

Name : _____ ()

Class : Primary 4 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)



Continual Assessment 2 – 2012

P4 SCIENCE

27 August 2012

BOOKLET A

Total Time for Booklets A and B: 1 hour 45 minutes

30 questions

60 marks

INSTRUCTIONS TO CANDIDATES

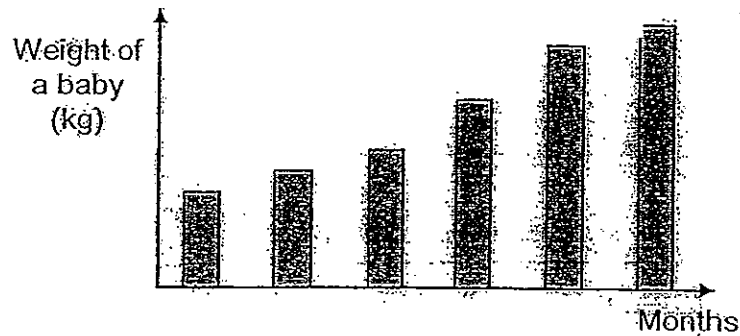
- Do not open this booklet until you are told to do so.
- Follow all instructions carefully.
- Answer all questions.

This booklet consists of 22 printed pages.

Section A : (30 x 2 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 answer (1, 2, 3 or 4) in the Optical Answer Sheet (OAS) provided.

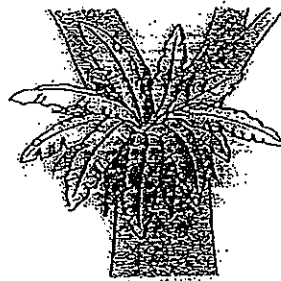
1. The bar chart below shows how the weight of a baby changed during the first 6 months of his life



The bar chart shows that the baby is able to _____.

- (1) eat
- (2) grow
- (3) reproduce
- (4) respond to changes

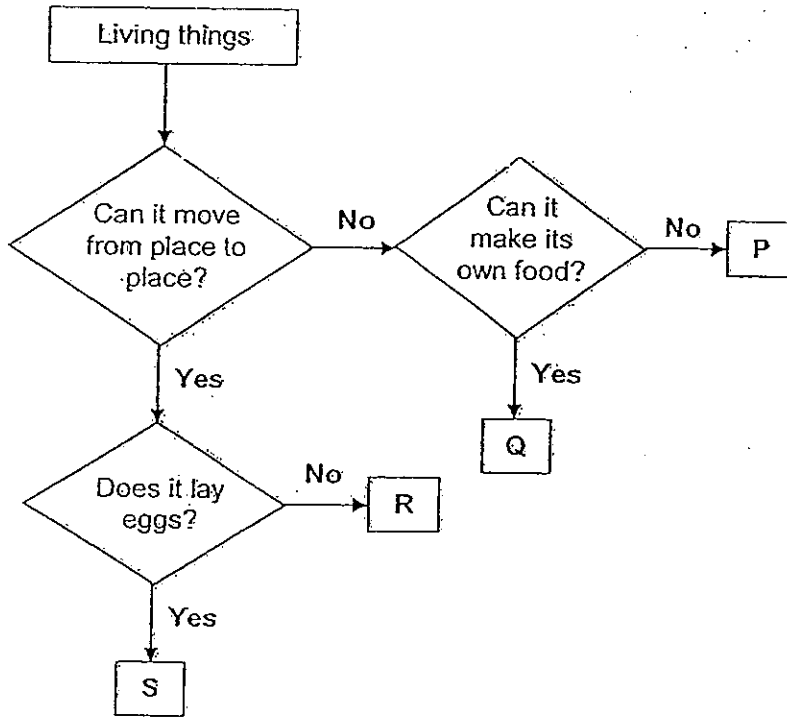
2. Muthu and Tim noticed a green plant growing between the branches of a big tree in the school garden.



Muthu told Tim that it was a non-flowering plant as it had no flowers. Tim could confirm Muthu's statement by finding out if the plant had _____.

- (1) stem
- (2) roots
- (3) leaves
- (4) spore bags

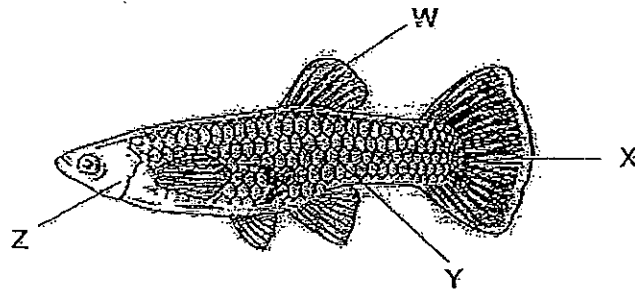
3. Study the flowchart below.



Which one of the following best represents organisms P, Q, R and S?

	P	Q	R	S
(1)	balsam	toadstool	duck	crocodile
(2)	ginger	yeast	cat	chicken
(3)	mushroom	hibiscus	bat	platypus
(4)	bracket fungus	staghorn fern	cow	dog

4. The picture below shows a fish.



Which one of the following correctly describes the functions of the labelled parts of the fish?

	W	X	Y	Z
(1)	helps the fish to balance	helps the fish to move forward	protects the fish	protects the gills
(2)	helps the fish to move forward	protects the fish	keeps the fish warm	takes in food
(3)	attracts other fish	passes out water	makes it look colourful	takes in air and water
(4)	helps the fish to stop	makes it look colourful	keeps the fish warm	helps the fish to breathe

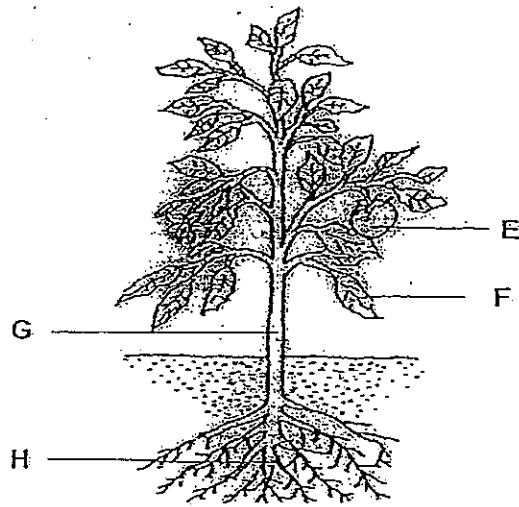
5. Which of the following statements correctly describe the following group of animals?

goat	horse	spiny anteater	bat
------	-------	----------------	-----

- A They give birth to their young alive.
- B They produce milk to feed their young.
- C They have hair or fur as their body covering.
- D They move from place to place in a similar way.

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

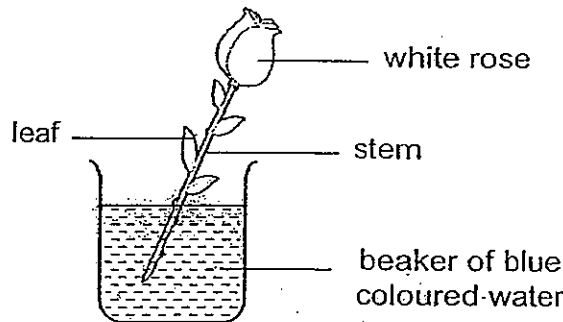
6. The picture below shows a plant with parts labelled E, F, G and H.



Which one of the following statements is false?

- (1) Part E stores food.
- (2) Part F makes food for the plant.
- (3) Part H absorbs water and nutrients for the plant.
- (4) Part G transports food from the roots to other parts of the plant.

