purple.

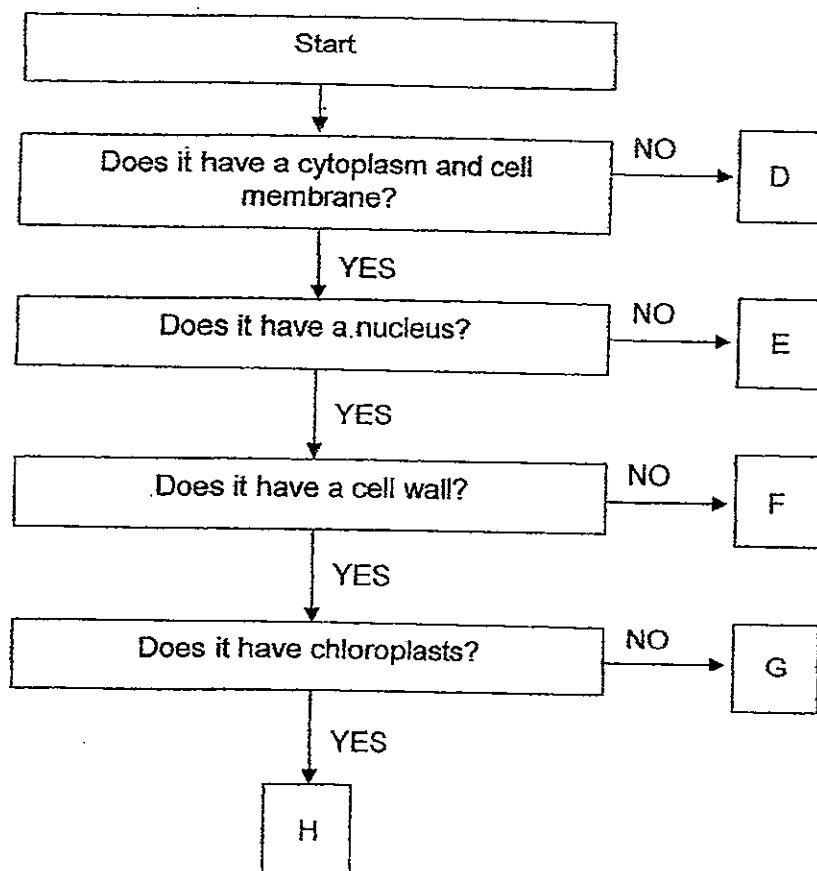


Cross-section of the stem

- (b) In the diagram above, shade the parts that were stained purple. [1]
- (c) Explain why some parts of the cross-section of the stem were stained purple. [1]

Score	
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31 Study the flowchart given below carefully.



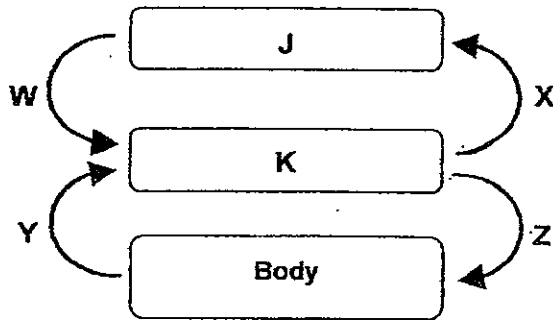
(a) Use the information given above to complete the table below. Put a tick (✓) under the correct heading to indicate if each statement is True, False or Not possible to tell. [2]

Statement	True	False	Not possible to tell
D is paper.			
E is a plant cell.			
F is an animal cell.			
H is able to photosynthesize.			

(b) Is it possible for G to be an animal cell? Explain your answer. [1]

Score	
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32 The diagram below shows a representation of the human circulatory system. Arrows W, X, Y and Z represent blood vessels. J and K represent organs.

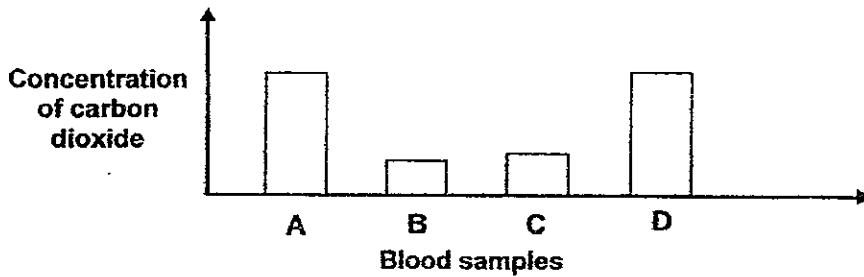


(a) Name the organs that letters J and K represent. [1]

J - _____

K - _____

Study the graph below. It shows the concentration of ^{carbon dioxide} oxygen in four blood samples A, B, C and D, taken at the same time from different blood vessels located in different parts of the circulatory system.

