PRIMARY 3 END-OF-YEAR EXAMINATION 2013

Name : _____ ( ) Date: 25 October 2013

Class : Primary 3 ( ) Time: 8.00 a.m. – 9.30 a.m.

Parent's Signature : _____ Marks: _____ / 60

SCIENCE

BOOKLET A

INSTRUCTIONS TO CANDIDATES

Write your name, register number and class.

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

Follow all instructions carefully.

Answer all questions.

100

Section A (30 x 2 marks)

For each question, 1 to 30, choose the most suitable answer and shade its corresponding oval (1, 2, 3 or 4) in the optical answer sheet.

1. Peter observes a Venus Fly Trap plant in his garden.

Before **After**

When an insect lands on the plant, it closes up. What can Peter conclude from his observation?

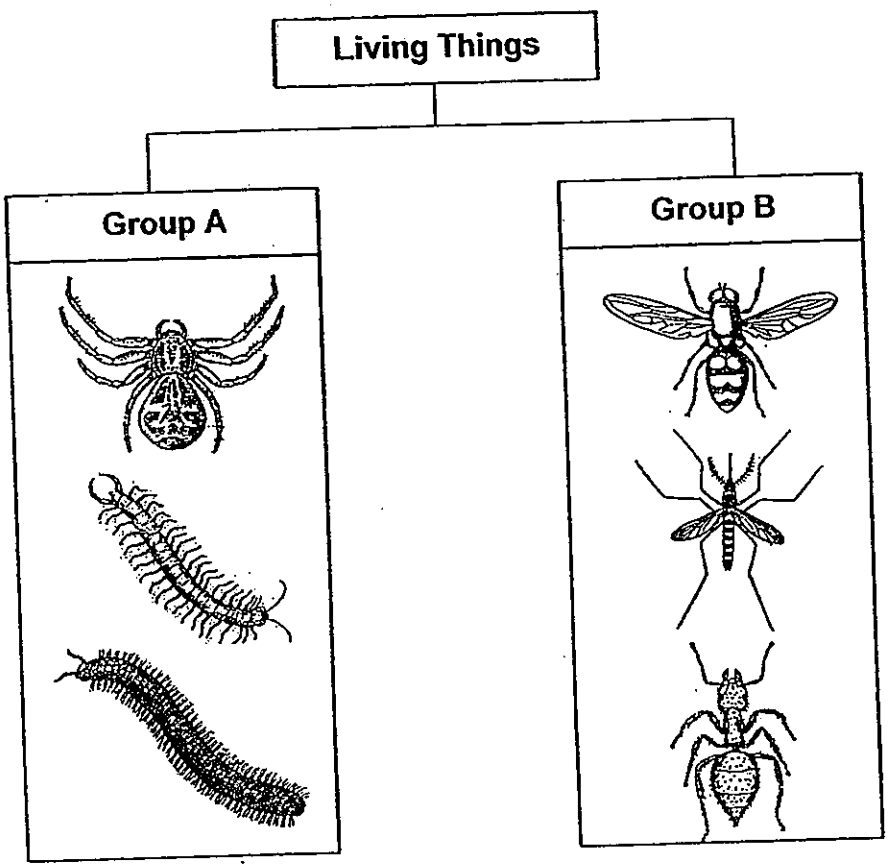
(1) Living things grow.
(2) Living things reproduce.
(3) Living things respond to changes.
(4) Living things need air, food and water to survive.

2. Jim observed a plant.

Based on Jim's observations, which of the following is **true**?

(1) The plant grows taller.
(2) The plant has many leaves.
(3) The plant has flowers to bear fruits.
(4) The plant depends on the spores for food.

3. The classification chart below shows how some insects are grouped.



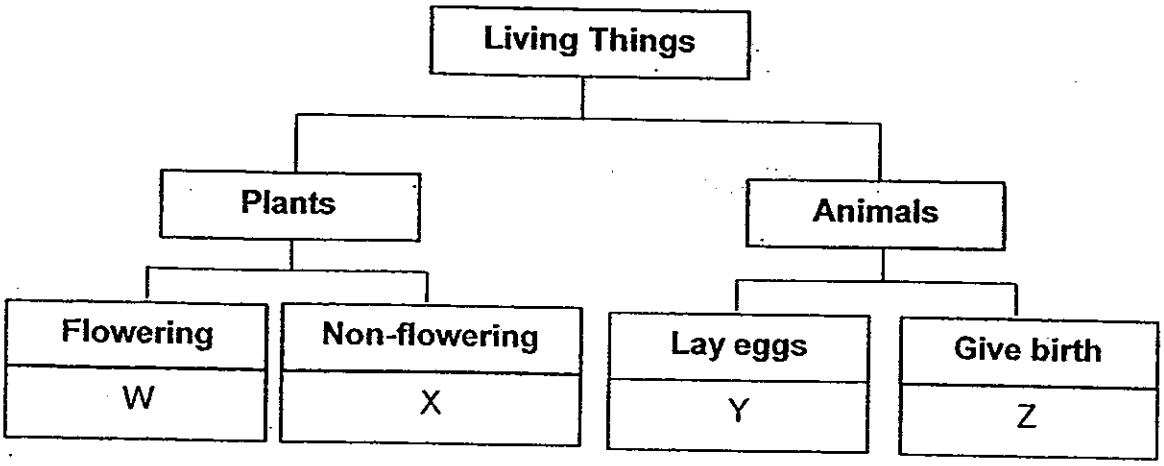
Which of the following correctly represents Group A and Group B?

	Group A	Group B
(1)	Many legs	Six legs
(2)	Cannot fly	Can fly
(3)	Has feelers	Has claws
(4)	Many body parts	Three body parts

4. Which of the following is **true**?

(1) All plants reproduce from seeds.
(2) Roots, stems and leaves form the plant system.
(3) Stems have only one function which is to support the plant.
(4) A plant takes in water, mineral salts and food from the ground.

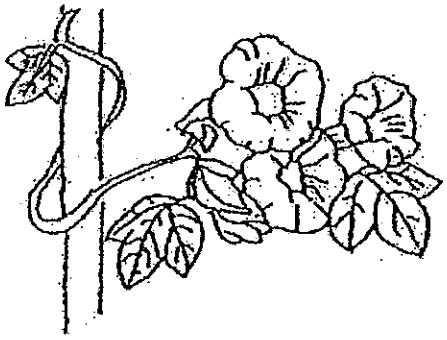
5. Study the classification chart below.



Which of the following describes the organisms, W, X, Y and Z?

(1) W and X are ferns.
(2) W and X can bear fruits.
(3) Y and Z can live on land.
(4) Only Y and Z need food to survive.

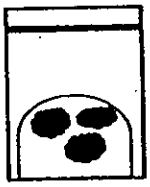
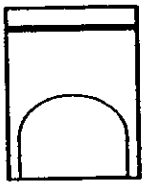
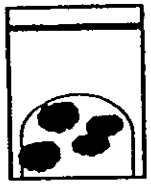
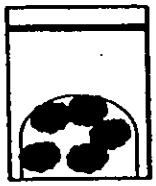
6. Study the drawing below.

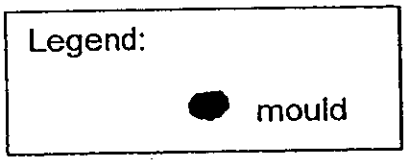


Which of the following describes the morning glory?

(1) The morning glory has a weak stem and reproduces by seeds.
(2) The morning glory has a weak stem and reproduces by spores.
(3) The morning glory has a strong stem and reproduces by seeds.
(4) The morning glory has a strong stem and reproduces by spores.

7. Karen wanted to find out under which temperature would mould grow best. She placed four similar plain buns under different temperatures and recorded how much mould grew in the table below.

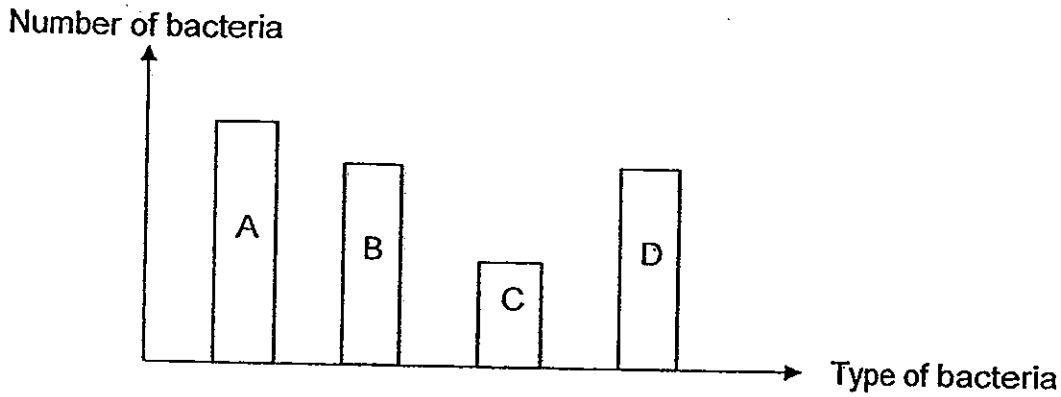
Plain Bun	**A**	**B**	**C**	**D**
Temperature (°C)	0	5	27	30
Mould growth after 10 days				



However, two of her results were recorded under the wrong temperatures. Which plain buns were recorded wrongly?