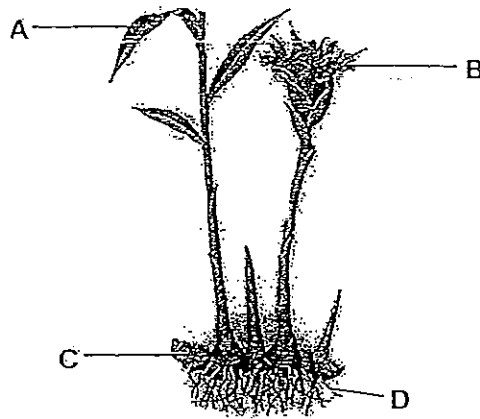
7. Randy placed a stalk of white rose into a beaker of water. He then added a few drops of blue colouring to the water in the beaker. After three days he observed that the petals of the flower had turned blue.



What conclusion can he draw from this experiment?

- (1) Roots take in water.
- (2) Rose plants need coloured water.
- (3) The stem transports water to the flower.
- (4) Coloured water cannot travel to the leaves.

8. The picture below shows a ginger plant.

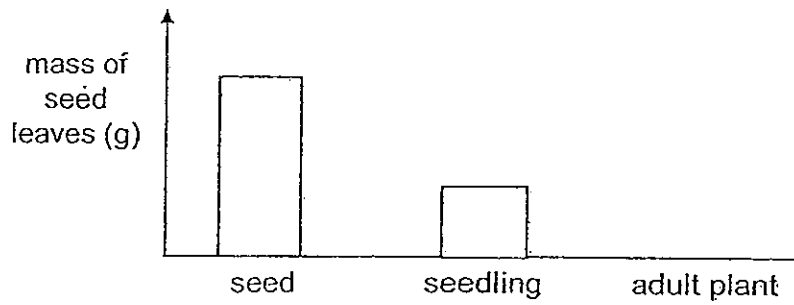


Which one of the following shows the correct name for each of the plant parts, A, B, C and D above?

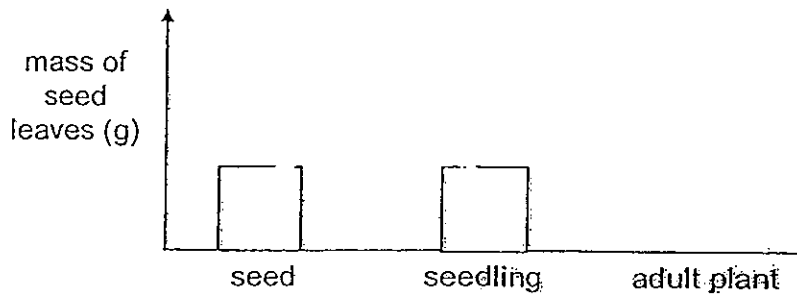
	A	B	C	D
(1)	leaf	fruit	root	stem
(2)	leaf	flower	stem	root
(3)	flower	leaf	stem	root
(4)	flower	leaf	fruit	stem

9. Which one of the bar graphs below correctly shows how the mass of the seed leaves changes as a plant grows?

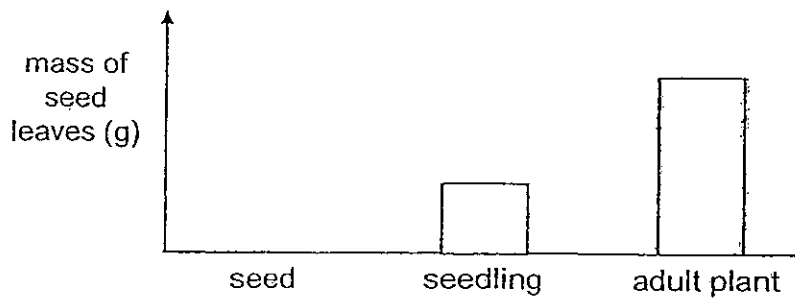
(1)



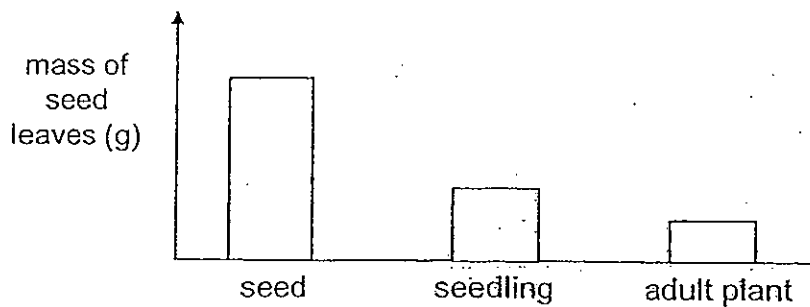
(2)



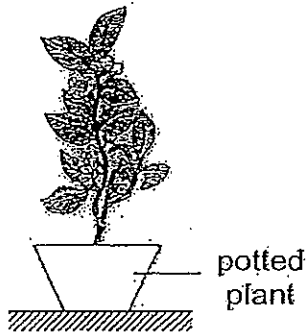
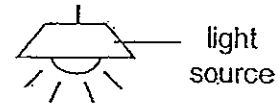
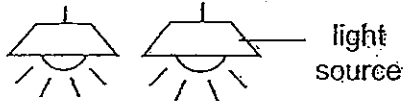
(3)



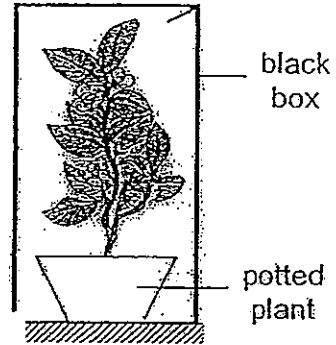
(4)



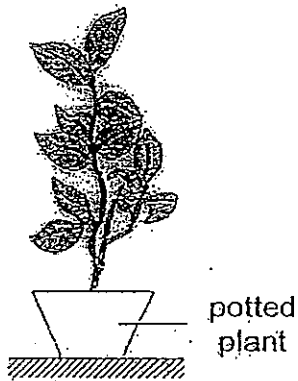
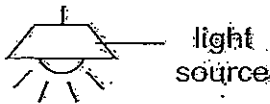
10. Huiyi wanted to find out if the amount of light that the plant is exposed to would affect its growth. Which two set-ups should she use to ensure that her experiment is fair?



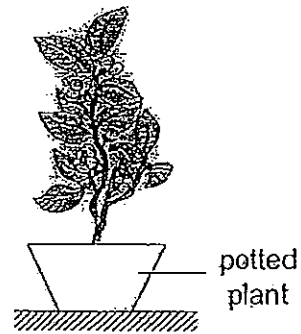
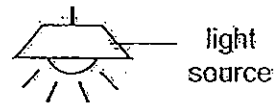
Set-up A



Set-up B



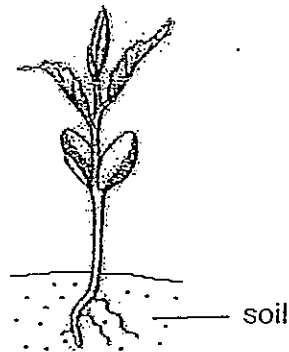
Set-up C



Set-up D

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

11. The picture below shows a young plant.

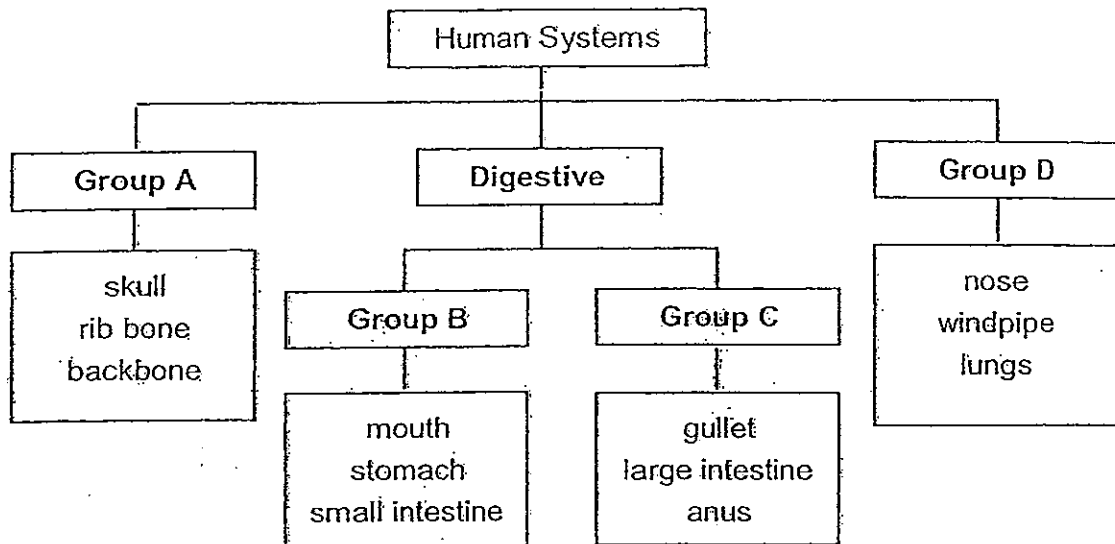


Which of the following statements about the plant at this stage of its life cycle are true?

