# PRIMARY 3 END-OF-YEAR EXAMINATION 2011

Name : _____ (  ) Date: 31 October 2011

Class : Primary 3 (  ) Time: 8.00 a.m. - 9.15 a.m.

Parent's Signature : _____ Marks: _____ / 60

# SCIENCE

## BOOKLET A

**INSTRUCTIONS TO CANDIDATES**

Write your name, class and register number.

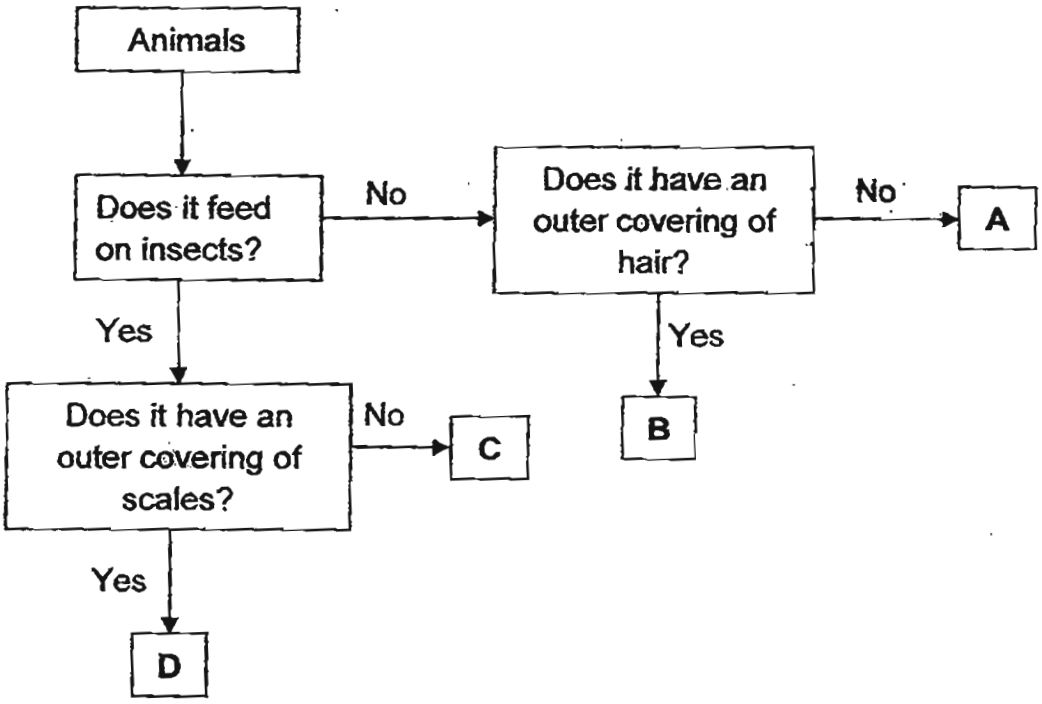
Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

**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 oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

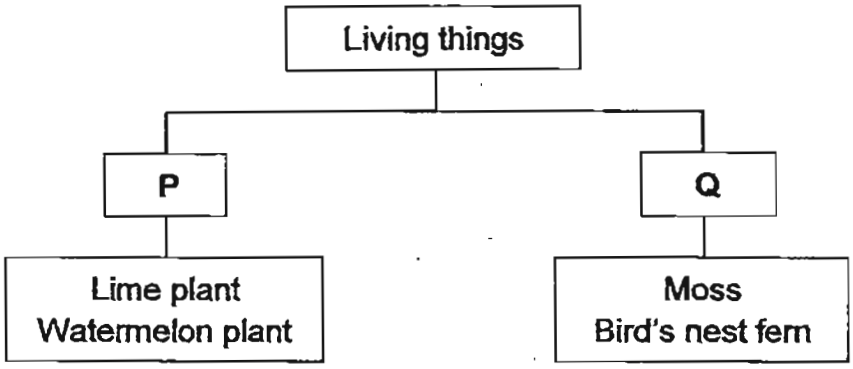
1. Study the flow chart below.




Kumar was given a pet that feeds on insects and has scales on its body. Which of the following is Kumar's pet?

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

2. The chart below shows how some living things can be grouped.




Which of the following is represented by **P** and **Q**?

| | P | Q |
|---|---|---|
| (1) | Grow on land | Grow in water |
| (2) | Make their own food | Do not make their own food |
| (3) | Reproduce from seeds | Reproduce from spores |
| (4) | Have seedless fruits | Have spore bags |

3. Benson needs a container to cook some noodles at an outdoor camp. Which of the following properties should he consider when choosing the container for cooking the noodles?

(1) Shiny
(2) Heavy
(3) Magnetic
(4) Heats up quickly

4. Sze Yi carried out an experiment with 4 similar slices of fresh bread, **A**, **B**, **C** and **D**. She sprinkled different amounts of water on each slice of bread and placed them on her dining table. The observations are recorded in the table below.

| Bread slice | Amount of water (in teaspoons) | Number of days needed for the bread mould to form in the bread |
|---|---|---|
| **A** | 0 | 12 |
| **B** | 2 | 10 |
| **C** | 6 | ? |
| **D** | 10 | 2 |

How many days are needed for the bread mould to form on the bread when 6 teaspoons of water are added to the bread?

(1) 2
(2) 6
(3) 10
(4) 12

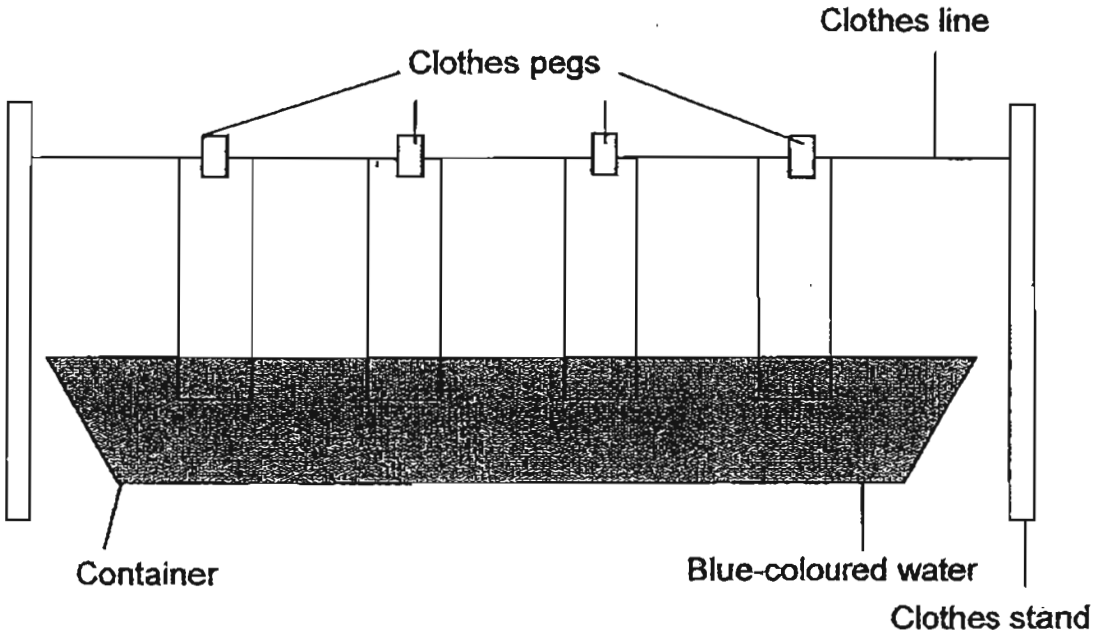
5. Melissa compared the hardness of 3 materials, **A**, **B** and **C**, by scratching each of them with different rulers. She recorded her observations in the table below.

| Material | Did the plastic ruler scratch the material? | Did the metal ruler scratch the material? |
|---|---|---|
| **A** | No | Yes |
| **B** | Yes | Yes |
| **C** | No | No |

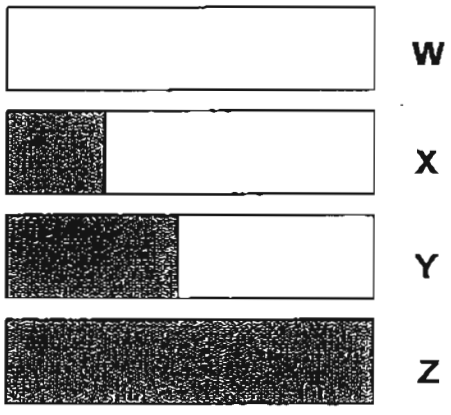
Which of the following shows the correct arrangement of these materials according to their hardness?

| | Hard | Harder | Hardest |
|---|---|---|---|
| (1) | A | B | C |
| (2) | B | A | C |
| (3) | C | A | B |
| (4) | B | C | A |

6. Matthew dipped four strips of different materials (**W, X, Y and Z**) into a container of blue-coloured water.



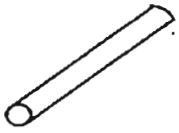

After 10 minutes, he took the 4 strips out of the container and displayed them. The shaded portion of the strips of materials below shows the blue-coloured stain on them.