(1) The plain buns, A and B only.
(2) The plain buns, A and D only.
(3) The plain buns, B and C only.
(4) The plain buns, C and D only.

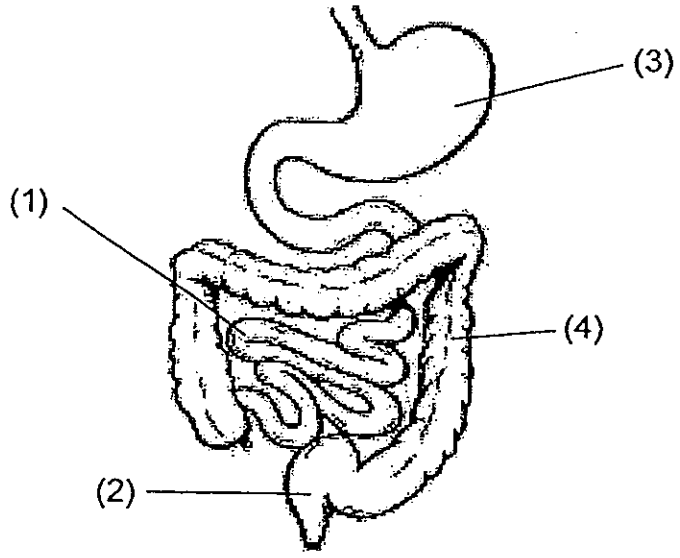
8. Fred carried out an experiment to investigate the growth of four strains of bacteria, A, B, C and D at 30°C. He started the experiment with the same number of bacteria. The graph below shows the result at the end of the experiment.



Based on the bar graph, what can Fred conclude from his experiment?

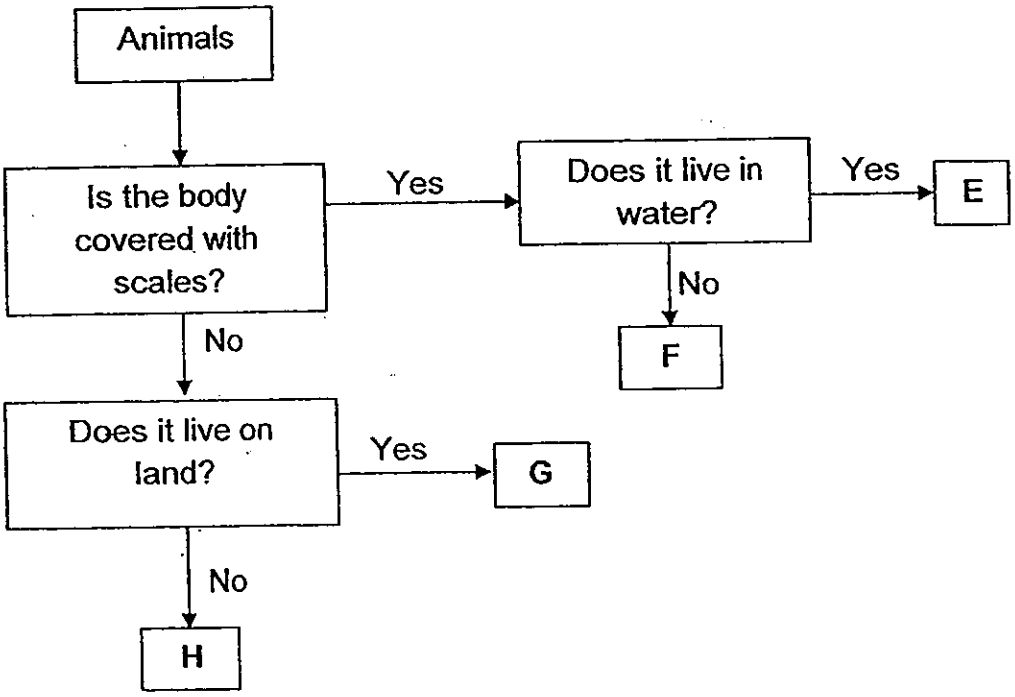
(1) The number of Bacteria D increased.
(2) There is less Bacteria C than Bacteria A.
(3) There is more Bacteria B than Bacteria D.
(4) The number of Bacteria C remains the same.

9. The diagram below shows the parts of the human digestive system.



Which part absorbs the most amount of water from the undigested food?

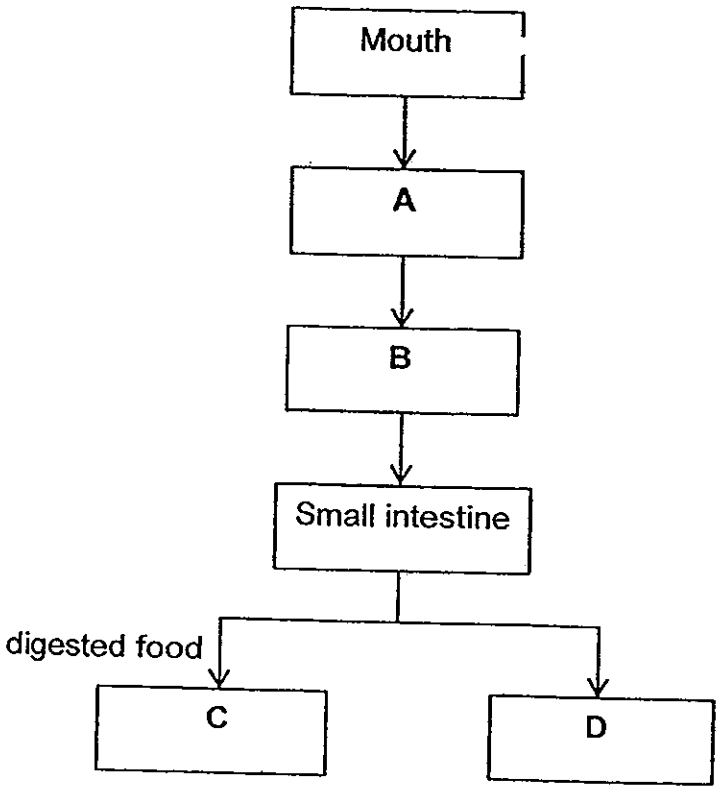
10. Study the flowchart below.



Which of the following letters represents a giraffe?

(1) E
(2) F
(3) G
(4) H

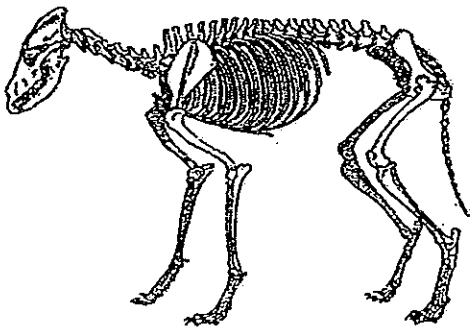
11. The chart below shows the path in which food travels in the digestive system after it enters the mouth.



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

	A	B	C	D
(1)	gullet	stomach	water	large intestine
(2)	gullet	large intestine	water	stomach
(3)	stomach	gullet	blood	large intestine
(4)	gullet	stomach	blood	large intestine

12. Look at the skeleton of a creature below.



Based on the diagram, which of the following statements is **true** about the creature?

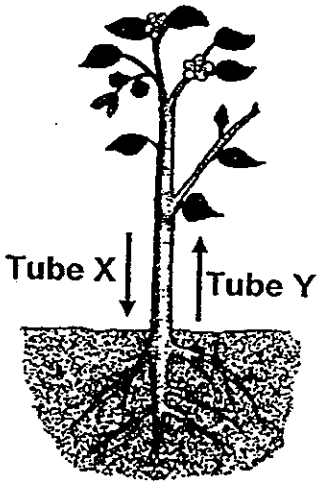
(1) It has no tail.
(2) It can run fast.
(3) It cannot swim.
(4) It is a four-legged animal.

13. Look at the leaves below.

Which of the following describes the leaves?

	Leaf edge	Vein pattern
(1)	Jagged	Network
(2)	Entire	Parallel
(3)	Jagged	Parallel
(4)	Entire	Network

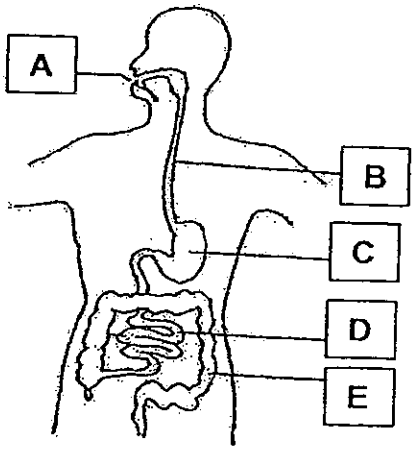
14. The diagram below shows the movement of substances in the tubes found in a plant.



Identify the substances in Tube X and Tube Y.