- A It can now reproduce.
- B It can use its leaves to make its own food.
- C It does not use the food from the seed leaves.
- D It relies on its roots to obtain water from the soil.

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

12. Study the classification chart below.



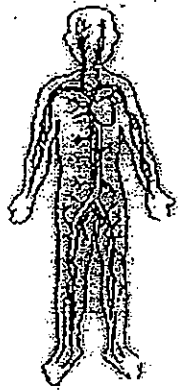
Which one of the following shows the correct headings for groups A, B, C and D above?

	Group A	Group B	Group C	Group D
(1)	skeletal	produces digestive juices	does not produce digestive juices	respiratory
(2)	skeletal	cuts food into small pieces	absorbs water	respiratory
(3)	circulatory	absorbs nutrients	cuts food into small pieces	circulatory
(4)	muscular	absorbs water	absorbs nutrients	skeletal

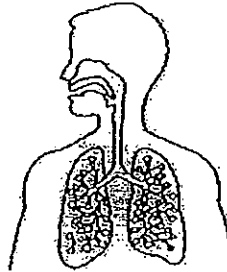
13. Which one of the following is a function of the muscular system?

- (1) It provides support for the body.
- (2) It enables different parts of the body to move.
- (3) It transports oxygen to every part of the body.
- (4) It breaks down food into useful nutrients for the body.

14. The pictures below show two human systems X and Y.



System X

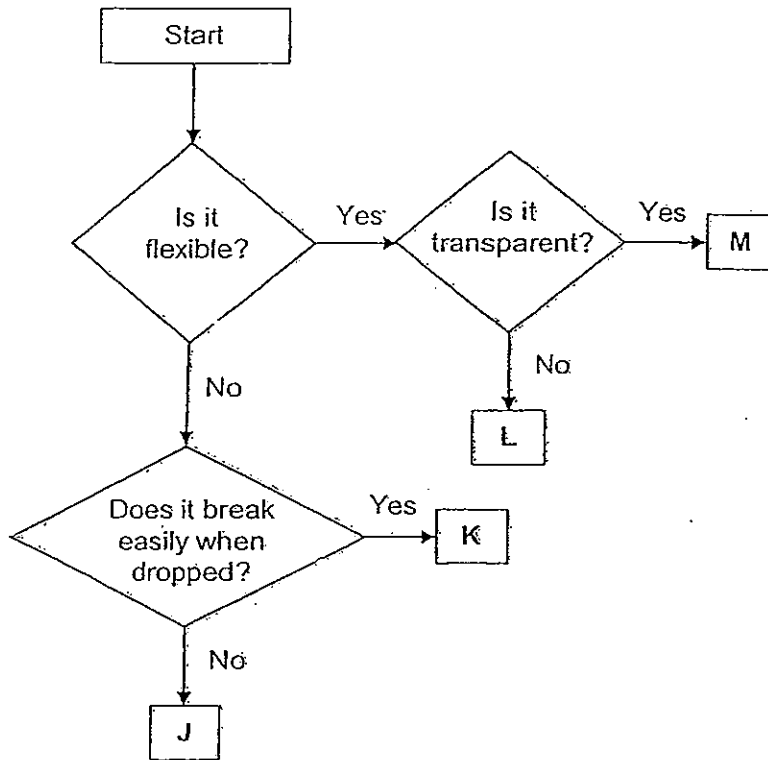


System Y

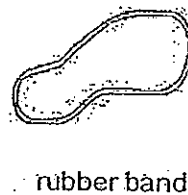
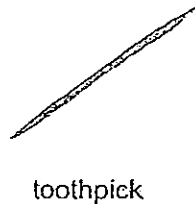
Which one of the following statements correctly describes the difference between the two systems?

- (1) System X gives the body its shape but system Y does not.
- (2) System X does not help to break down food but system Y does.
- (3) System X transports materials around the body but system Y does not.
- (4) System X removes waste products from the body but system Y does not.

15. Study the flowchart below.

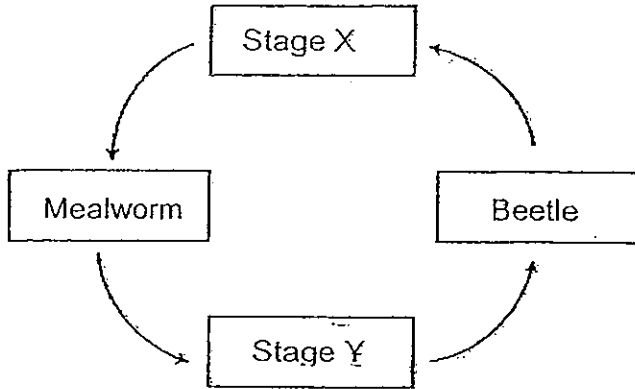


Which letters, J, K, L and M, represent each of the following objects respectively?



	plastic bag	toothpick	rubber band	ceramic cup
(1)	L	K	M	J
(2)	M	J	L	K
(3)	M	K	L	J
(4)	L	J	M	K

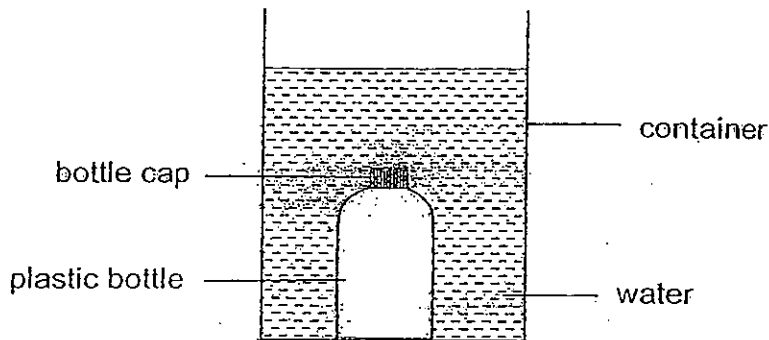
16. The diagram below shows the stages in the life cycle of a mealworm.



Which one of the following best represents stages X and Y?

	Stage X	Stage Y
(1)	larva	egg
(2)	pupa	adult
(3)	adult	larva
(4)	egg	pupa

17. An empty plastic bottle is held below the surface of a container of water as shown in the diagram below. When the bottle cap is removed, which one of the following observations would you expect to see?



- (1) Water will flow out of the container.
- (2) Air will be trapped in the bottle by the water.
- (3) The water level in the container begins to rise.
- (4) Bubbles of air will be seen coming out from the bottle.