Which of the following materials is most suitable for making a raincoat?

(1) W
(2) X
(3) Y
(4) Z

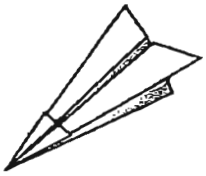
7. Meisi investigated the properties of the objects below.



Plastic drinking straw

Ceramic cup

Iron nail



Paper aeroplane

She made the following observations about the properties of one of these objects.

- It can be bent easily.
- It does not absorb water.
- It can be cut easily with a pair of scissors.

Which of these objects was she observing?

(1) Iron nail
(2) Ceramic cup
(3) Paper aeroplane
(4) Plastic drinking straw

8. Charis kept an equal number of caterpillars in 4 containers. The conditions in each container are shown below. After 5 days, the caterpillars in 3 of the containers were dead. In which container are the caterpillars most likely to survive?

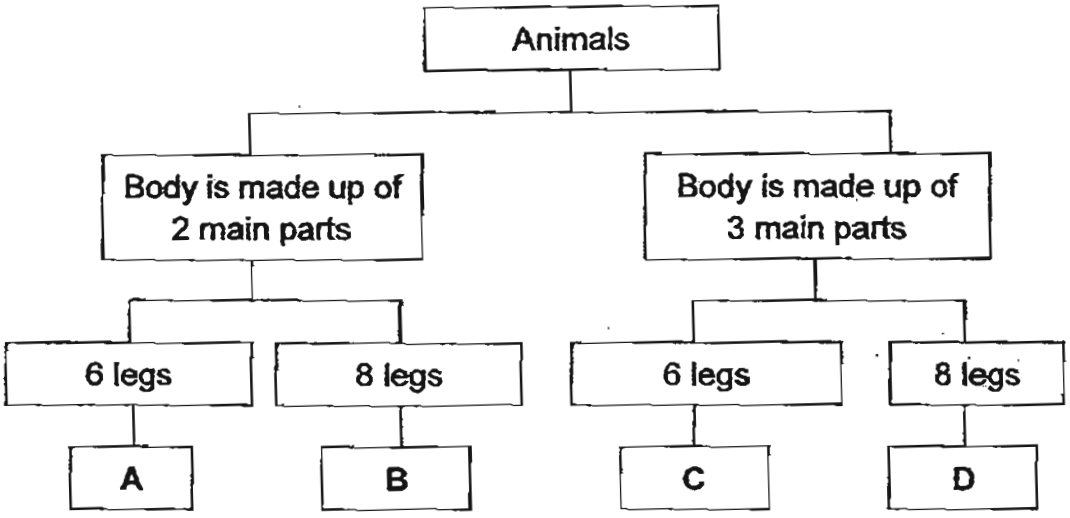
| Container | Has air? | Has food? | Has water? | Has sunlight? |
|---|---|---|---|---|
| A | No | Yes | Yes | Yes |
| B | Yes | No | Yes | Yes |
| C | Yes | Yes | No | Yes |
| D | Yes | Yes | Yes | No |

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

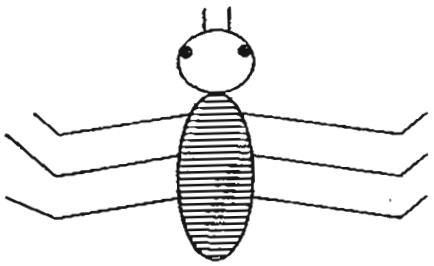
9. Which of the following parts of the human body is correctly matched to its function?

| | Part of the human body | Function |
|---|---|---|
| (1) | Skull | Protects the brain and controls all movements of the body |
| (2) | Gullet | Allows air to flow to the lungs |
| (3) | Ribcage | Gives the body its shape and protects the digestive system |
| (4) | Blood vessels | Carry digested food, oxygen and carbon dioxide around the body |

10. Study the classification chart below.



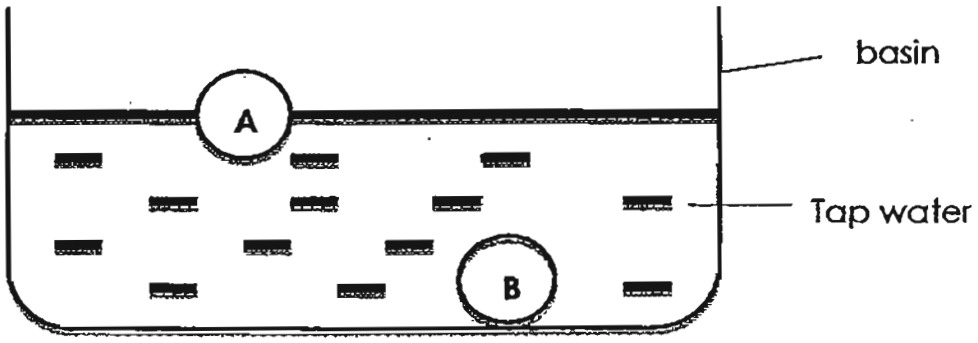

Devi found an animal as shown below.



Based on the picture, which group, **A**, **B**, **C** or **D**, does this animal belong to?

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

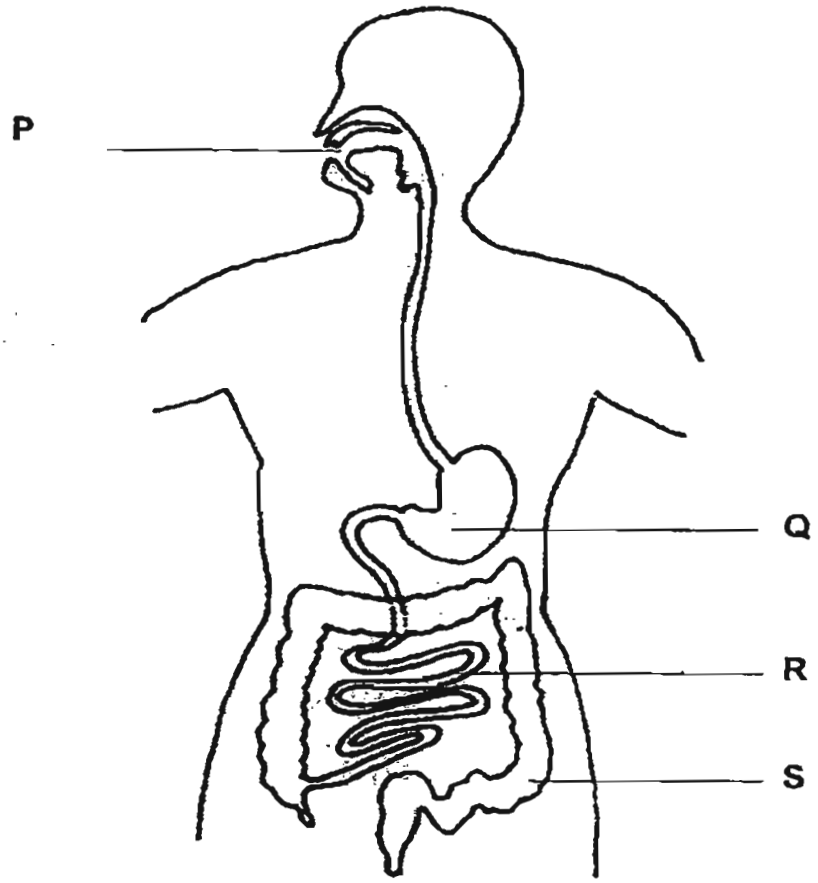
11. Two balls of the same size, but made of different materials **A** and **B** are placed in a basin of tap water. The diagram below shows their positions in the tap water.