	Tube X	Tube Y
(1)	water	food
(2)	food	water
(3)	water	water
(4)	food	food

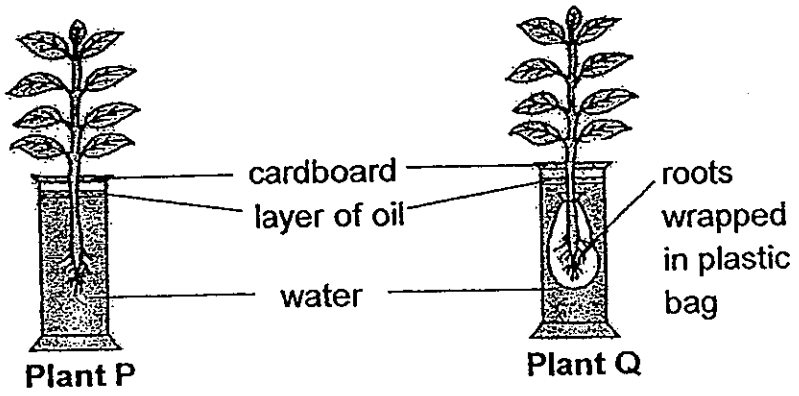
15. The diagram below shows the parts of a human digestive system.



Which of the parts, A, B, C, D and E, produce digestive juices?

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

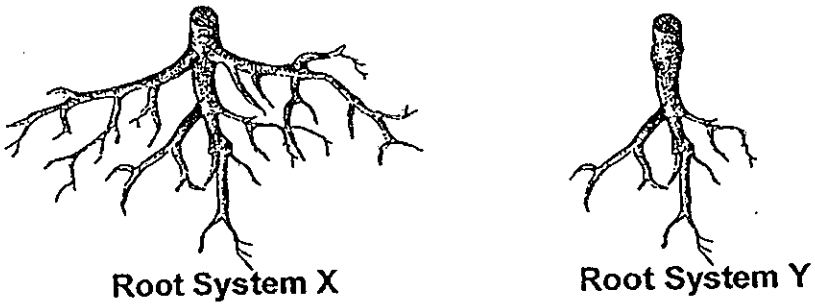
16. Jon placed two similar plants, Plant P and Plant Q, in identical jars. Each jar contained the same amount of water and was placed next to a window for two days as shown below.



What does Jon want to find out from his experiment?

(1) To find out if roots take in water.
(2) To find out if leaves take in sunlight.
(3) To find out if the cardboard affects the amount of air entering the water.
(4) To find out if the layer of oil affects the amount of water taken in by the plants.

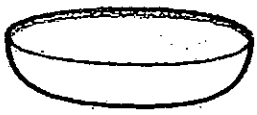
17. Study the two systems of roots below.



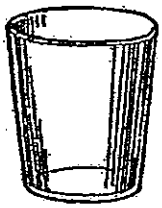
In what way does Root System X have an advantage over Root System Y?

(1) Root System X can absorb more food from the soil.
(2) Root System X can store more mineral salts for the plant.
(3) Root System X can hold the plant more firmly to the ground.
(4) Root System X can take in more carbon dioxide to make food for the plant.

18. Which of the following is a system?



Bowl
(1)

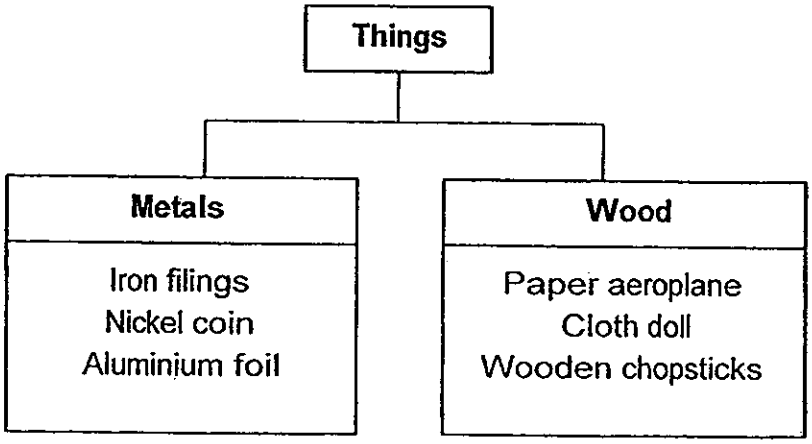


Glass
(2)

Chopsticks
(3)

Spoon
(4)

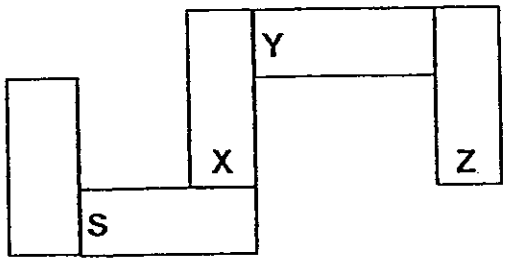
19. The classification chart below shows how some objects are grouped.



Which object is grouped wrongly?

(1) Cloth doll
(2) Nickel coin
(3) Aluminium foil
(4) Paper aeroplane

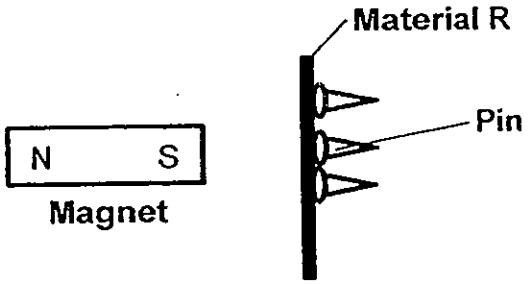
20. Look at the arrangement of the five bar magnets shown below. X, Y and Z are three poles of the magnets and S is the south-seeking pole of another of the magnets.



Identify the poles, X, Y and Z.

	South-seeking Pole	North-seeking Pole
(1)	Y	X and Z
(2)	Z	X and Y
(3)	X and Y	Z
(4)	X and Z	Y

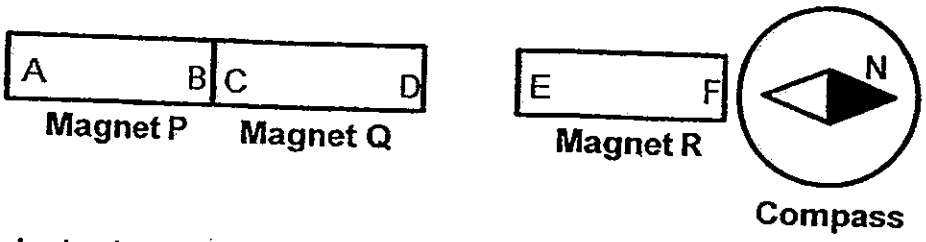
21. Sharon held a piece of magnet close to Material R as shown in the diagram below. She observed that some pins immediately attached themselves onto the other side of Material R.



Which of the following could Material R be made of?

(1) Iron
(2) Steel
(3) Nickel
(4) Copper

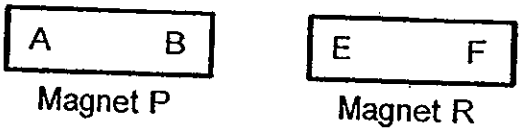
22. Look at the diagram below.



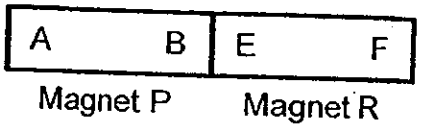
Jack placed three magnets near each other. Magnet P and Magnet Q attracted each other but Magnet Q and Magnet R repelled each other.

Then, he removed Magnet Q and the compass before moving Magnet P nearer to Magnet R. Which of the following shows the result for Magnet P and Magnet R?

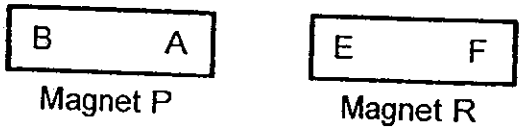
(1)



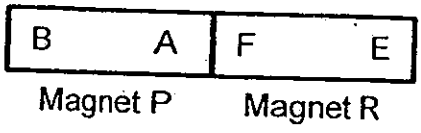
(2)



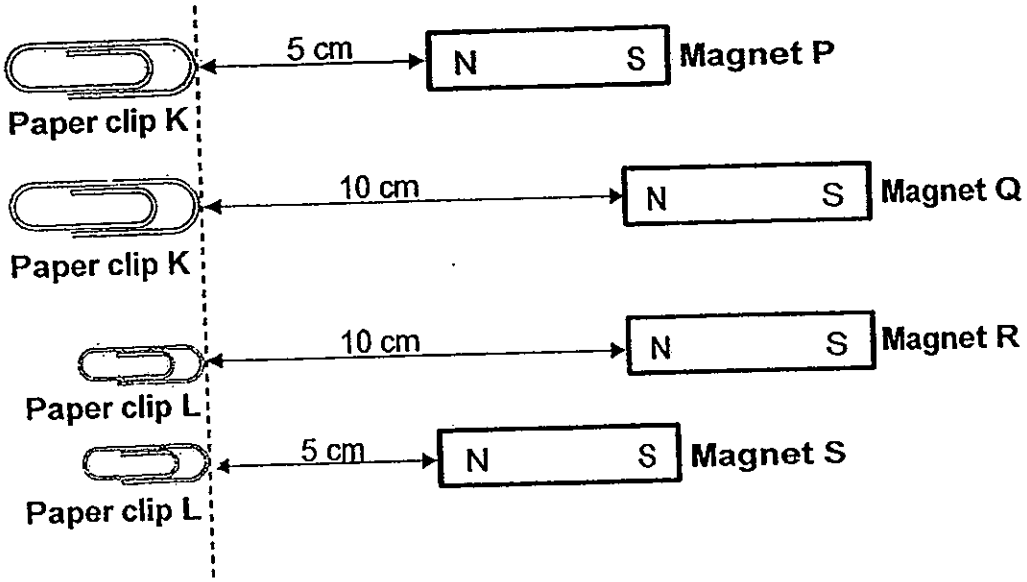
(3)



(4)



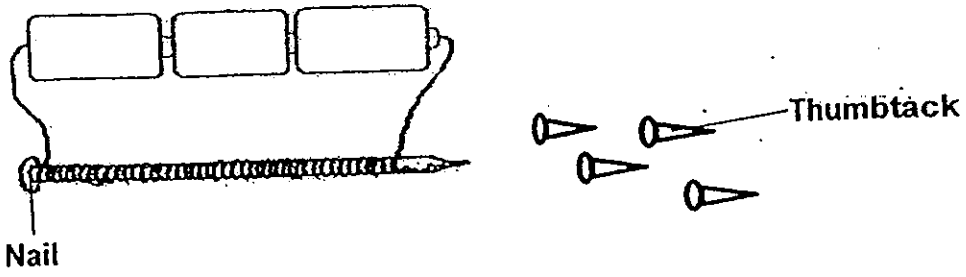
23. The diagram below shows the greatest distance at which the different magnets, P, Q, R and S, will attract the paper clips, K and L. Paper clip K is twice as heavy as paper clip L.