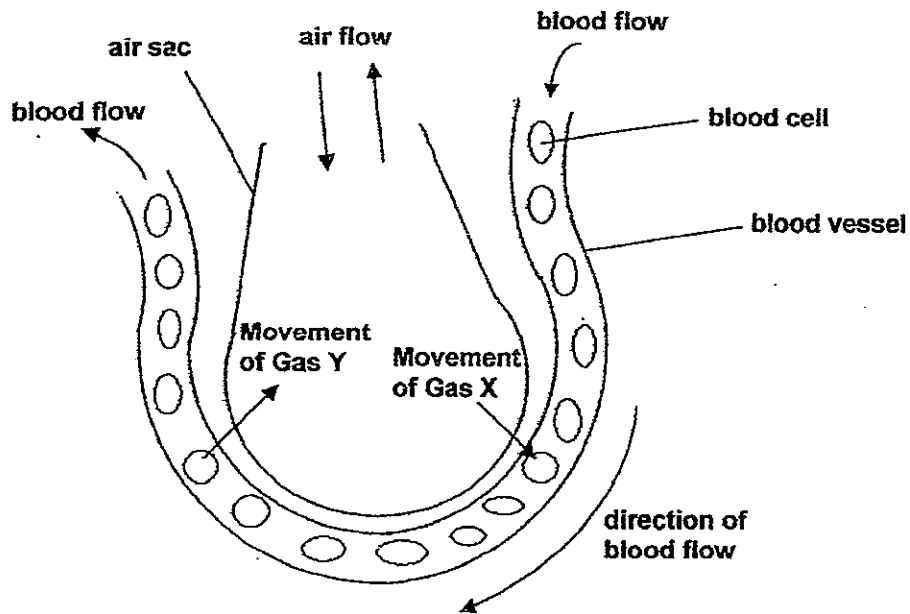


(b) Compare the blood samples and state their location in the blood vessels (W, X, Y and Z) by completing the table below. [2]

Sample	Taken from blood vessel
A	
B	
C	
D	

Score	
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33 The diagram below shows a section of an air sac in a lung of a human.



The diagram shows that Gas X leaves the air sac and enters the blood vessel and Gas Y enters the air sac and leaves the blood vessel.

(a) Name both Gas X and Gas Y. [1]

Gas X: _____

Gas Y: _____

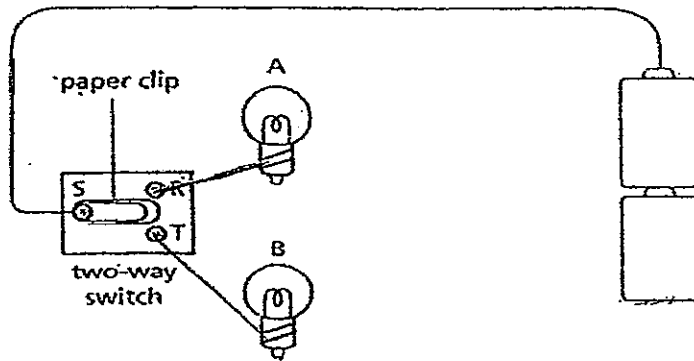
(b) Name the blood vessel in the diagram. [1]

(c) Why are the gases able to pass through the air sac and blood vessel easily? [1]