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

| | A | B |
|---|---|---|
| (1) | Styrofoam | Cork |
| (2) | Steel | Wood |
| (3) | Glass | Styrofoam |
| (4) | Cork | Iron |

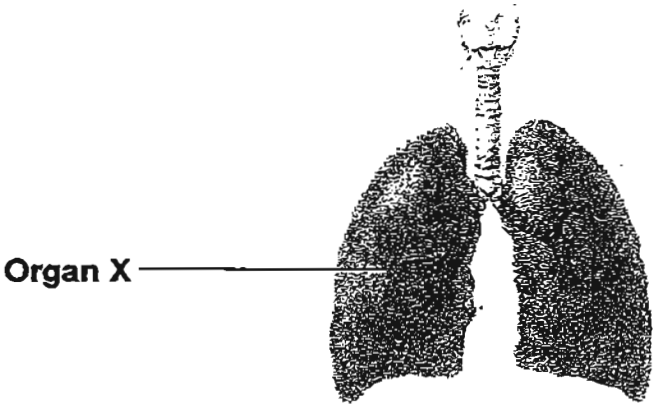
12. The diagram below shows the human digestive system.




At which part of the digestive system does most of the digested food enter the bloodstream?

(1) P
(2) Q
(3) R
(4) S

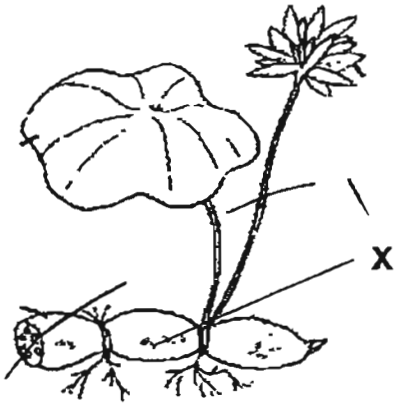
13. Look at the diagram below.




Which of the following statements describes the function performed by the organ X above?

(1) It protects the heart.
(2) It pumps blood around the body.
(3) It exchanges gases with the surroundings.
(4) It supports the body and gives the body its shape.

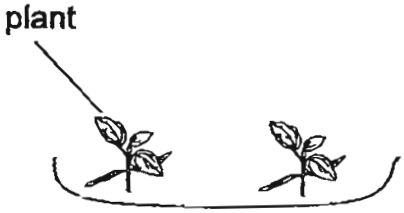
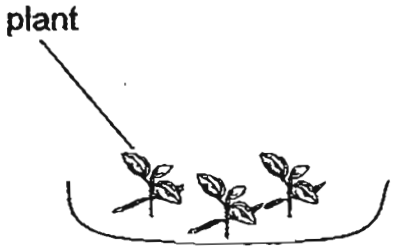
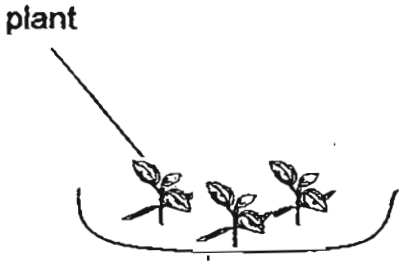
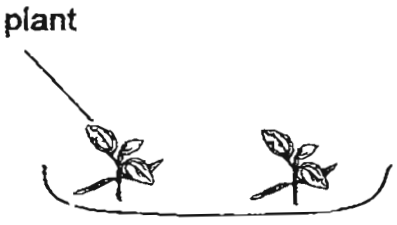
14. The diagram below shows a water lotus plant.




What is the plant part labelled "X"?

(1) Leaf
(2) Stem
(3) Root
(4) Flower

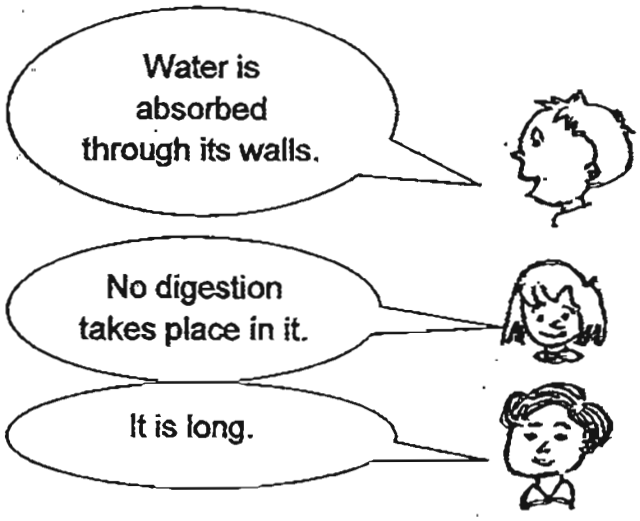
15. Sally wanted to find out if the amount of light can affect the growth of plants. She prepared 4 set-ups as shown below.

| | |
|---|---|
| **Set-up A**<br>**In the dark**<br>**Plants are watered with tap water**<br>  | **Set-up B**<br>**In the light**<br>**Plants are watered with tap water**<br>  |
| **Set-up C**<br>**In the dark**<br>**Plants are watered with distilled water**<br>  | **Set-up D**<br>**In the light**<br>**Plants are watered with tap water**<br>  |

Which of these set-ups should Sally use to ensure a fair test?

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

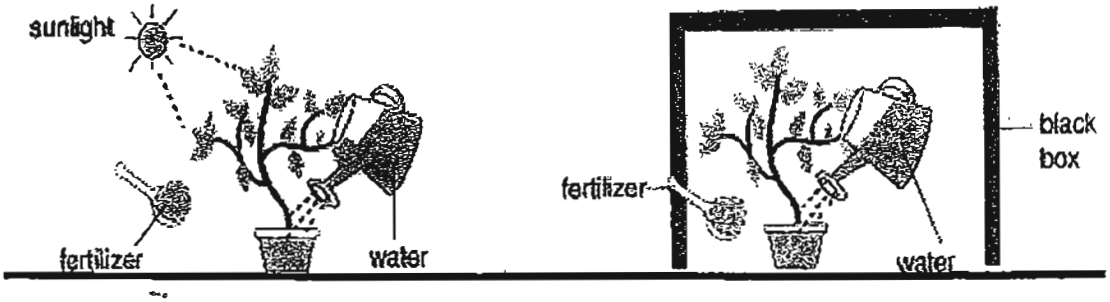
16. Three children made the following statements about a part of the digestive system.




Based on their statements, which part of the digestive system are they talking about?

(1) Gullet
(2) Stomach
(3) Small intestine
(4) Large intestine

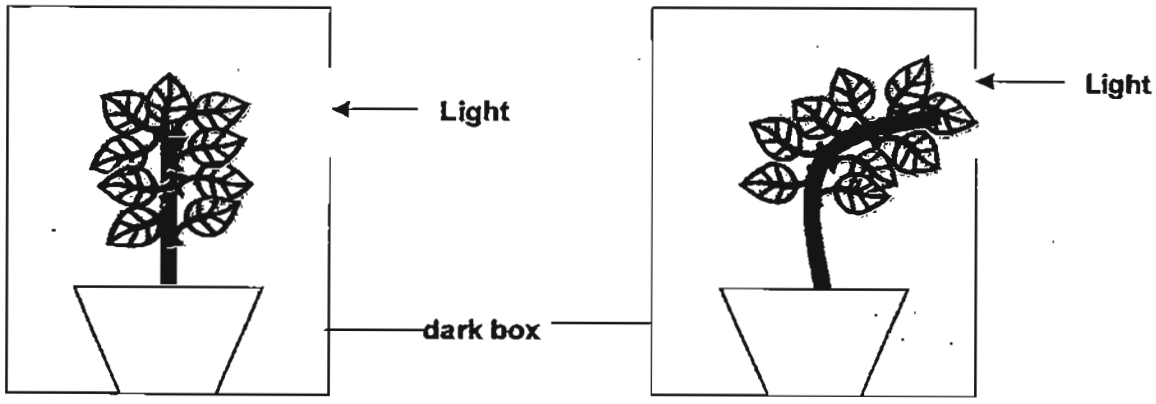
17. Jasmine sets up the experiment shown below to find out what a plant needs for its growth.




Which of the following conditions for growth is she trying to determine?

(1) A plant needs soil.
(2) A plant needs water.
(3) A plant needs fertiliser.
(4) A plant needs sunlight.