Which of the following is true about the magnets, P, Q, R and S?

(1) Magnet Q is the weakest magnet.
(2) Magnet R is the strongest magnet.
(3) Magnet P is stronger than Magnet S.
(4) Magnet S is stronger than Magnet R.

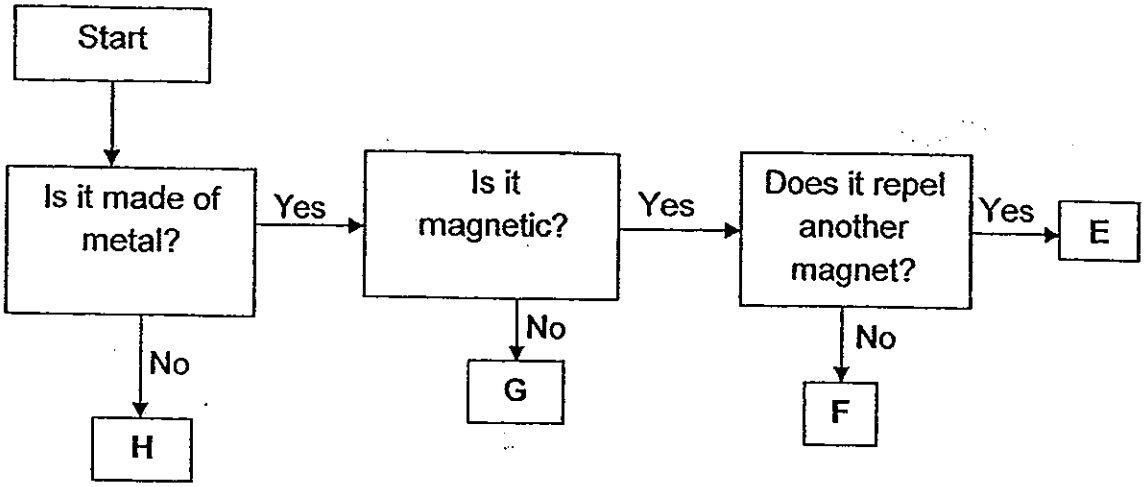
24. An electro-magnet was set up as shown below.



In order for the nail to attract the thumbtacks, what material should they be made of?

	Nail	Thumbtack
(1)	Aluminium	Wood
(2)	Steel	Iron
(3)	Iron	Aluminium
(4)	Wood	Steel

25. The flow chart below helped June to find out if the objects, E, F, G and H could be a magnet.



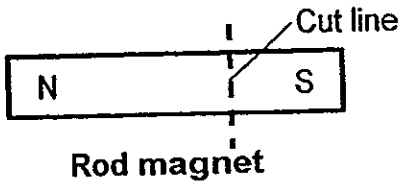
Which of the objects, E, F, G or H could be a magnet?

(1) E
(2) F
(3) G
(4) H

26. Which of the following does **not** need a magnet to function?

(1) The door of a refrigerator.
(2) The metal blade of a ceiling fan.
(3) The buzzer of an electric doorbell.
(4) The compass needle of a compass.

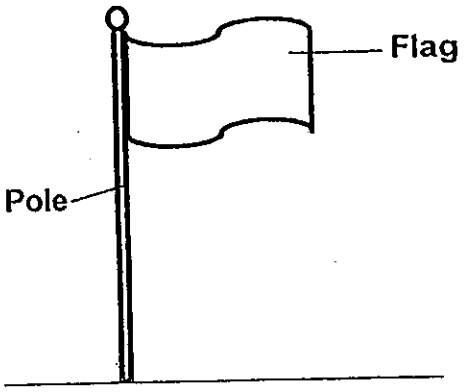
27. Four pupils predicted the outcome of a rod magnet that was cut into two pieces as shown in the diagram below.



Whose prediction is **correct**?

(1) Mary: The two pieces would remain as magnets.
(2) Jane: The two pieces would lose their magnetism.
(3) Nicky: The smaller piece would lose its magnetism.
(4) Samy: The bigger piece would have more magnetism.

28. The flag pole has two parts, the flag and the pole.



Identify the properties of the two parts that work together to carry out its function.

	Flag	Pole
(1)	Soft	Hard
(2)	Weak	Strong
(3)	Flexible	Stiff
(4)	Float on water	Sink in water

29. Kim conducted several tests on materials A, B, C and D. She recorded her results in the table below. A tick (✓) indicates the presence of the property.

Property	Materials			
	A	B	C	D
Does it break easily when dropped?		✓	✓	✓
Is it flexible?	✓	✓	✓	
Is it waterproof?	✓		✓	✓

Which material is best used to make boots that Kim can use to keep her feet dry?

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

30. Study the classification table below.

From Plants	From the Ground	From Animals
Wooden chair	Brick	Woollen jacket
Rubber ball	Key	Leather shoes
Cardboard	Safety pin	Silk scarf

In which groups would you place a coin and a balloon respectively?

	Coin	Balloon
(1)	From Animals	From the Ground
(2)	From the Ground	From Plants
(3)	From Plants	From the Ground
(4)	From Plants	From Animals

TAO NAN SCHOOL 陶南学校

SINCERITY & PERSEVERANCE

PRIMARY 3 END-OF-YEAR EXAMINATION 2013

Name : _____ ( ) Date: 25 October 2013

Class : Primary 3 ( ) Time: 8.00 a.m. – 9.30 a.m.

Parent's Signature : _____ Marks: _____ / 40

SCIENCE

BOOKLET B

INSTRUCTIONS TO CANDIDATES

Write your name, register number and class.

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

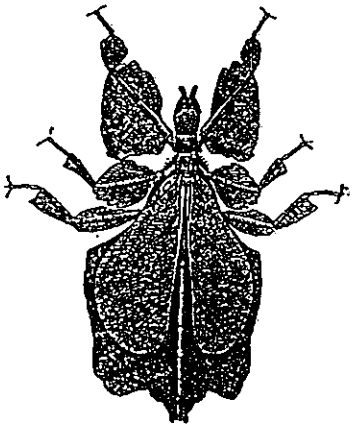
Follow all instructions carefully.

Answer all questions.

Section B (40 marks)

For the questions, 31 to 44, write your answers in the spaces provided.

31. The picture below shows Organism X. It is an organism that looks like a leaf.



Organism X

(a) In which animal group would you place Organism X? (1m)

_____

(b) Give a reason to support your answer in (a). (1m)

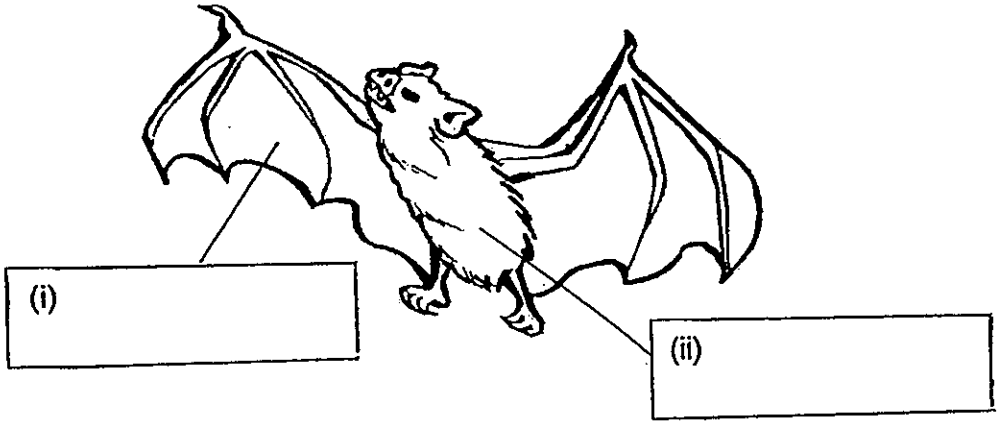
_____

_____

32.