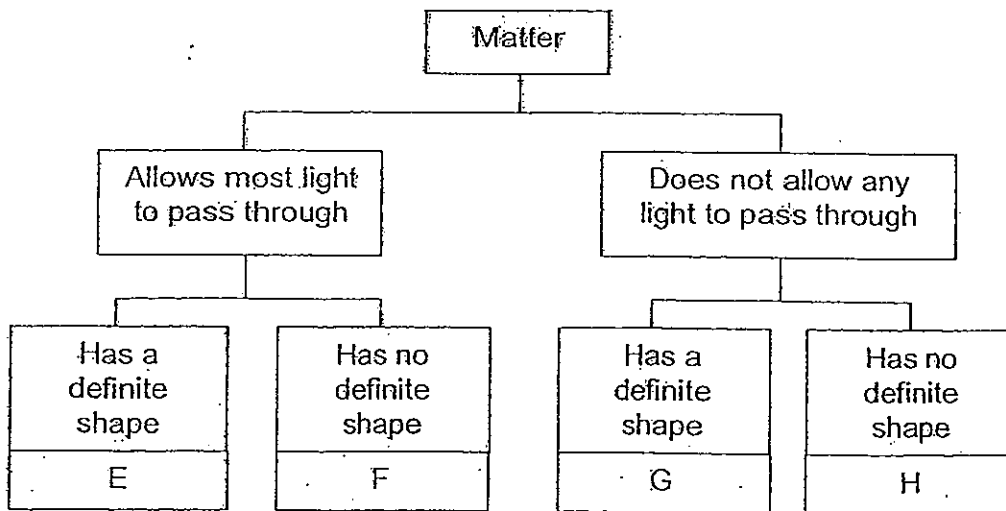
18. The table below shows the classification of some substances.

Group A	Group B	Group C
Steam	Dew	Snow
Water Vapour	Rain Drops	Ice cube

The substances are classified according to _____

- (1) their states
- (2) the types of materials
- (3) whether they can be compressed
- (4) whether they have a definite shape

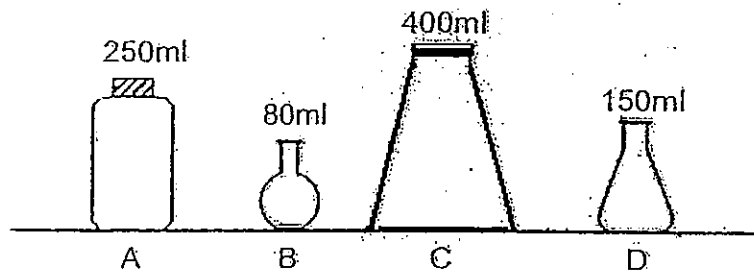
19. Study the classification chart below carefully.



Based on the classification chart above, which of the matter(s) CANNOT be solid?

- (1) F only
- (2) H only
- (3) F and H only
- (4) E and G only

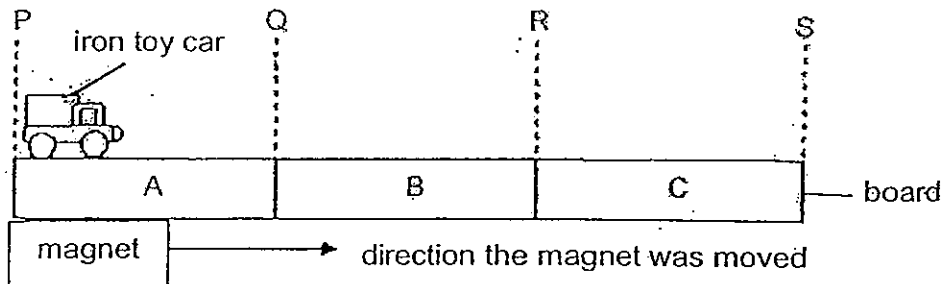
20. The diagram below shows 4 containers of different volumes.



Which of the containers can be totally filled with 150ml of air?

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

21. De Ming placed an iron toy car on a board made from three different materials, A, B and C, which were glued together. He used a magnet to move the toy car from point P to point S. However, the toy car came to a stop at point R.



What could materials A, B and C be made of?

	A	B	C
(1)	copper	steel	iron
(2)	steel	iron	wood
(3)	iron	copper	plastic
(4)	wood	plastic	steel

22. An iron rod is magnetised by using the stroking method, as shown in diagram 1 below. Diagram 2 shows a compass.

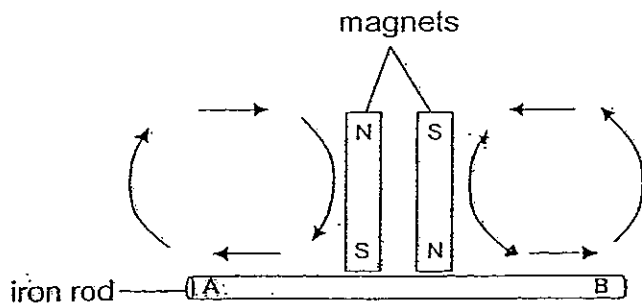


Diagram 1

compass

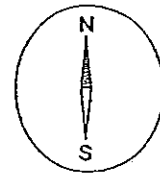
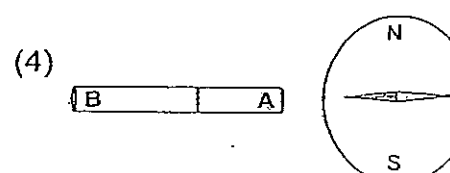
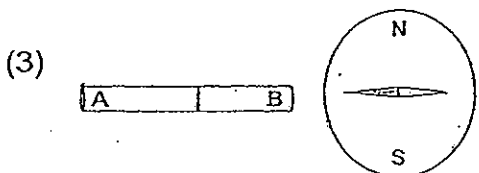
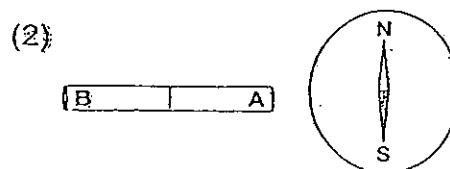
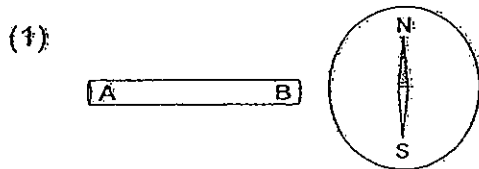
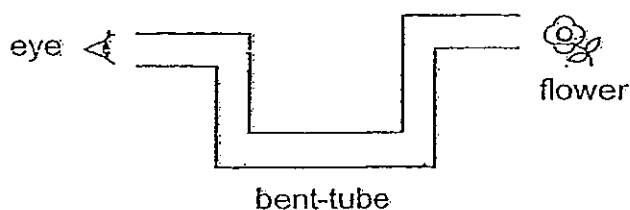


Diagram 2

When the magnetised rod is placed near the compass, which one of the following correctly shows the position of the compass needle?



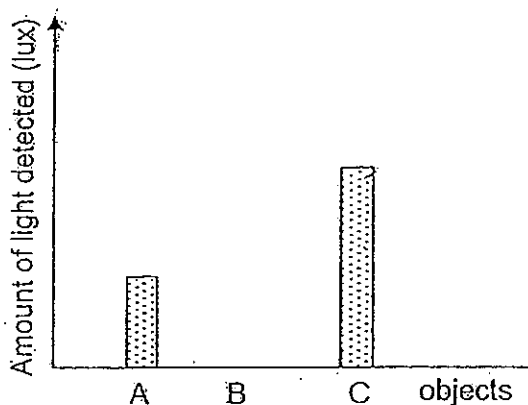
23. The diagram below shows a bent-tube with a flower at one end.



Dolly wants to see the flower through the bent-tube. In order to do that, what is the minimum number of mirrors she would need to place within the tube?

- (1) two
- (2) three
- (3) four
- (4) five

24. June carried out an experiment to find out the amount of light that passes through three objects, A, B and C respectively. She shone a torch at each object and used a datalogger to measure the amount of light that passed through each object. The graph below shows the results of her experiment.