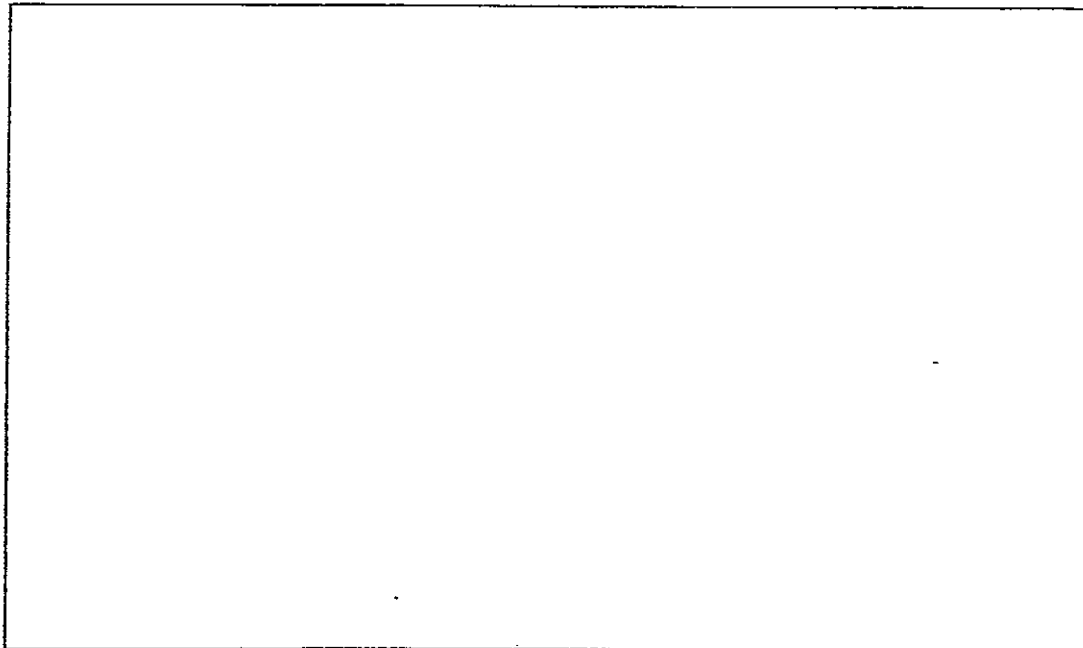
Score	
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34

Owen sets up the circuit as shown below. He used a piece of cardboard with three iron nails, R, S and T to make the switch. A paper clip is attached to nail S and the switch can be closed by moving the paperclip to touch either nail R or nail T.

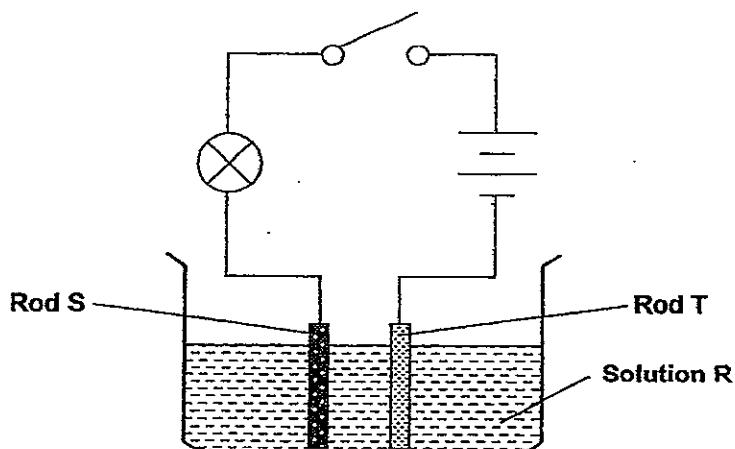


- (a) Draw wires on the diagram above to show how bulb A and B can be lit one at a time by connecting the paper clip to either nail R or nail T. [1]
- (b) Draw a closed circuit diagram to show the bulbs connected in parallel, using the components shown above. You need not use all the components. [2]



Score	
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- 35 Wesley set up an electrical circuit as shown below. He then dipped Rod S and Rod T into a beaker containing Solution R. The bulb lit up when the circuit was closed.



- (a) Based on the result of the experiment above, state a common property of Rod S, Rod T and Solution R. [1]

- (b) Wesley then conducted the experiment again by replacing Rod S with Rod X and then with Rod Y. The results are shown in the table below.