(a) Use the Helping Words to label the parts of a bat below. (1m)

Helping Words			
Wing	Hair	Feather	Claw



(b) Based on your answer in (a), in which animal group would you place the bat? Explain your answer. (1m)

_____

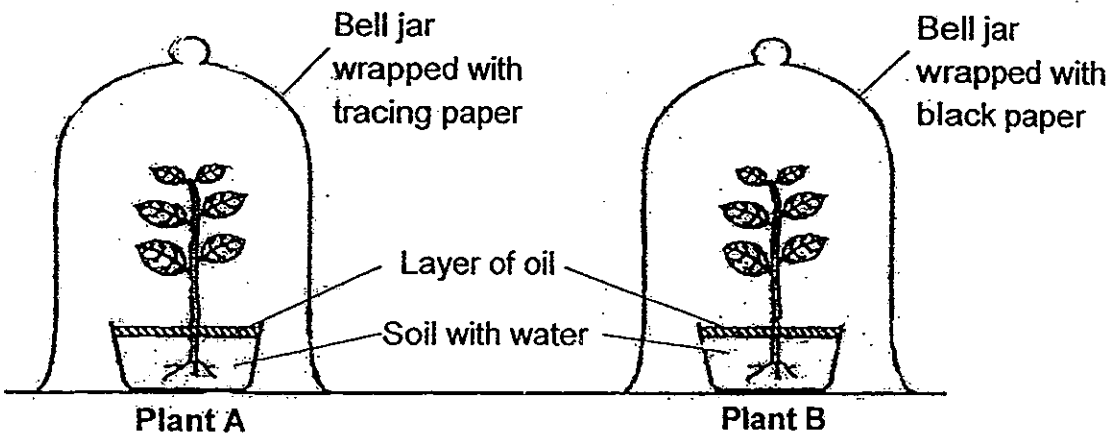
_____

(c) Is the bat a system? Explain your answer. (1m)

_____

_____

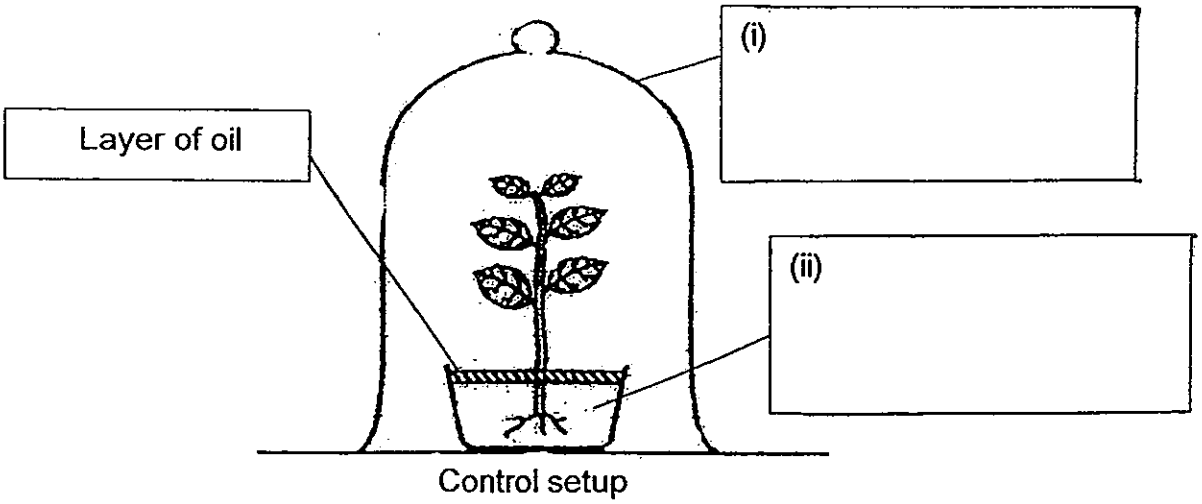
33. Meiling carried out an experiment to find out if the amount of light is important for the survival of a plant. The diagram below shows the setup of her experiment.



(a) For each variable, put a tick (✓) in the correct box to indicate if it should remain the same or be changed. (2m)

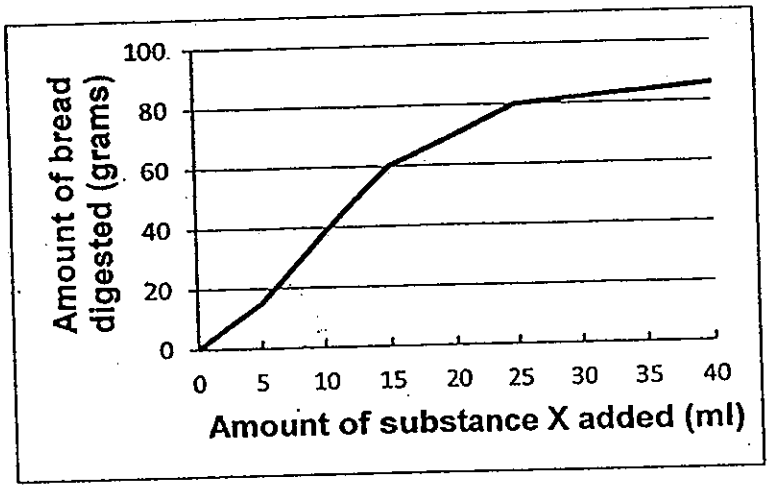
Variables	Should remain the same	Should be changed
(i) Amount of water used.		
(ii) Where the bell jars were placed.		
(iii) Type of plants used.		
(iv) Height of the plants.		

(b) Meiling's teacher told her that her experiment would not be fair without a control setup. Label the parts of the control setup below. (1m)



Control setup

34. Mary wanted to find out if bread is better digested when substance X is added. She repeated the experiment by increasing the amount of substance X added. She plotted a graph below to show the result of her experiment.



(a) Based on the line graph above, what is the relationship between the amount of substance X added and the amount of bread digested?
(1m)

_____

_____

(b) Which substance in the digestive system does substance X represent?
(1m)

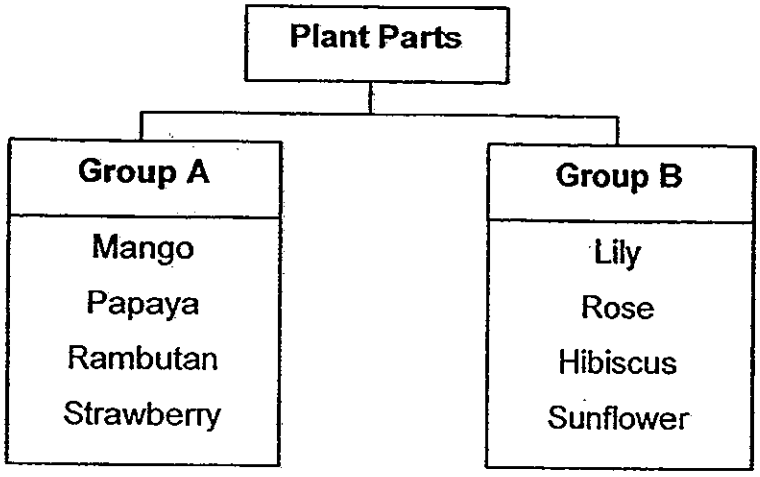
_____

(c) Based on your answer in (b), explain the function of the substance.
(1m)

_____

_____

35. Tim found some plant parts and classified them as shown below.

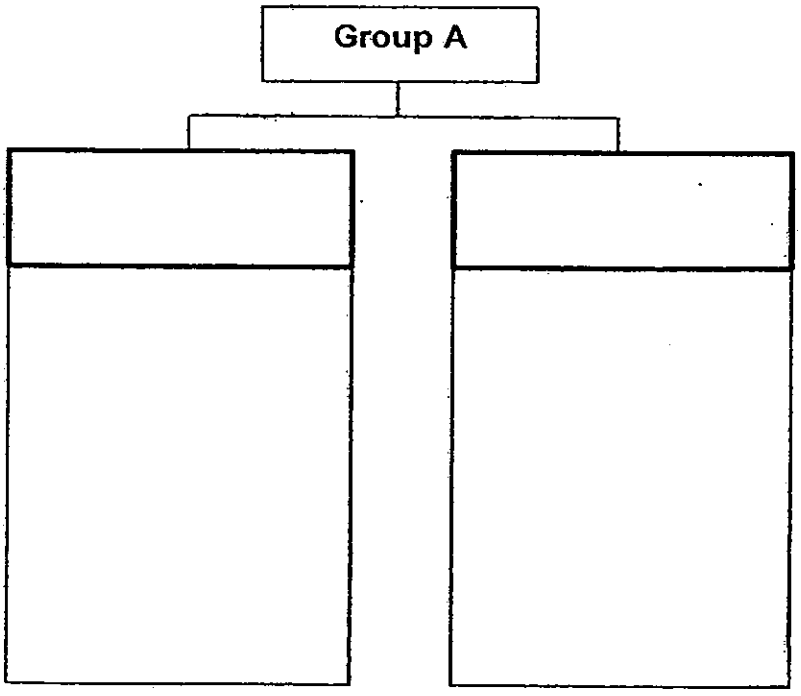


(a) Give a suitable heading for Group A and Group B according to their plant parts. (1m)

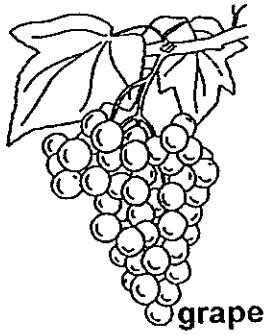
Group A: _____

Group B: _____

(b) Tim can further classify the plant parts in Group A. Give suitable headings for the two new groups and complete the classification table below. (2m)