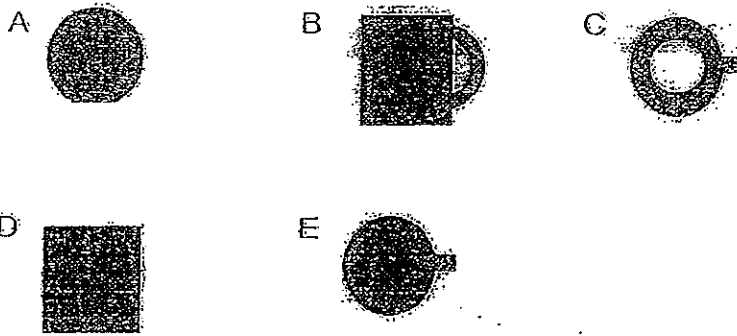
Which one of the following best represents objects A, B and C respectively?

	A	B	C
(1)	sunglasses	clear glass	cardboard
(2)	tracing paper	mirror	clear glass
(3)	sunglasses	tracing paper	mirror
(4)	cardboard	sunglasses	tracing paper

25. Samad carried out an experiment with an electric torch, a mug and a screen as shown in the diagram below. He changed the position of the mug to observe the shadow cast on a screen.

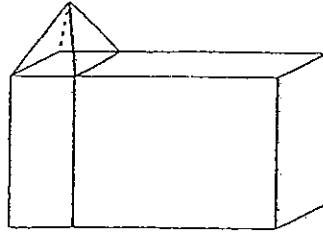


Which of the following shadows could he observe?

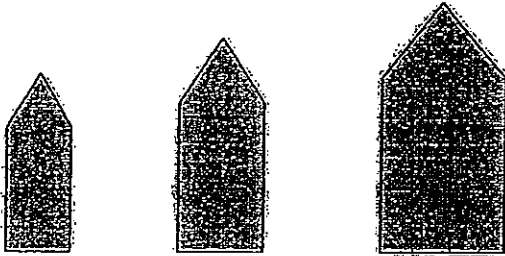


- (1) A and B only
- (2) B, D and E only
- (3) C, D and E only
- (4) A, B, C and D only

26. Four pupils observed the shadows cast by the object below when a light source was shone on it.



The diagrams below show the shadows of the object cast on a screen.



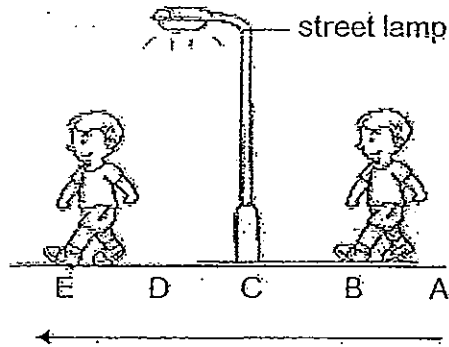
Based on the shadows cast, each of the four pupils made a statement as shown below.

- Don:** There is no change in the direction of the light source and the distance between the object and the light source.
- Peter:** There is a change in the direction of the light source and the distance between the object and the light source.
- Lucy:** There is a change in the distance between the object and the light source but the direction of the light source remains unchanged.
- Annie:** There is a change in the direction of the light source but the distance between the object and the light source remains unchanged.

Which one of the above pupils makes the correct observation?

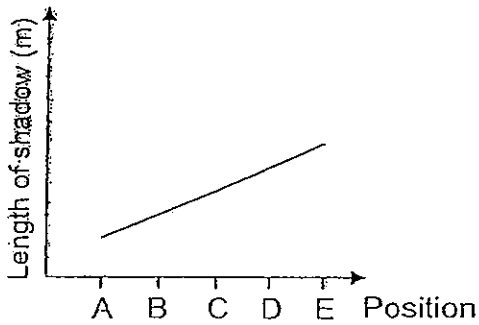
- (1) Don
- (2) Peter
- (3) Lucy
- (4) Annie

27. On a dark night, Paul walked from point A to point E, passing the street lamp as shown below.

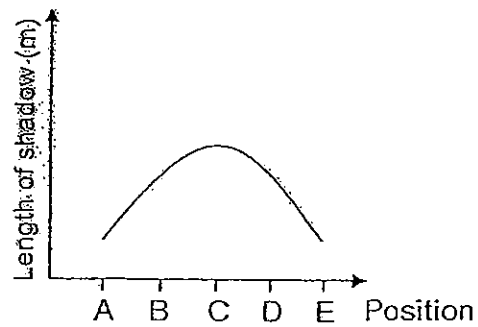


Which one of the following graphs best represents the changes in the length of Paul's shadow as he walked from point A to E?

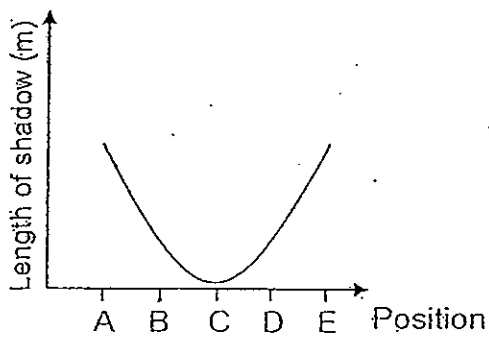
(1)



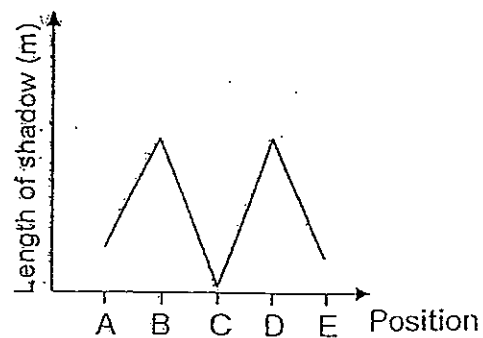
(2)



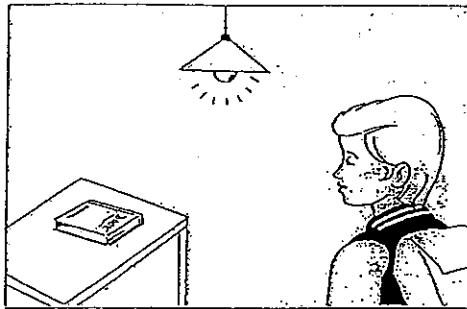
(3)



(4)

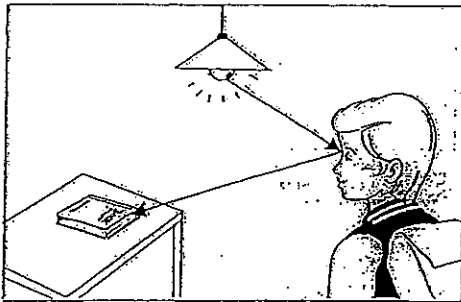


28. The diagram below shows a boy in a room with a lamp as its only light source.

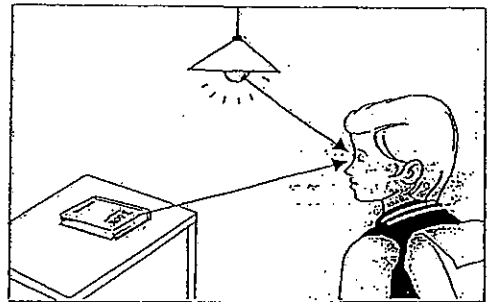


Which one of the diagrams below shows correctly the path of light that enables him to see the book on the table?