Rod	Did the bulb light up?
X	Yes
Y	No

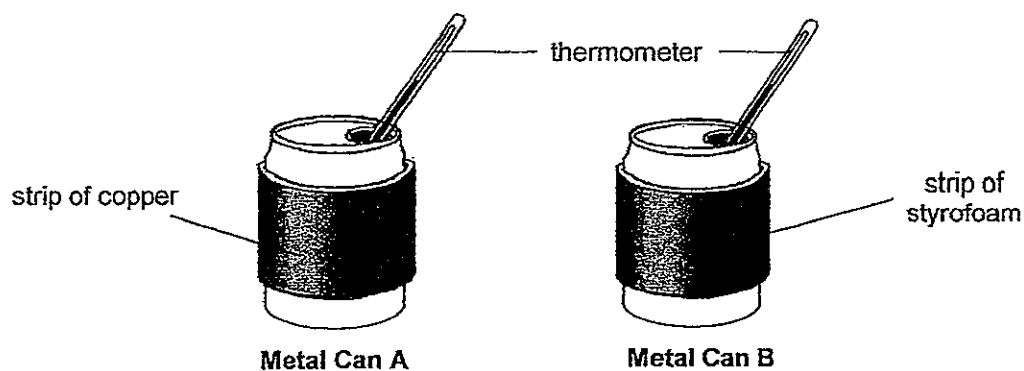
Name a suitable material that best represents Rod X and Rod Y. [2]

Rod X: _____

Rod Y: _____

Score	
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An experiment was conducted with two identical metal cans A and B that were filled with hot water at 90°C. A strip of copper was wrapped around Can A and a strip of styrofoam was wrapped around Can B as shown below.



The table below shows the temperature of the water in each can every 5 minutes.

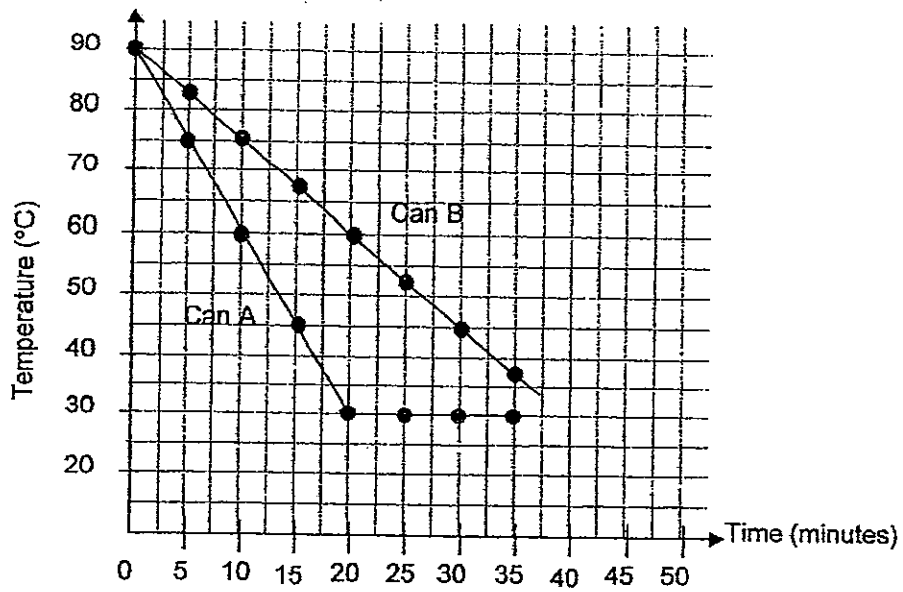
Time (minutes)	Temperature (°C)	
	Metal Can A	Metal Can B
0	90	90
5	75	83
10	60	75
15	45	68
20	30	60

- (a) In order to make this experiment fair, give one other variable that has to be kept constant. Do not state those already given in the question. [1]

- (b) Based on the results from the table, what can you conclude from the experiment? Explain your answer. [1]

Score	
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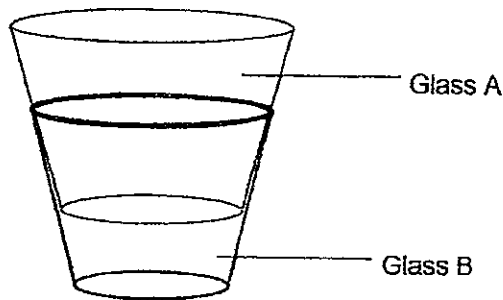
(c) Study the graph below.



What will be the temperature of the water in both cans after 50 minutes?
Explain why?