(c) The drawings below show two plant parts. (1m)



grape

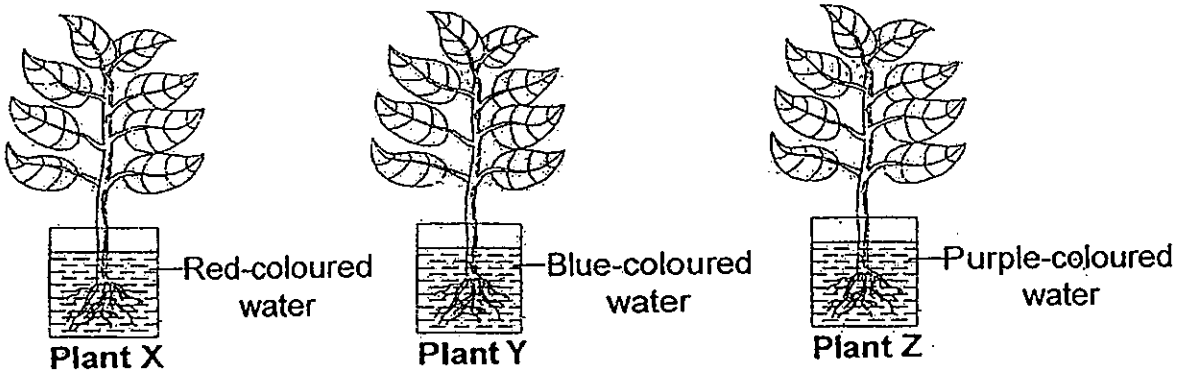
ixora

State an observable similarity between the grape and ixora.

_____

_____

36. Joshua carried out an experiment to find out if the colour of water affects the amount of water taken in by plants. He used 3 similar plants and equal amounts of coloured water in 3 identical containers.



(a) What should Joshua observe to confirm the outcome of his experiment? (1m)

_____

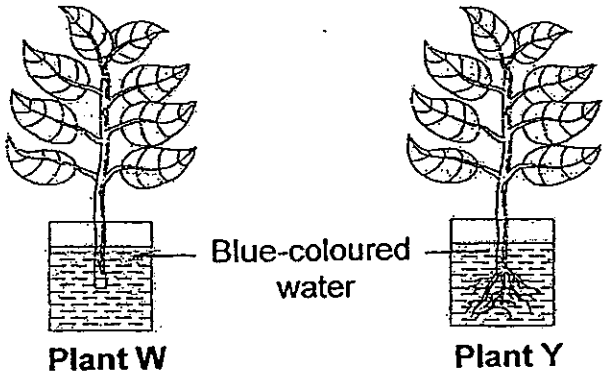
_____

(b) Joshua observed that the colour of the leaves in all the plants had changed. What would be the colour of the leaves in Plant X? Explain your answer. (1m)

_____

_____

(c) Joshua used Plant W and Plant Y to conduct another experiment. The diagram below shows his experiment.

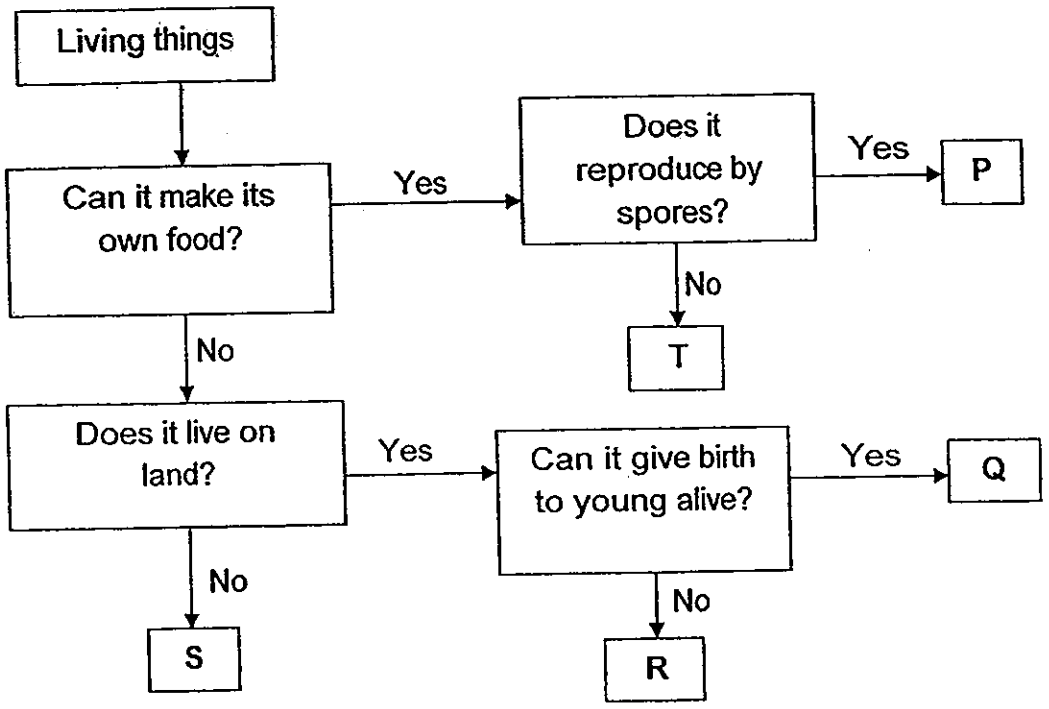


What is the aim of his experiment? (1m)

_____

_____

37. Study the flow chart below.



(a) Where on the flow chart, can you place a bird's nest fern? Explain your answer. (2m)

_____

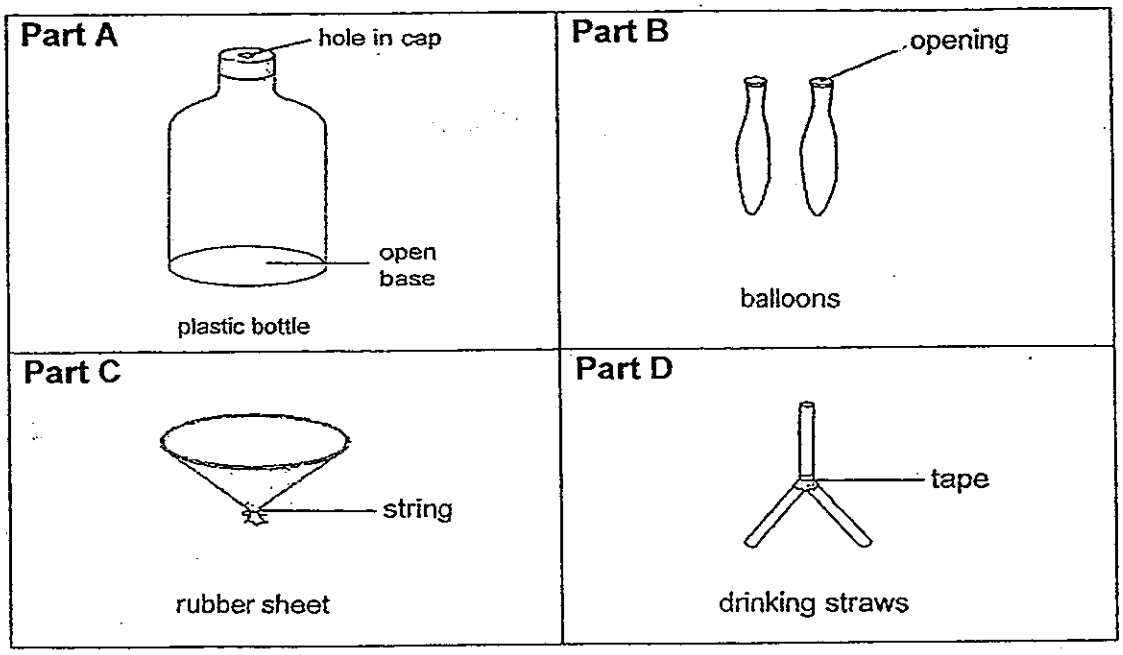
_____

(b) Based on the flow chart, state two similarities between Q and R. (2m)

_____

_____

38. Janet made a model of a human respiratory system with four main parts as shown in the diagram below.



(a) Match Part A and Part B to the parts of the human respiratory system with the Helping Words provided below. (1m)

Helping Words			
lungs	windpipe	rib cage	muscles

Part A:	Part B:

(b) What is the purpose of Part A in the human respiratory system. (1m)

_____

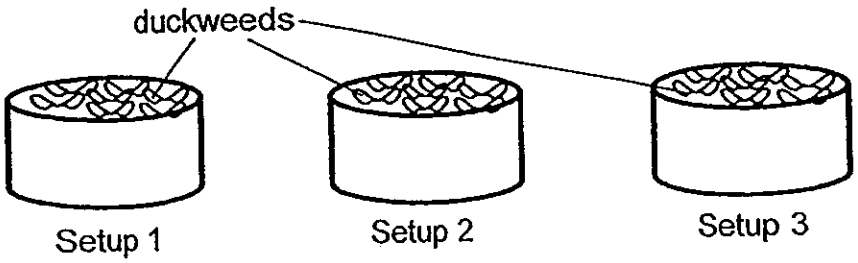
_____

(c) State the function of the human respiratory system. (1m)

_____

_____

39. Danny sets up an experiment with 3 setups. He puts them near an open window for a week as shown below.



	Number of duckweeds	Type of water	Amount of water
Setup 1	40	Pond water	500ml
Setup 2	40	Oily water	500ml
Setup 3	40	Salt water	500ml

(a) What is the aim of Danny's experiment? (1m)

_____

_____

(b) Based on your answer in (a), what observation should Danny make in order to confirm the outcome of his experiment? (1m)

_____

_____

(c) Did Danny conduct a fair test? Give a reason for your answer. (1m)

_____

_____

40. Sally placed a piece of wood in a basin of water. The piece of wood floated as shown in Diagram 1. Then, she attached some metal blocks on top of the piece of wood. The piece of wood sank as shown in Diagram 2.