18. Dylan carried out the experiment below.

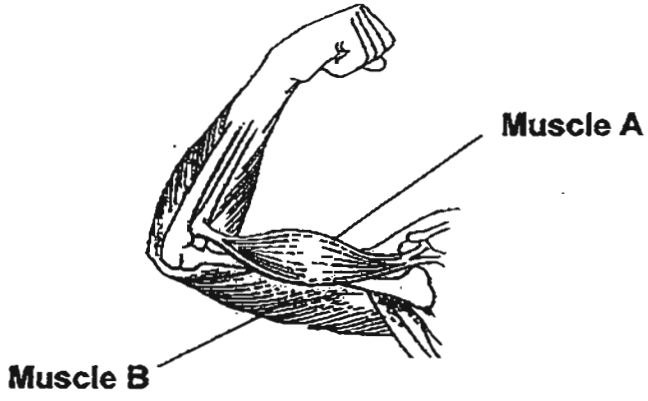



**Beginning of experiment** **End of experiment**

What does the experiment show?

(1) Plants can reproduce.
(2) Plants respond to light.
(3) Plants need water to grow.
(4) Plants can move from place to place.

19. The diagram below shows a human arm.

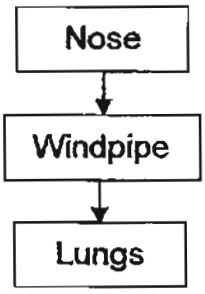



What happens to Muscle A and Muscle B in order for the arm to be straightened?

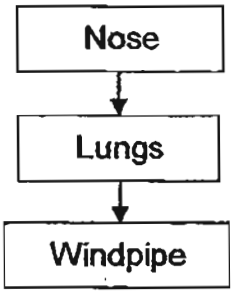
| | Muscle A | Muscle B |
|---|---|---|
| (1) | Contracts | Contracts |
| (2) | Contracts | Relaxes |
| (3) | Relaxes | Relaxes |
| (4) | Relaxes | Contracts |

20. Which of the following diagrams shows the movement of air in our body when we exhale?

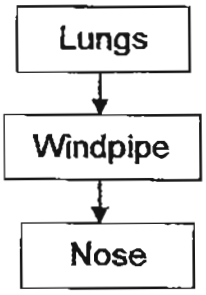
(1)



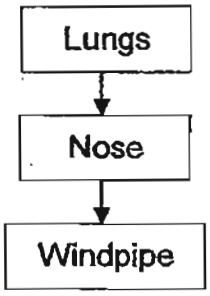

(2)



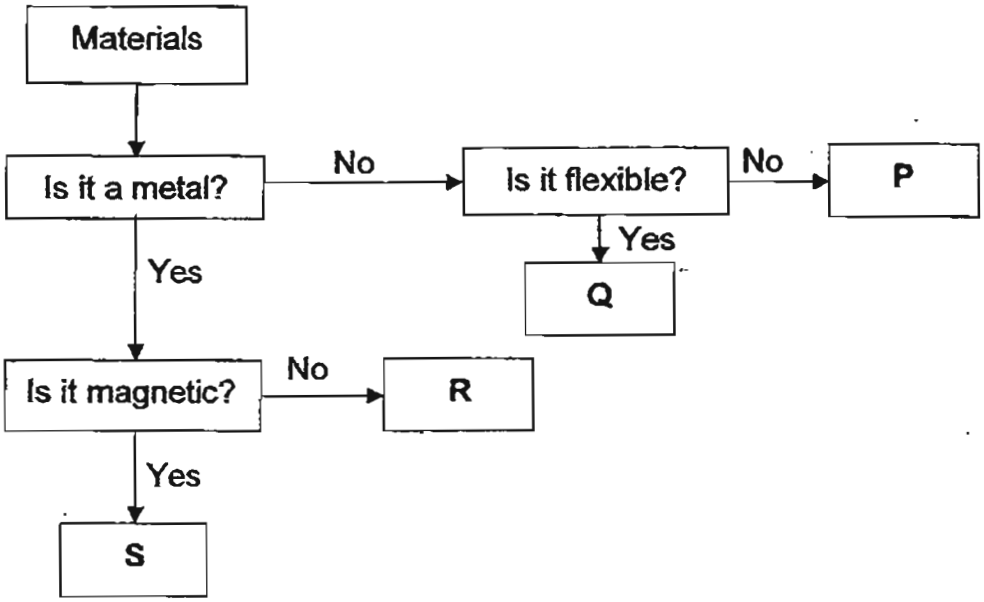

(3)




(4)



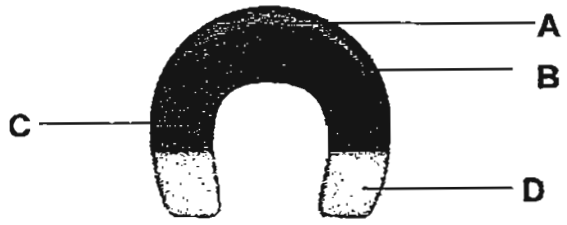
21. Study the flow chart below.




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

| | P | Q | R | S |
|---|---|---|---|---|
| (1) | Wood | Ceramic | Copper | Nickel |
| (2) | Glass | Paper | Copper | Nickel |
| (3) | Nylon | Glass | Steel | Copper |
| (4) | Wood | Steel | Nickel | Cobalt |

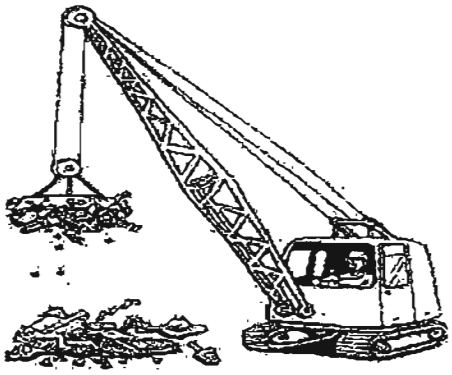
22. The diagram below shows a horseshoe magnet.




If the part, B, of this magnet is able to attract 7 iron nails, which of the following shows the number of pins most likely to be attracted by the parts, A, C and D, of the magnet ?

| | A | C | D |
|---|---|---|---|
| (1) | 0 | 13 | 15 |
| (2) | 0 | 15 | 13 |
| (3) | 7 | 15 | 13 |
| (4) | 7 | 13 | 15 |

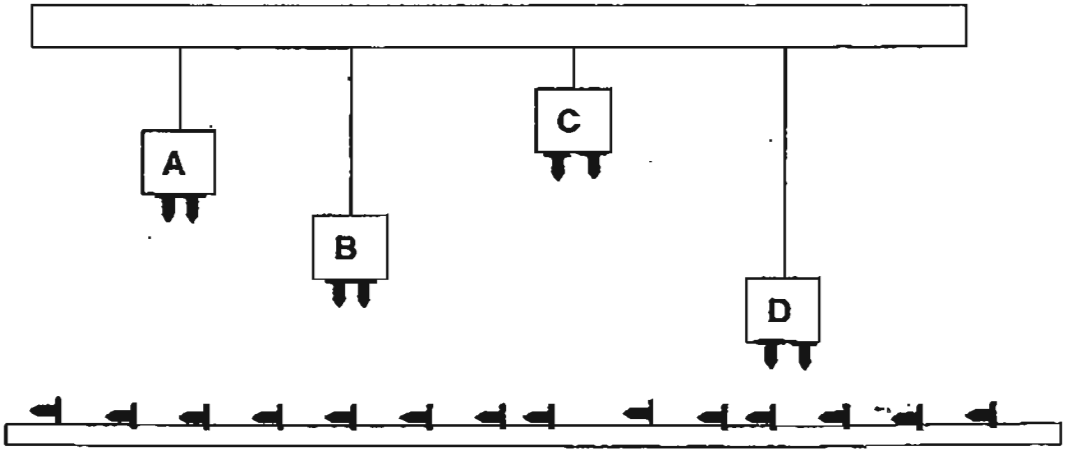
23. The picture below shows an electromagnet lifting some objects.



What can the electromagnet lift?