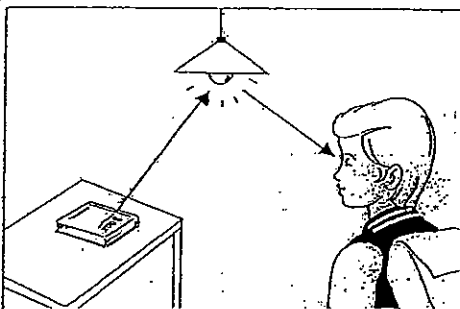
(1)



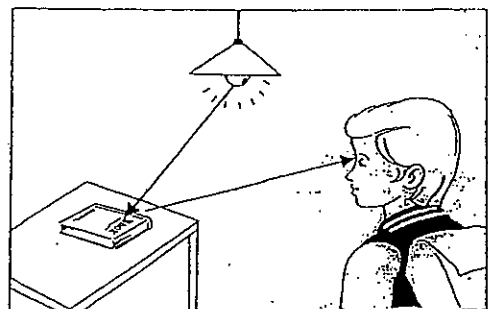
(2)



(3)



(4)

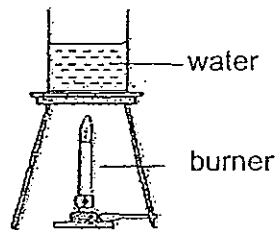


29. Which of the following is/are NOT a source of heat?

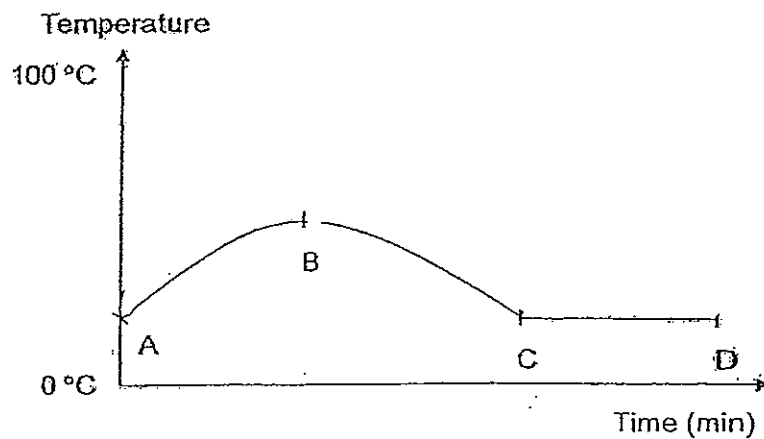
- A The Sun
- B A battery
- C The Moon
- D A lighted bulb

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

30. Rahima set up the following experiment. She recorded the changes in temperature of the water in the beaker for 5 minutes.



The graph below shows the changes in temperature of the water during the 5 minutes.



At which point of the graph was the burner removed?