[1]

37 Jason found two glasses stuck together as shown below.

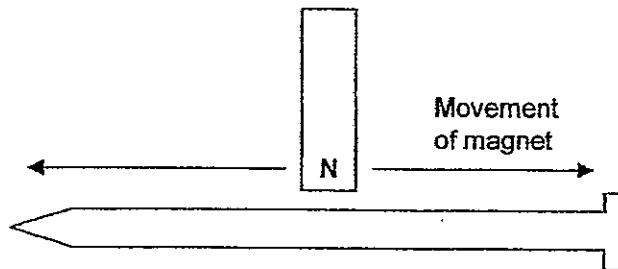


(a) Describe what Jason can do to separate the glasses without breaking them? [1]

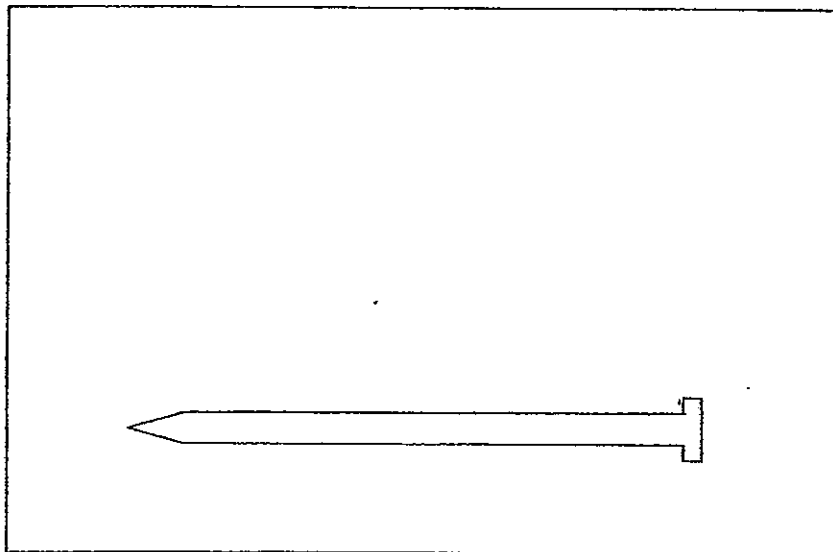
(b) Explain how your answer in (a) will work.

Score	
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38 Kaiming used a magnet to magnetise an iron nail. He moved the magnet as shown in the diagram below.



(a) Kaiming's teacher said that the iron nail would not be magnetised. In the box below, draw the magnet with the magnetic poles and the appropriate directional arrows to show the correct method to magnetise the iron nail. [1]



(b) For each **true** statement, write the letter "T" in the boxes provided. [2]

i) All magnets are made of iron.

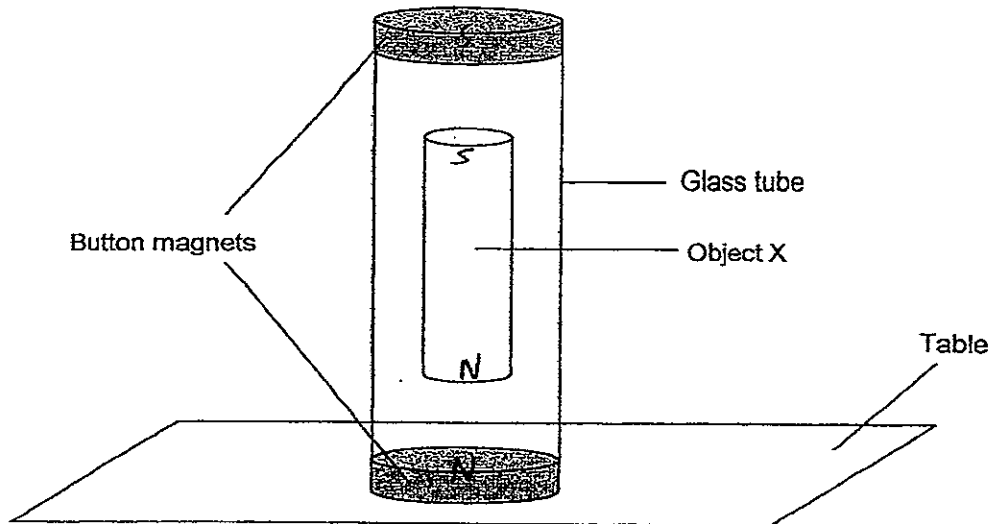
ii) Magnetism can act at a distance.

iii) All magnets can be attracted by a magnet.

iv) Magnetism can pass through other magnetic material.