(1) Scrap iron
(2) Scrap lead
(3) Copper sheets
(4) Aluminium cans

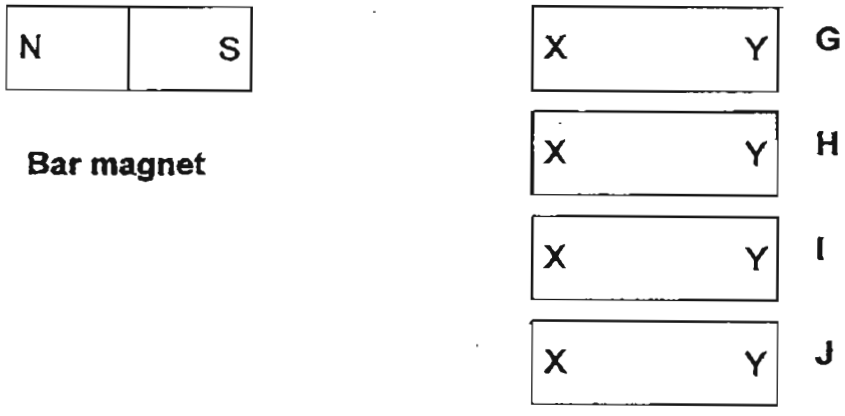
24. The diagram below shows four similar magnets with different strengths and some thumbtacks placed below them.




Which magnet is the strongest?

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

25. Angela carried out an experiment with a bar magnet and 4 objects G, H, I and J. The ends of the objects are labelled X and Y as shown below.




She brought the bar magnet near each object and recorded her observations in the table below.

| Object | Observation |
|---|---|
| G | X and Y are attracted by the North-seeking pole of the magnet. |
| H | X and Y are attracted by the South-seeking pole of the magnet. |
| I | When the bar magnet is brought close to X and Y, no attraction or repulsion occurred. |
| J | X is attracted while Y is repelled by the South-seeking pole of the magnet. |

Based on the results, which of the following statements is correct?

(1) J is a magnet.
(2) I is made of cobalt.
(3) G and H are magnets.
(4) I and J are made of magnetic materials.

26. Zurina pushed magnets **A**, **B**, **C** and **D**, shown below into a box of metal paper clips.

**Magnet A** 


**Magnet B** 


**Magnet C** 


**Magnet D** 


She lifted the magnets, counted the number of paper clips attracted to each magnet and recorded the results below.

| | **Magnet A** | **Magnet B** | **Magnet C** | **Magnet D** |
|---|---|---|---|---|
| **Number of paper clips attracted** | 10 | 8 | 16 | 13 |

Based on the results above, which of the following is a suitable conclusion for Zurina's experiment?

(1) Magnet B is the strongest magnet.
(2) The shape of the magnet affects its strength.
(3) The longer a magnet, the stronger its magnetism.
(4) The strength of a magnet does not depend on its length.

27. Which of the following is an object that requires the use of magnets in order to work?

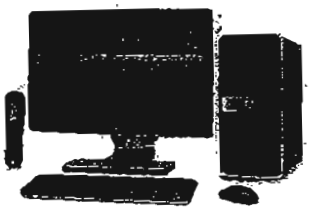
(1)

nail-clipper

(2)

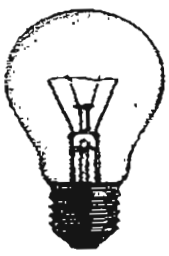
spoon

(3)



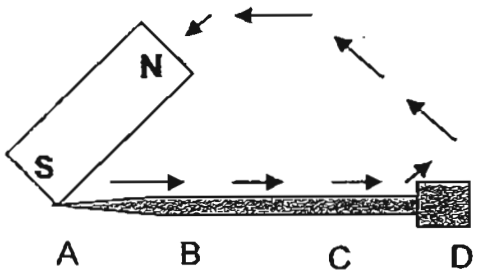
computer

(4)



light bulb

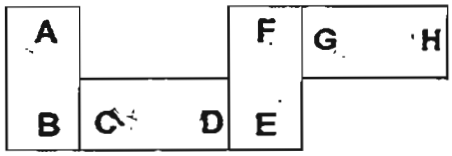
28. Frank magnetised an iron nail using the single-stroke method as shown in the diagram below. He started stroking at A.




Which part of the iron nail would become the South-seeking pole?

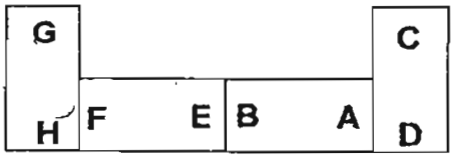
(1) A
(2) B
(3) C
(4) D

29. Shirley arranged 4 magnets such that one end is attracted to another end as shown below.

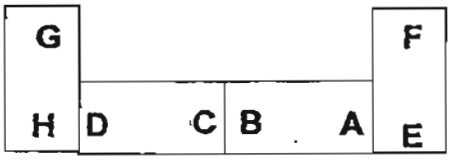



Which of the following is another possible arrangement?

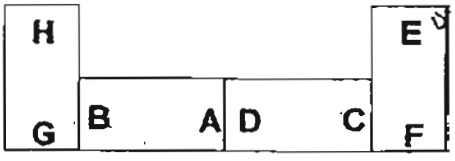
(1)



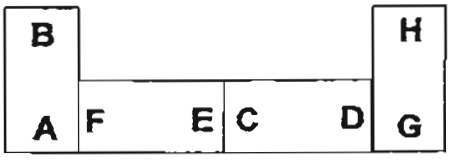

(2)




(3)




(4)

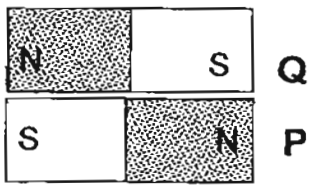


30. Jackson placed a magnet, **Q**, next to a ping pong ball.

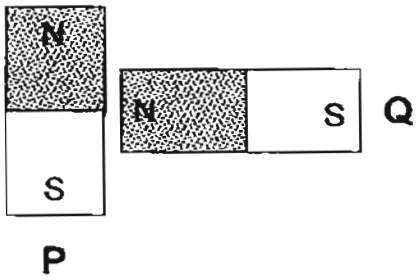

He then placed another magnet, **P**, near **Q**. He noticed that **Q** moved towards the ping pong ball thus causing it to roll towards X .

How should P be placed so that the ping pong ball will roll towards X?

(1)




(2)




(3)


(4)

TAO NAN SCHOOL 道南學校

SINCERITY & PERSEVERANCE

# PRIMARY 3 END-OF-YEAR EXAMINATION 2011

Name : _____ (  ) Date: 31 October 2011

Class : Primary 3 (  ) Time: 8.00 a.m. - 9.15 a.m.

Parent's Signature : _____ Marks: _____ / 40

# SCIENCE

## BOOKLET B

**INSTRUCTIONS TO CANDIDATES**

Write your name, class and register number.

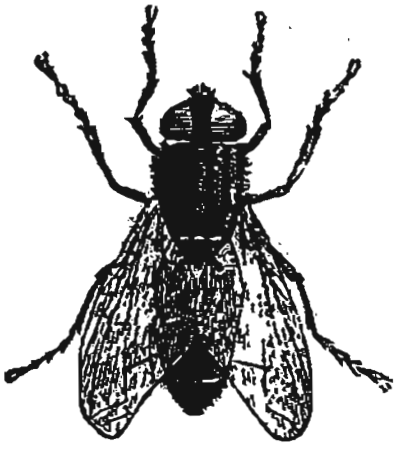
Do not turn over this page until you are told to do so.

Follow all instructions carefully.

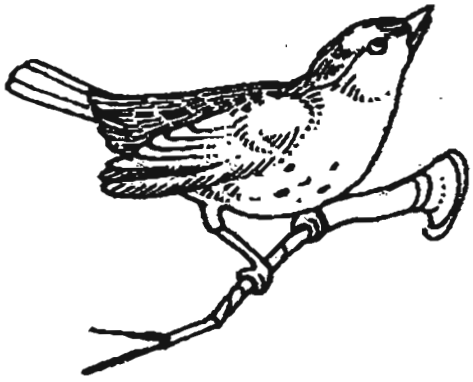
Answer all questions.