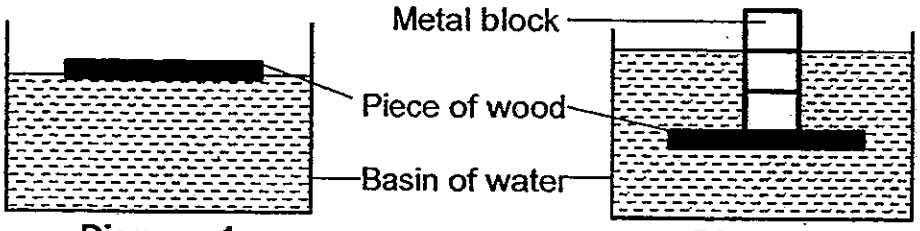


Diagram 1 Diagram 2

(a) Give a reason why the piece of wood sank when the metal blocks were attached onto it. (1m)

_____

_____

(b) A submarine is a type of naval vessel that can travel underwater in the sea as shown in Diagram 3. It has tanks that allow water to flow in and out of them. The tanks are fixed inside the submarine.

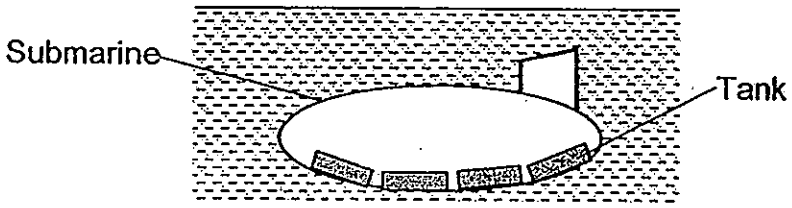


Diagram 3

(i) Based on Sally's experiment, what should be done to make the submarine rise from underwater to the surface of the sea? (1m)

_____

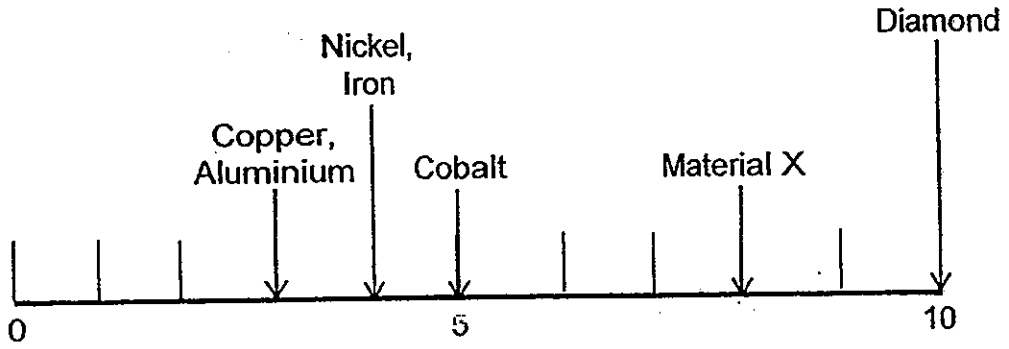
_____

(ii) State a suitable material that can be used to make the submarine. Give a reason for your answer. (1m)

_____

_____

41. The diagram below shows a Mohs scale. A Mohs scale measures the hardness of materials.

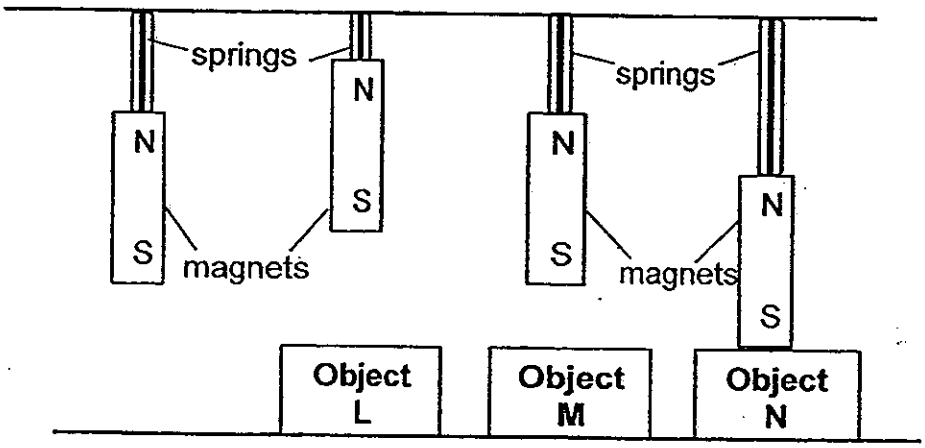


Hardness of materials

For each of the following, put a tick (✓) in the appropriate box to indicate if it is True, False or Not possible to tell. (2m)

	True	False	Not possible to tell
(a) All the materials will have scratch marks on them when a diamond is used to scratch them.			
(b) When copper is used to scratch cobalt, there will be scratch marks on the cobalt.			
(c) Material X is steel as it is harder than iron.			
(d) Material X is a harder material than cobalt.			

42. Nancy set up an experiment to find out what are the objects, L, M and N. She attached 4 similar magnets to 4 springs of equal length and strength. The objects were placed below the magnets as shown in the diagram below. The length of each spring with a magnet attached is 10 cm.



She recorded her results in the table below.

	Length of spring after the objects were placed below the magnets
Object L	8 cm
Object M	10 cm
Object N	14 cm

(a) Based on the table, which object is definitely a magnet? (1m)

_____

_____

(b) Explain your answer in (a). (1m)

_____

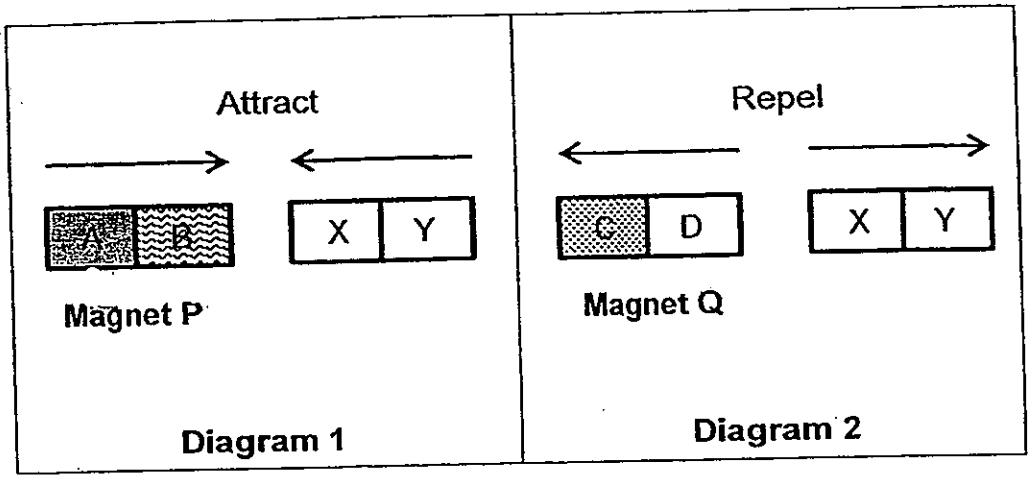
_____

(c) One of the objects is an eraser. Which object, L, M or N, could it be? Give a reason for your answer. (1m)