Score	
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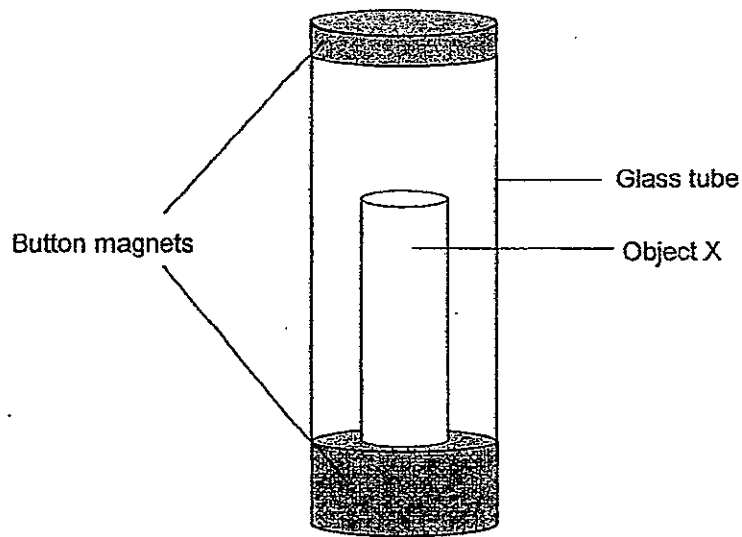
- 39 Raju placed Object X in a glass tube and closed the glass tube with a button magnet at each of the opening. He then placed the glass tube with the button magnets on a table as shown below. He observed that the Object X stayed afloat in the glass tube.



- (a) What is Object X? [1]

- (b) Explain why Object X was able to stay afloat in the glass tube. [2]

Score	
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- (c) Raju changed one of the button magnets to a bigger button magnet as shown in the diagram above. He observed that Object X was attracted to the bigger magnet. Explain why Object X was attracted to the bigger magnet. [1]

Score	
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ANSWER SHEET

EXAM PAPER 2012

SCHOOL : ACS
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA1

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
3	3	1	2	2	3	2	3	4	1	2	4	2	2	4	4	3

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
2	1	2	3	2	2	3	3

26)a)



mould

b)Fungi.

c)They feed on dead alive and decaying living things.

27)a)The water level will increase. The salt is a matter and it occupies space.

b)The water level will remain the same. It is because the salt still has the same volume when it is completely dissolved.

- 28)a)4 stages.
 b)Egg, larva and pupa.
 c)It takes 11 days.

- 29)a)Digestion of food is completed in the small intestine and digested food is absorbed into the bloodstream.
 b)The mount, stomach and the small intestine.

- 30)a)The roots of the plant absorbed the water for photosynthesis it to decrease.
 b)



Cross-section of the stem

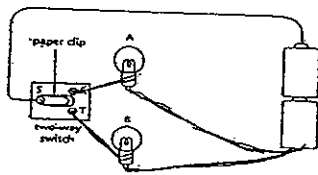
- c)The xylem tubes of the plant is responsible for transporting water absorbed by the roots to other plant parts.

- 31)a)Not, F, T, T
 b)No. Animal cells do not have a cell wall, only plant cells have.

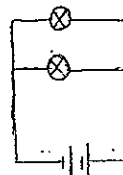
- 32)a)J: Lungs. K: Heart.
 b)X, W, Z, Y

- 33)a)X: Oxygen. Y: Carbon dioxide.
 b)Capillaries.
 c)Capillaries have thin walls.

34)a)



34)b)

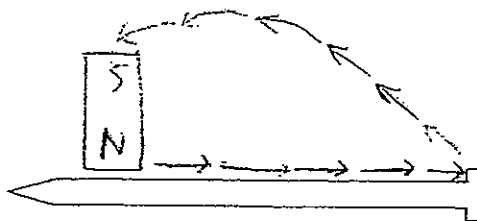


35)a) All three are conductor of electricity.
b) X: Iron Y: Plastic

36)a) The amount of hot water poured into each can must be the same.
b) Copper is a better conductor of heat than Styrofoam as the temperature of water in Can A decreases faster than Can B.
c) 30°C. It will remain at room temperature.

37)a) Jason can pour cold water into glass A and put glass B is a basin of hot water.
b) The cold water contracts glass A and glass B expands when heated so the glasses can be removed without breaking them.

38)a)



b) i) F ii) T iii) T iv) F

39)a) A magnet.
b) The south pole of object X is facing the south pole of the button magnet while the north pole of object X is facing the north pole of the other button magnet.
c) He had flipped the button magnet so that the unlike poles faced each other and unlike poles attract.