**Section B (40 marks)**
**For each question, 31 to 44, write your answer in the spaces provided.**

31. Study the pictures below.



Fly



Bird

(a) Based on the pictures above, state 2 similarities between the fly and the bird. [2]

Similarity 1 - _____

_____

Similarity 2 - _____

_____

(b) Based on the pictures above, state one difference between the fly and the bird. [1]

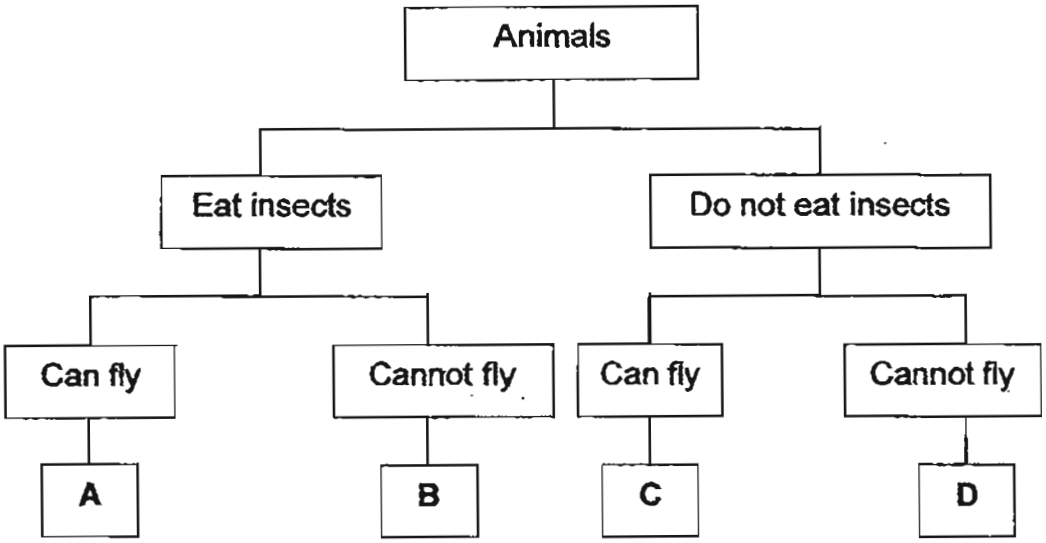
_____

_____

_____

3

32. Study the classification chart below.




(a) Describe **B** based on the classification chart above. [1]

_____

_____

(b) State two differences between **B** and **C**. [2]

Difference 1 - _____

_____

Difference 2 - _____

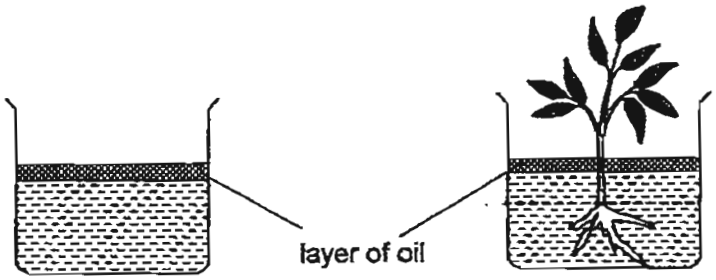
_____

(c) Michelle has a pet that feeds on fruit flies. Her pet is able to walk and fly. Which animal, **A**, **B**, **C** or **D**, is Michelle's pet? [1]

_____

4

33. The diagram below shows two identical Beakers, **A** and **B**, each containing 300ml of water and the same volume of oil. Brian put a plant in Beaker B and placed both beakers on a table near the window.




**Beaker A** **Beaker B**

Brian took out the plant from Beaker **B** after 3 days and measured the amount of water left in both beakers.

(a) In which beaker will there be a decrease in the amount of water? [1]

_____

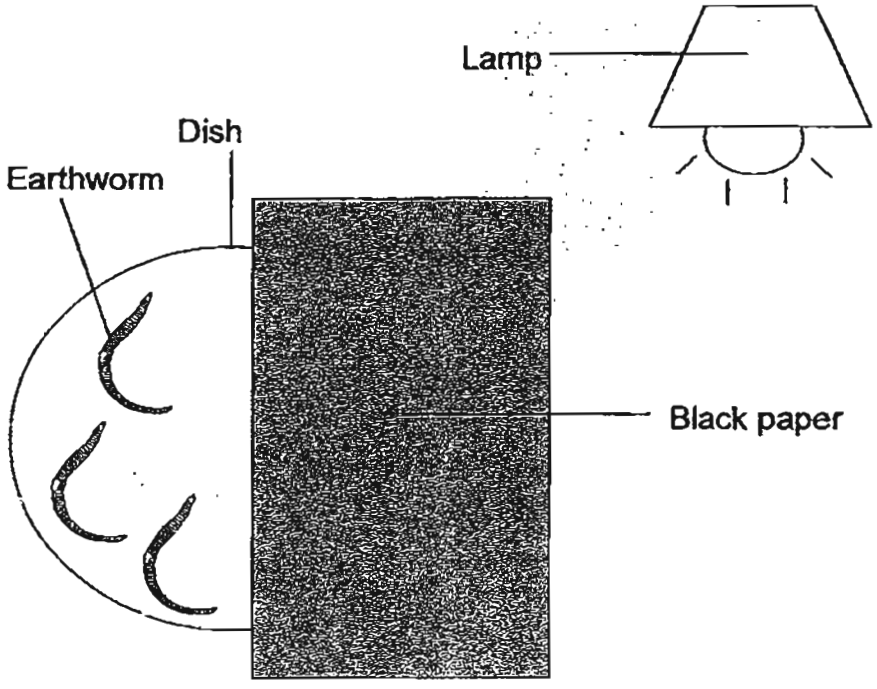
(b) Explain your answer in (a). [1]

_____

_____

2

34. Eddie placed some earthworms in a dish. He shone a bright light on the dish and covered part of the dish with a piece of black paper.




After 30 minutes, all the earthworms were found in the part of the dish that was covered with black paper.

State 2 characteristics of living things the earthworms exhibited in this experiment. [2]

Characteristic 1 - _____

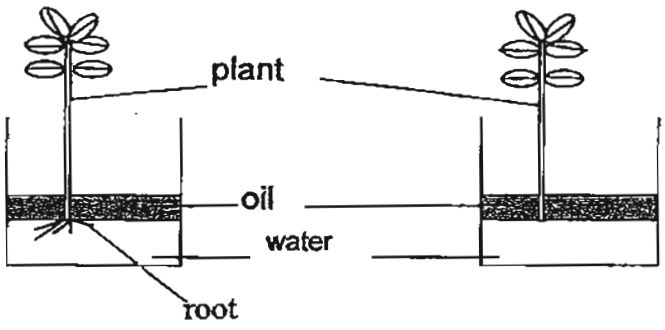
_____

Characteristic 2 - _____

_____

2

35. Two similar plants were placed in 2 beakers filled with 200 ml of water each. In each set-up, a layer of oil covered the surface of the water. In Set-up **A**, the roots of the plant were left untouched. In Set-up **B**, the roots of the plant were removed.




**Set-up A** **Set-up B**

The volume of water in each container was recorded on Day 1 and Day 6 as shown in the table below.

| Set-up | Volume of water (ml) | |
|---|---|---|
| | Day 1 | Day 6 |
| A | 200 | 180 |
| B | 200 | 200 |

(a) What was the volume of water taken in by the plant in Set-up **A**? [1]

_____

(b) Explain why the volume of water in the container in Set-up A decreased after 6 days while the volume of water in the container in Set-up B remained the same. [1]

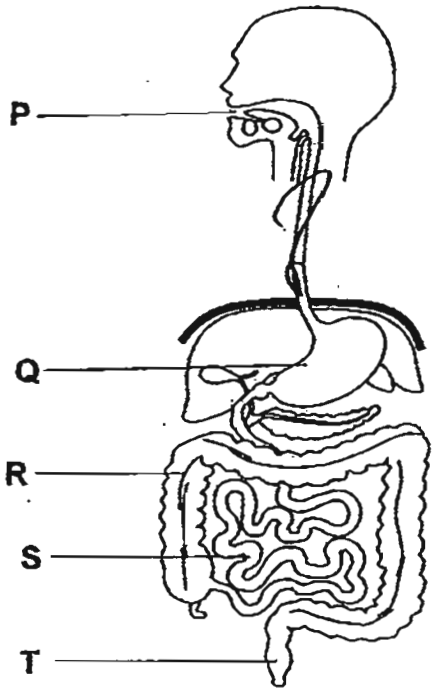
_____

_____

_____

2

36. The diagram below shows the digestive system of a human body.




(a) Mark an 'X' on the tube that connects the mouth to the stomach in the diagram above. [1]

(b) In which part **P**, **Q**, **R**, **S** or **T** is digestion completed? [1]

_____

(c) Identify **all** the parts where there are digestive juices. [1]