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

~~~ END OF SECTION A ~~~





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

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

## CHIJ ST NICHOLAS GIRLS' SCHOOL (PRIMARY)



德 純 义 崇

### Continual Assessment 2 – 2012

#### P4 SCIENCE

27 August 2012

#### BOOKLET B

Total Time for Booklets A and B: 1 hour 45 minutes

14 questions  
40 marks

#### INSTRUCTIONS TO CANDIDATES

- Do not open this booklet until you are told to do so.
- Follow all instructions carefully.
- Answer all questions and write your answers on this booklet.

|           |     |
|-----------|-----|
| Booklet A | 60  |
| Booklet B | 40  |
| Total     | 100 |

\_\_\_\_\_  
Parent's Signature/Date

This booklet consists of 14 printed pages.



**Section B : (40 marks)**

For questions 31 to 44, write your answers in this booklet.

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

31. Hassim wanted to find out the conditions necessary for bread to become mouldy. He put some bread in three air-tight containers. The conditions of his set-ups are given in the table below.

| Set-up                      | A                  | B                   | C                  |
|-----------------------------|--------------------|---------------------|--------------------|
| Has the bread been toasted? | Yes                | No                  | No                 |
| Number of bread             | 2                  | 1                   | 2                  |
| Location of container       | dark and damp room | bright and dry room | dark and damp room |

- (a) Which two set-ups should Hassim compare in order for his experiment to be a fair test? [1]

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- (b) Explain your answer for part (a). [1]

---

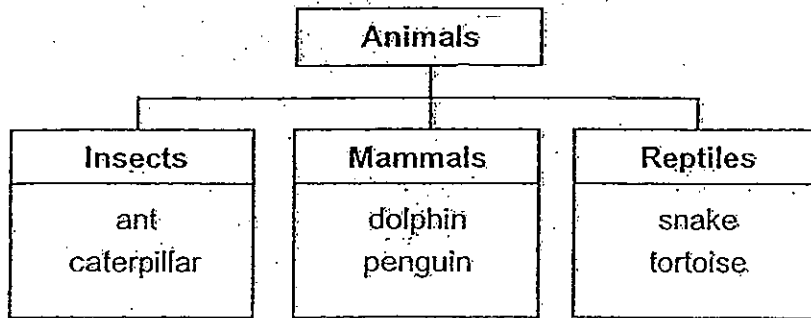
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- (c) Which set-up, A, B or C, will result in the least mouldy bread? [1]

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32. Study the classification chart below.



(a) Which one of the organisms above has been classified wrongly? [1]

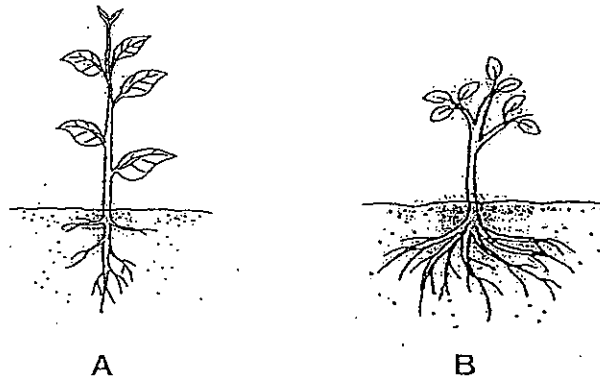
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(b) Using the same classification chart, where would you place this organism stated in (a) above? Explain your answer. [1]

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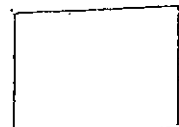
33. The diagram below shows two plants, A and B.




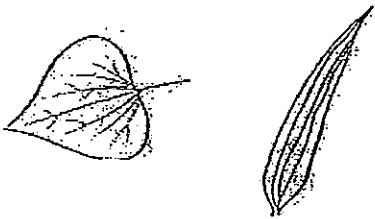
During a heavy thunderstorm, which plant, A or B, is more likely to be uprooted? Explain why. [2]

---

---



34. Corrina found some leaves. She made some observations about the leaves and decided to group them by placing them into separate boxes as shown below.

| Box X                                                                             | Box Y                                                                              |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|  |  |

Her friend, Tracy, then gave her leaf R.



leaf R

- (a) In which box should she place leaf R? [1]

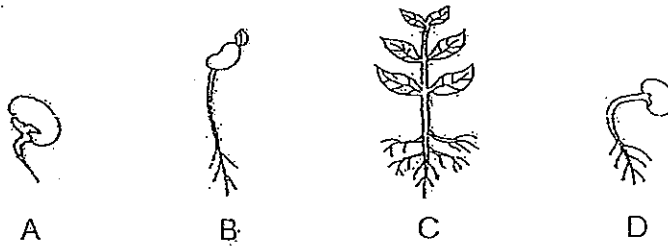
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- (b) Give a reason for your answer in (a) above. [1]

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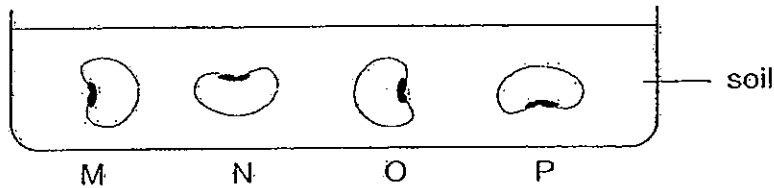
35. The following diagrams show different stages in the growth of a bean plant.



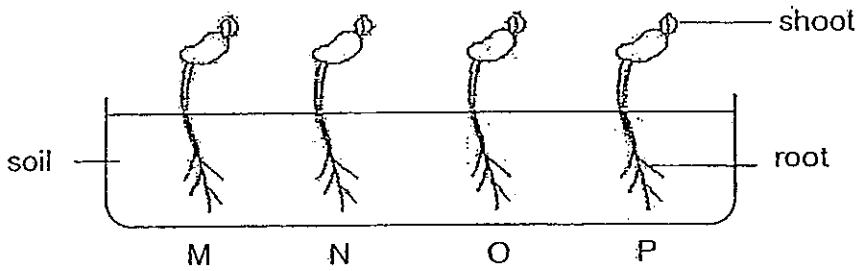
- (a) Fill in the appropriate letters, in the boxes below, to show the correct sequence of the growth of a bean plant. [1]



- (b) Amanda planted four red bean seeds, M, N, O and P, in four different positions in the soil as shown below.



Within a week, she made the following observation shown in the diagram below.



- (i) What conclusion can Amanda make about the way in which the young plant grows in relation to the position in which a seed is planted? [1]

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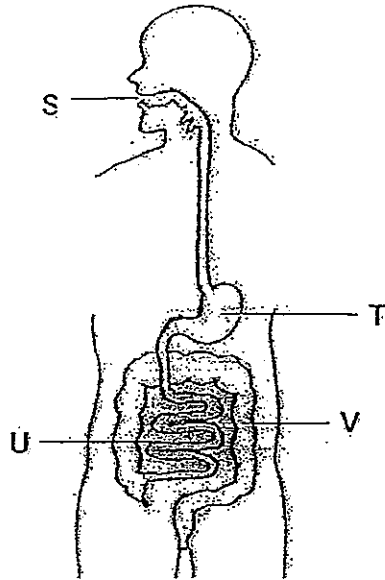


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- (ii) Why do the shoots grow in the direction as shown above? [1]

---

36. The diagram below shows the human digestive system.



(a) Name parts S, T, U and V above. [2]

S: \_\_\_\_\_

T: \_\_\_\_\_

U: \_\_\_\_\_

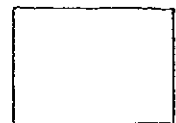
V: \_\_\_\_\_

(b) State one similarity in the main function between parts S and U. [1]

\_\_\_\_\_

(c) State one difference in the main function between parts U and V. [1]

\_\_\_\_\_



37. A designer wanted to make a durable dining table. He was given four different materials to choose from. The table below shows the properties of the four materials.

| Material | Property   |          |      |                 |             |        |
|----------|------------|----------|------|-----------------|-------------|--------|
|          | Waterproof | Flexible | Hard | Floats on water | Transparent | Strong |
| W        | x          | x        | ✓    | ✓               | ✓           | ✓      |
| X        | x          | ✓        | x    | x               | x           | x      |
| Y        | ✓          | x        | ✓    | x               | x           | ✓      |
| Z        | ✓          | ✓        | x    | ✓               | ✓           | ✓      |

- (a) Which four properties above must be considered for making the dining table? [2]

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- (b) Which one of the above materials, W, X, Y and Z, is the most suitable for making his dining table? [1]

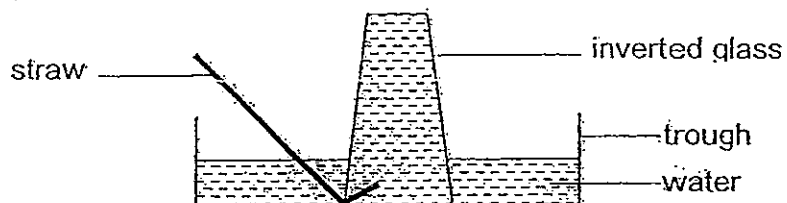
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38. Hussein set up an experiment as shown below.



He took a deep breath and blew into the straw. He observed that the water level in the inverted glass dropped.

(a) What is the aim of his experiment? [1]

\_\_\_\_\_

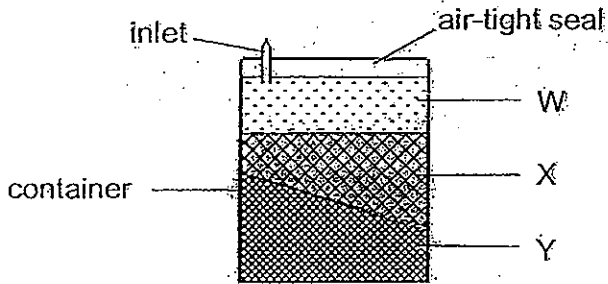
(b) Describe two other observations that Hussein would make when he blew into the straw. [2]

(i) \_\_\_\_\_

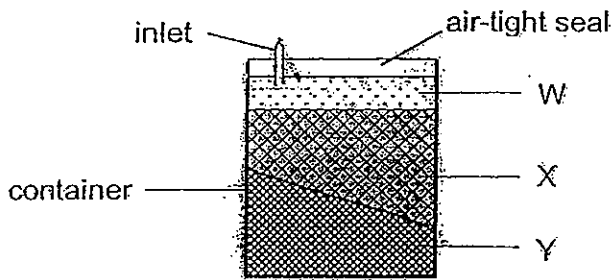
(ii) \_\_\_\_\_



39. Salleh carried out an experiment by filling an air-tight container with three substances, W, X and Y, as shown in the diagram below.



Next he added more of substance X into the container while no substances W and Y were added or removed. The new levels of substances W, X and Y are shown below.



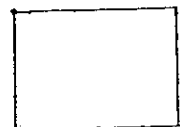
- (a) Identify the states of substances W and X. [2]