_____

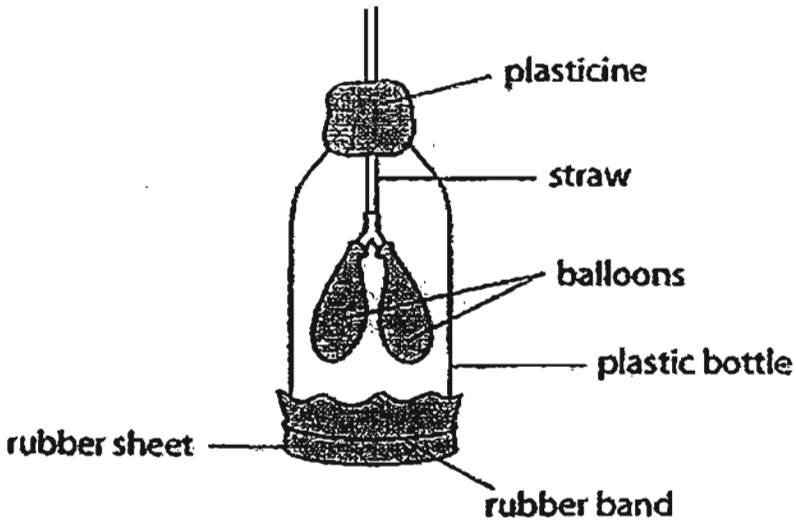
3

37. Read the following statements and indicate with a tick (√) whether each statement is true or false. [2]

| Statement | True | False |
|---|---|---|
| All insects have a pair of wings. | | |
| Some mammals reproduce by laying eggs. | | |
| Plants get their food from the fertilizer in the ground. | | |
| Staghorn fern is a plant that makes its own food. | | |

2

38. Mandy set up a model of the human respiratory system as shown below.




Name the parts of the respiratory system represented by the parts of the model. [2]

| Part of the model | Part of the respiratory system |
|---|---|
| Straw | |
| Balloons | |

2

39. Ellson tried to pull out a plant from the ground but had difficulties doing that. Hence, he used a knife to cut the roots all around the plant (Diagram A) and pulled it out from the ground (Diagram B) as shown in the diagrams below.

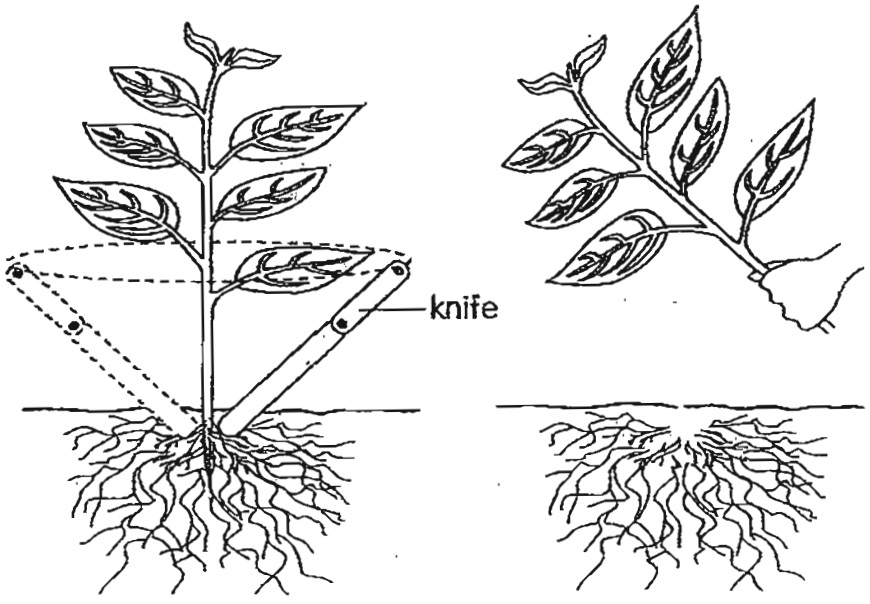



Diagram A Diagram B

(a) Why did Ellson have difficulties pulling out the plant in the beginning? [1]

_____

_____

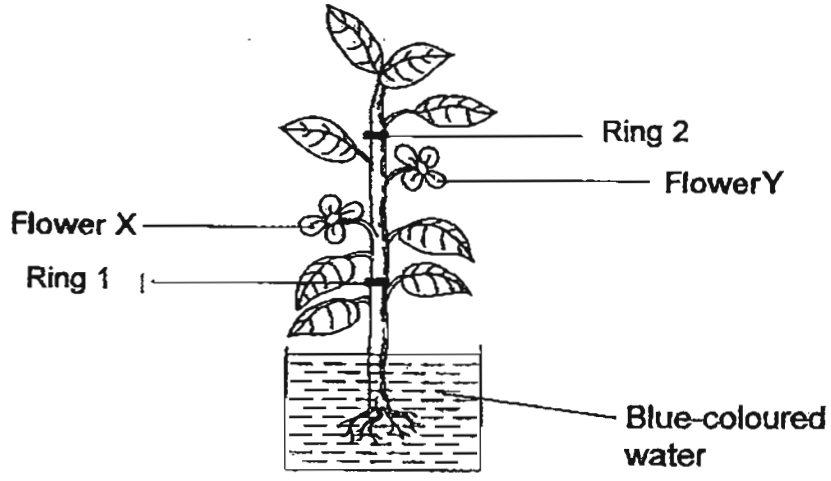
(b) The part of the plant that was cut off was then planted in a pot of soil and placed in a garden. After some time, the plant wilted and died even though it was given sufficient water. Explain why. [2]

_____

_____

3

40. A plant with two white flowers, Flower X and Flower Y, was placed in a beaker filled with blue-coloured water as shown in the diagram below. After two hours, X turned blue while Y remained white. Two rings, 1 and 2, were immediately made at two sections of the plant.




Read the following statements and indicate with a tick ( √ ) whether each statement is true, false or not possible to tell. [3]

| Statement | True | False | Not possible to tell |
|---|---|---|---|
| The water-carrying tubes are removed at Ring 1. | | √ | |
| The water-carrying tubes are removed at Ring 2. | | | |
| The food carrying tubes are removed at Ring 2. | | | |

3

41. Siti has 3 sheets of materials of the same size and thickness. The materials are cardboard, wood and iron. The surfaces of these materials were scratched by a nail. The observations are shown below.

| Material | Observation when scratched by the nail |
|---|---|
| A | No scratch mark |
| B | A few light scratch marks |
| C | Many deep scratch marks |

(a) What material is A made of? [1]

_____

(b) What would you observe if you used a piece of Material B to scratch Material C? [1]

_____

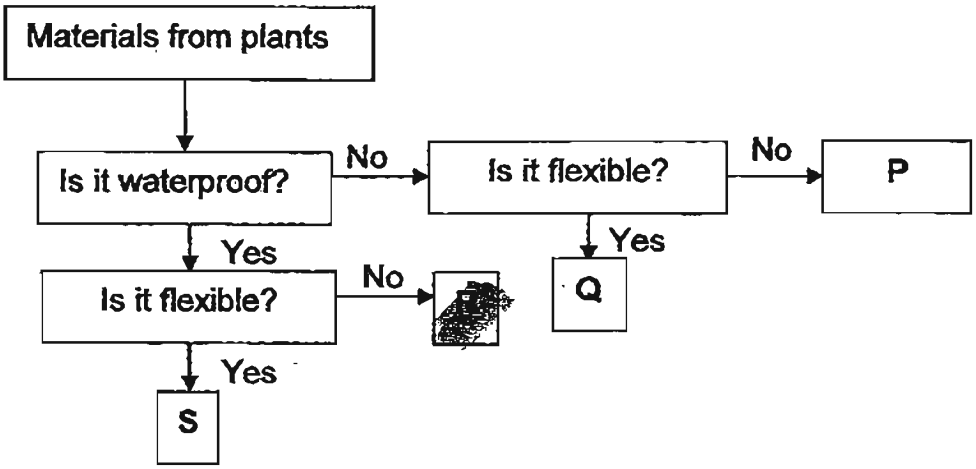
(c) Explain your answer in (b). [1]

_____

_____

3

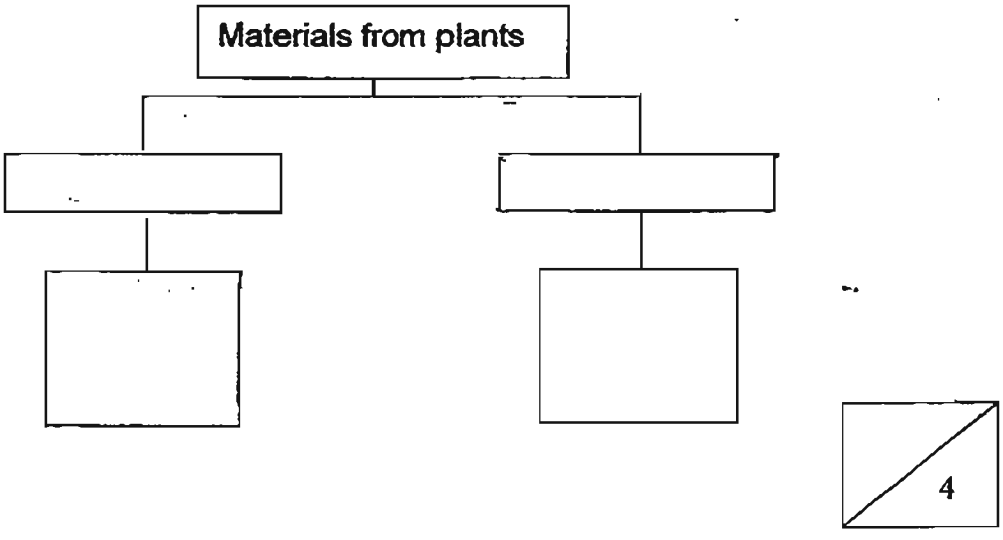
42. Study the flow chart below.




(a) Give an example of a material that can be **Q**. [1]

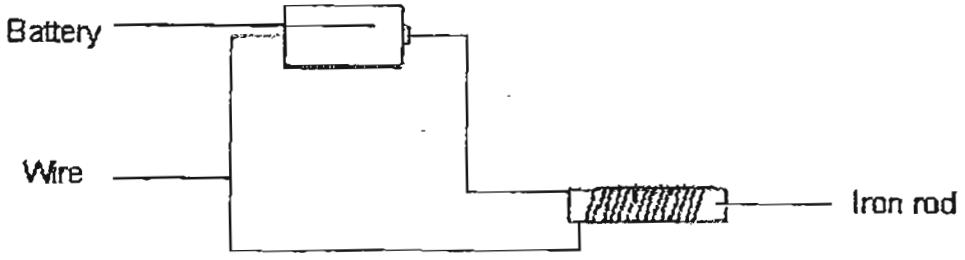
(b) Based only on the flow chart, describe **R**. [1]

(c) Choose a property from the flow chart above and classify **P**, **Q**, **R** and **S** in the classification chart below. [2]




4

43. Mark made an electromagnet as shown below.




He changed the number of coils around the iron rod and recorded his observations in the table below.

| **Number of coils around the iron rod** | 20 | 25 | 30 | 35 |
|---|---|---|---|---|
| **Number of paper clips attracted to the electromagnet** | 4 | 6 | 8 | 10 |

(a) How does the number of coils around the iron rod affect the number of paper clips attracted to the electromagnet? [1]

_____

_____

(b) Predict the number of paper clips attracted to the electromagnet when the number of coils around the iron rod is 40. [1]

_____

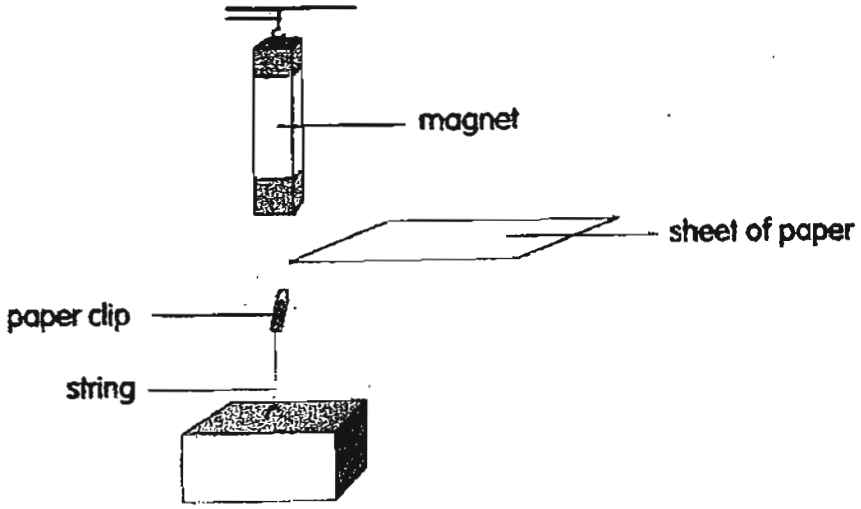
(c) Suggest another way to increase the number of paper clips attracted by the electromagnet. [1]

_____

_____

3

44. Keith set up an experiment as shown below. The paper clip, tied to a string, was suspended in the air.




(a) What will happen to the paper clip when a sheet of paper is placed between the bar magnet and the paper clip? Explain your answer [2]

(b) When a sheet of Material X is placed between the magnet and the paper clip, the paper clip falls onto the table. Name one possible material for Material X. [1]

(c) Explain why the paper clip falls onto the table when Material X is placed between them. [1]

4

THE END

# Answer Ke

**EXAM PAPER 2011**

**SCHOOL : TAO NAN**
**SUBJECT : PRIMARY 3 SCIENCE**

**TERM : SA 2**

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**Booklet A**

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

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

**Booklet B**

**31 a) They both have legs.**
**They both have wings.**

**b) The bird has two legs but they fly has six legs.**

**32 a) It cannot fly and eats insects.**
**b) B cannot fly but C can fly.**
**B eats insects but C does not eat insects.**

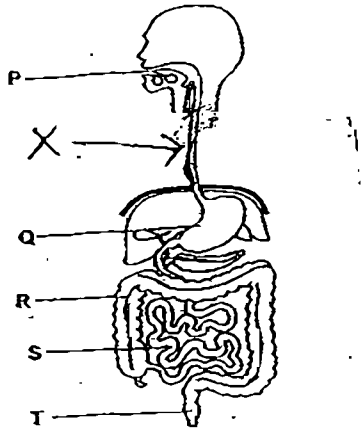
**32 c) A**

**33 a) Beaker B**
**b) Only Beaker B has a plant to absorb water.**

**34) They respond to changes in their surrounding.**
**They can move.**

**35 a ) 20 ml**
**b) the plant in set-up B which had no roots could not absorb water, but the plant in set-up A which had roots can absorb water.**

**36 a)**



36b) S
c) P.Q.S

37)

| Statement | True | FALSE |
|---|---|---|
| All insects have a pair of wings. | | √ |
| Some mammals reproduce by laying eggs. | √ | |
| Plants get their food from the fertilizer in the ground | | √ |
| Staghorn fern is a plant that makes its own food | √ | |

38)

| Part of the model | Part of the respiratory sytem |
|---|---|
| Staw | wind pipe |
| Balloons | Lungs |

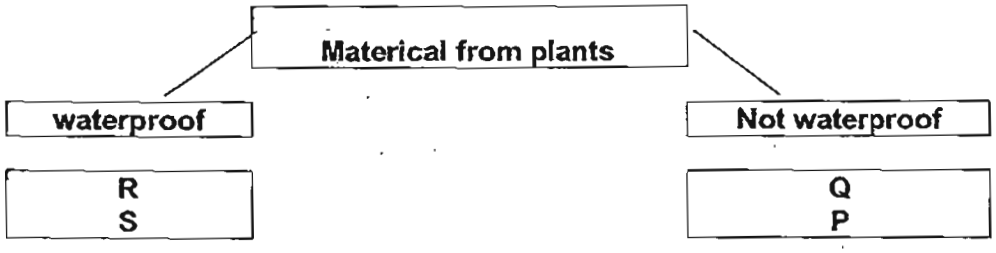
39 a) Its roots made the plant firmly to the soil.
b) The plant had no roots and could not absorb water.

40)

| Statement | True | FALSE | Not possible to tell |
|---|---|---|---|
| The water-carrying tubes are removed at Ring 1. | | √ | |
| The water-carrying tubes are removed at Ring 2. | | | √ |
| The food carrying tubes are removed at ring 2. | | | √ |

41 a) It was made of iron.
b) Some scratch would appear.
c) Material B is harder than material C.

42 a) Cotton
b) It is not flexible and waterproof.
c)




43 a) The more coils the more paper clips are attracted to the iron rod.
b) 12
c) Add more batteries.

44a) The paper clip will remain suspended in the air as magnetism can past through paper.
b) Iron
c) the magnetic force could not pass through iron.

-- end paper -----