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

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

- (b) Explain your answer for substance W above. [1]

\_\_\_\_\_  
\_\_\_\_\_



40. Diagram A shows the metal frame of a special pyramid and diagram B shows the sides of the metal frame being covered with cardboard.

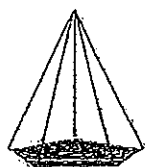


Diagram A



Diagram B

A torch is shone on the pyramid from two directions, X and Y, as shown in the diagram below.



Position X



position Y

- (a) Draw and shade the shadows that are formed when the light is shone on the pyramid from positions X and Y in the boxes below. [2]

| Position X | Position Y |
|------------|------------|
|            |            |

- (b) Would the shadow of the pyramid cast from position Y be different if the metal frame is covered with blue cellophane paper instead of cardboard? Explain your answer. [1]

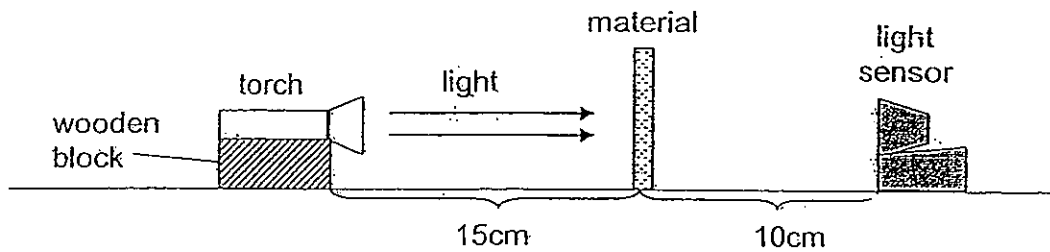
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41. June carried out an investigation with the following set-up. She placed one material in front of a torch and used a light sensor to measure the amount of light that passed through the material. She repeated her experiment with five other materials of the same size.



She recorded her results in the table below.

| Type of material | Unit of light detected (lux) |
|------------------|------------------------------|
| None             | 330                          |
| A                | 0                            |
| B                | 80                           |
| C                | 324                          |
| D                | 97                           |
| E                | 0                            |
| F                | 305                          |

- (a) What is the aim of her investigation? [1]

\_\_\_\_\_

- (b) In terms of transparency of the materials, June classified them into three groups as shown below.

| Group 1 | Group 2 | Group 3 |
|---------|---------|---------|
| A<br>E  | C<br>F  | B<br>D  |

Give a suitable heading for each group of materials in the classification table above. [1½]

Group 1: \_\_\_\_\_

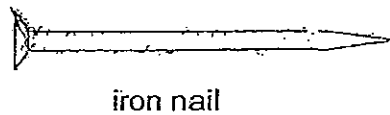
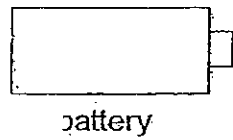
Group 2: \_\_\_\_\_

Group 3: \_\_\_\_\_

- (c) Give an example of material E? [½]

\_\_\_\_\_

42. Alvin was given an iron nail, a battery and some wires to make an electromagnet.



(a) Complete the diagram above by drawing in the wire(s) so that the nail will become an electromagnet. [1]

(b) Next, Alvin replaced the iron nail with a copper nail. Would there be a difference in his result? Explain your answer. [1]

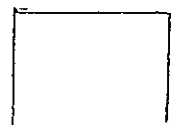
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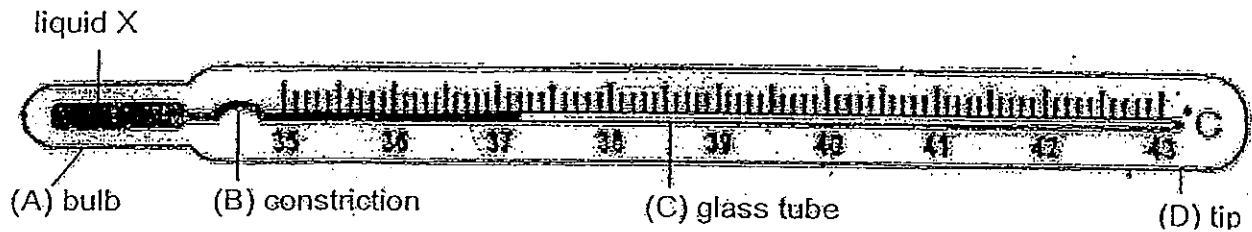
(c) Other than the use of electricity, what is the difference between a bar magnet and an electromagnet? [1]

---

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43. Lisa measured her body temperature with a clinical thermometer in her room. The room temperature was  $30^{\circ}\text{C}$ . The reading on the clinical thermometer is shown in the diagram below.



- (a) What was her body temperature? [1]

---

- (b) Liquid X is silver in colour. What is this liquid? [1]

---

- (c) Which part of the thermometer, A, B, C or D, should be placed in direct contact with the body to measure Lisa's temperature accurately? [1]

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44. John left a cup of warm water in an air conditioned room for twelve minutes. He recorded the changes in temperature of the water in the table below.

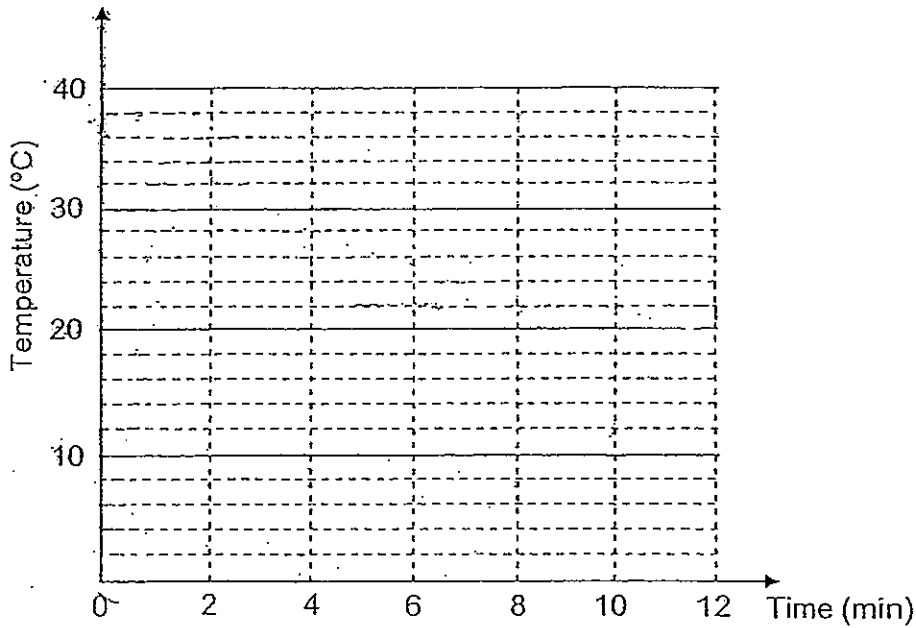
| Time (min) | Temperature (°C) |
|------------|------------------|
| 0          | 38               |
| 2          | 32               |
| 4          | 28               |
| 6          | 26               |
| 8          | 22               |
| 10         | 22               |
| 12         | ?                |

- (a) What would be the temperature of the water recorded at the 12th minute? Explain your answer. [2]

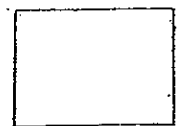
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- (b) Based on the results above, plot a line graph in the grid given below. [1]



~~ End of Paper ~~







# ANSWER SHEET

EXAM PAPER 2012

SCHOOL : CHIJ  
SUBJECT : PRIMARY 4 SCIENCE

TERM : CA2

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Q18 | Q19 | Q20 | Q21 | Q22 | Q23 | Q24 | Q25 | Q26 | Q27 | Q28 | Q29 | Q30 |
| 1   | 3   | 4   | 4   | 3   | 3   | 2   | 2   | 3   | 3   | 4   | 2   | 2   |

31)a)He should compare Set-up A and C in order for his experiment to be a fair test.

b)Comparing containers A and C, there is only one variable changed and therefore it is a fair test.

c)Set-up A.

32)a)Penguin.

b)None of the groups. A penguin is a bird and the chart does not have a group for birds.

33)Plant A. Plant A has lesser roots than plant B and is hence not as firmly to the ground.

34)a)Box Y.

b)The leaves in the boxes have been classified according to the type of leaf edge. Since leaf R has a smooth edge, it should be placed in box Y.

35)a)A→D→B→C

b)i)It doesn't matter which way to put the seeds.

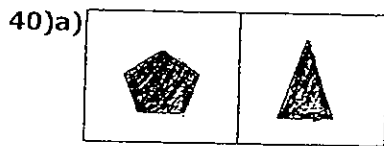
ii)They do not make food yet. It is for them to be able to obtain sunlight to make food when the leaves grow.

- 36)a) S : Mouth.  
 T : Stomach  
 U : Small intestine  
 V : Large intestine.  
 b) They produce digestive juice.  
 c) Part U absorb nutrients but Part V absorb water.

- 37)a) Waterproof, hard, not flexible, strong.  
 b) Material Y.

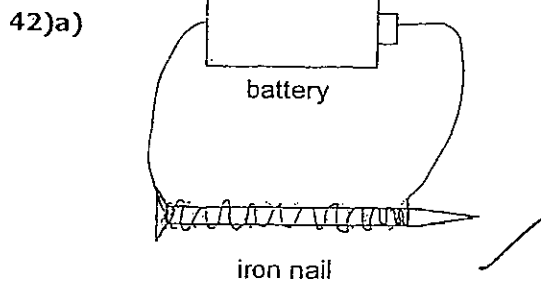
- 38)a) Find out if air takes up space.  
 b)i) Water level in the trough rose.  
 ii) Bubbles were seen coming out of the straw.

- 39)a) W : Gaseous      X : Liquid  
 b) W is a gas because it was compressed when more substance X is added.  
 Since only gas can be compressed hence W must be a gas.



- b) Yes. A patch of blue light/a blue shadow instead of a black triangle shadow.

- 41)a) She wants to find how much light can pass through different kinds of material.  
 b) 1) Opaque material      2) Transparent material      3) Translucent material  
 c) Cardboard.



- b) Yes. The copper nail will not be magnetized because copper is a non-magnetic material.  
 c) A bar magnet is a permanent magnet but the electromagnet is not a permanent magnet.

- 43)a)  $37.2^{\circ}\text{C}$ .  
b) Mercury.  
c) Part A.

- 44)a)  $22^{\circ}\text{C}$ . It has reached the room temperature.  
b)