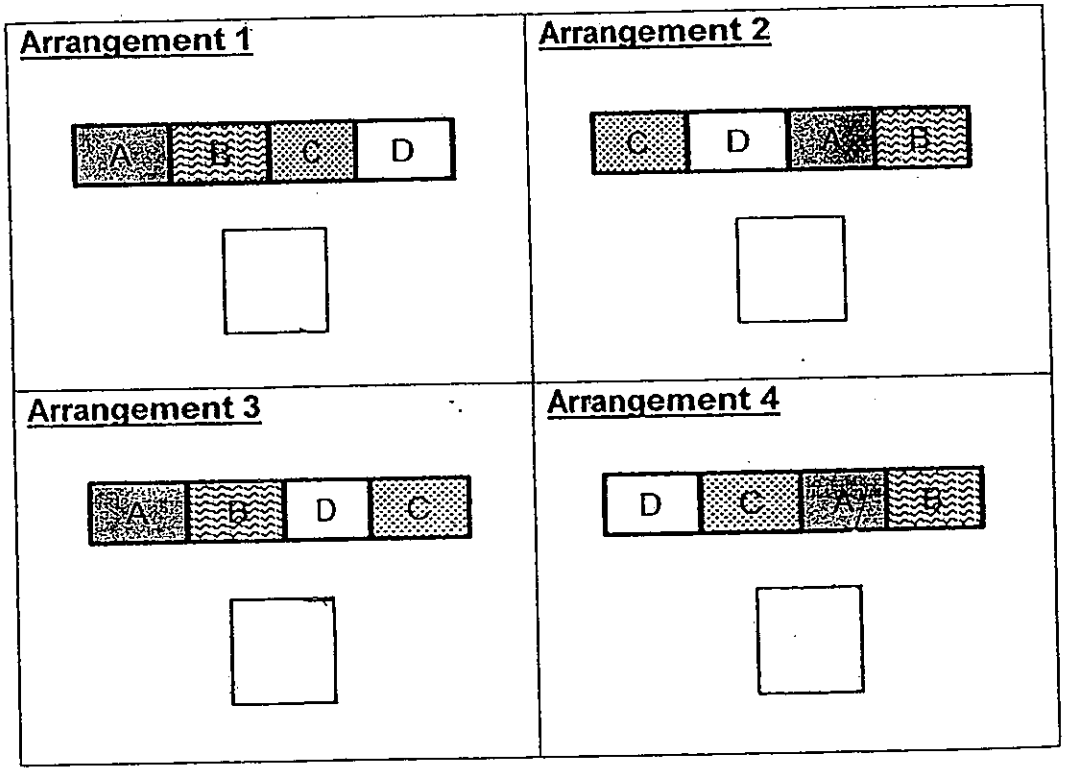
_____

_____

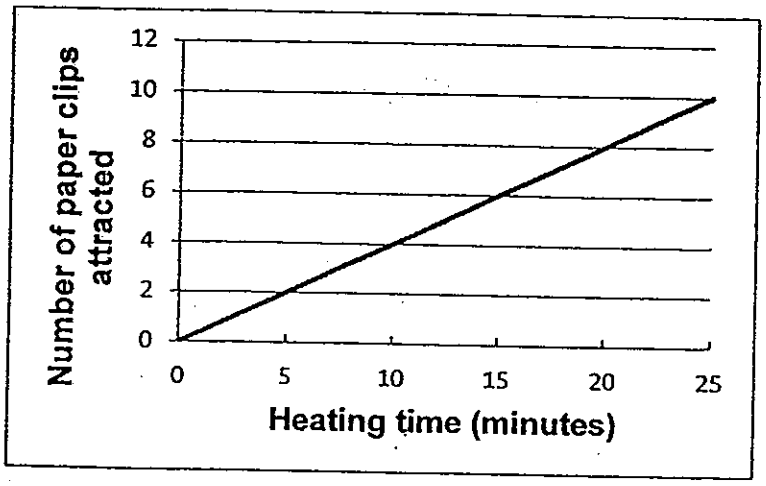
43. The diagrams below show what happens when Magnet P and Magnet Q are placed close to a magnet, one at a time.



Magnet P and Magnet Q were then placed close together. Put a tick (✓) in the boxes that represent the arrangement of Magnet P and Magnet Q. (2m)



44. Ben heated a magnet and recorded the number of paper clips it attracted after every 5 minutes of heating. He drew the line graph below based on his results.

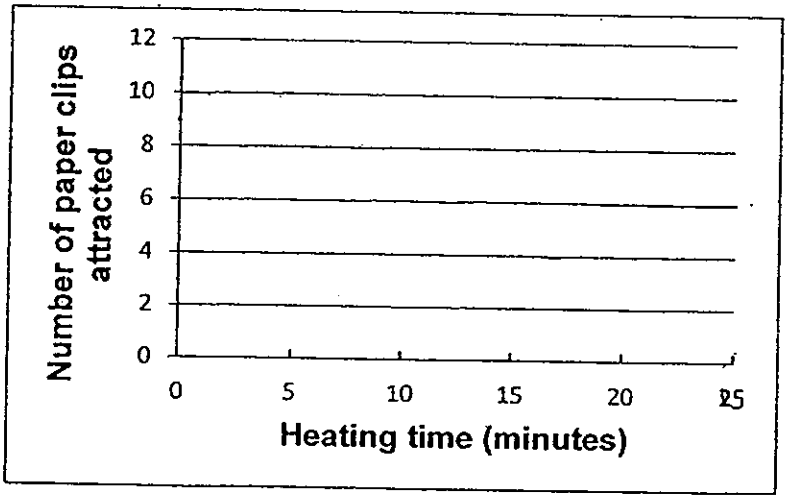


(a) Ben's teacher told him that the graph that he had drawn is wrong. What was wrong with his line graph? (1m)

_____

_____

(b) In the graph below, draw how the line graph should look like based on your answer in (a). (1m)



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Answer Ke

EXAM PAPER 2013
SCHOOL : TAO NAN SCHOOL
SUBJECT : PRIMARY 3 SCIENCE

TERM : SA2

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

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

Section B

Q31

a) I would place Organism X in the insect group

b) Organism X has six legs

Q32

a) i) Wing
ii) Hair

b) Mammal. It has hair on its body

c) Yes. The bat has eyes, ears and mouth. Thus it's a system.

Q33

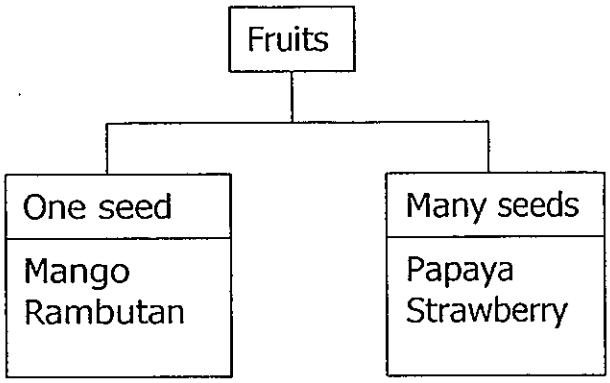
a)

Variables	Should remain the same	Should be changed
(i) Amount of water used	√	
(ii) Where the bell jars are placed	√	
(iii) Type of plants used	√	
(iv) Height of plants	√	

b) i) Bell jar
ii) Soil with water

Q34
a) More bread is digested if they put more of substance X
b) Digestive juices
c) It helps to break down the food into simpler substances.

Q35
a) Group A: Fruits
Group B: Flowers
b)



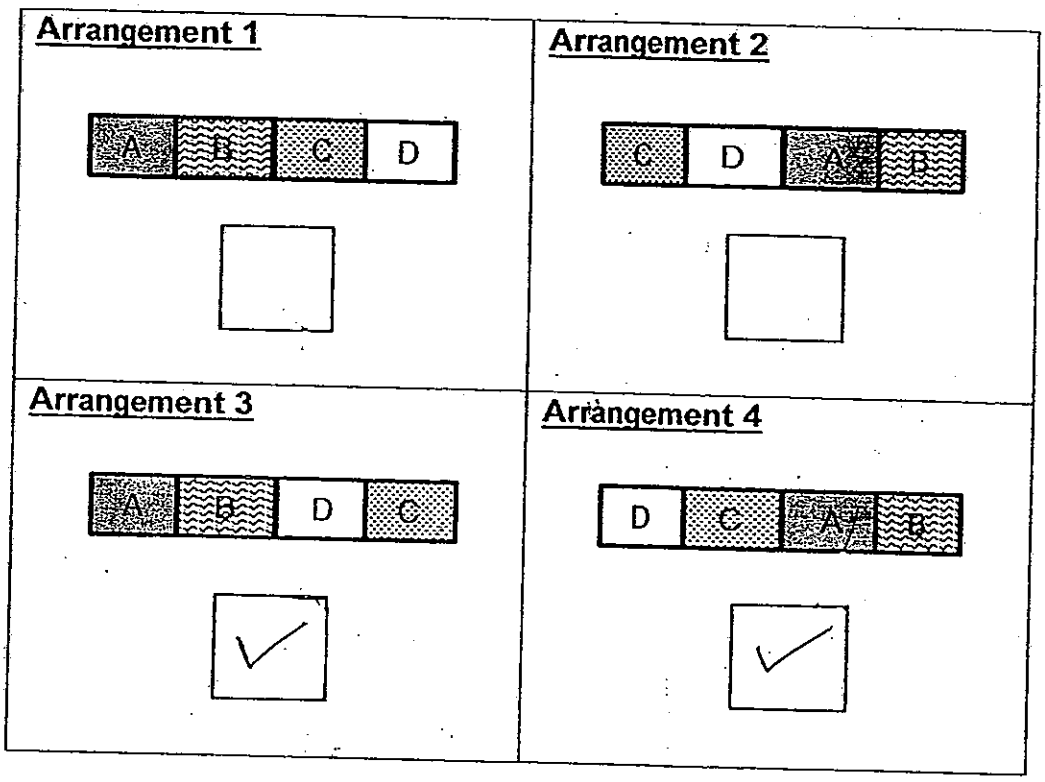
c) They both have leaves/ They both grow in a cluster.

Q36
a) Joshua should observe the amount of water left to confirm the outcome of his experiment.
b) Red. The roots of the plant will take in the red-coloured water that is put in and the stems transport the red-coloured water to the leaves.
c) To find out if roots absorb water.

Q37
a) Bird's nest fern can make their own food and reproduce by spores
b) Q and R both do not make its own food and live on land

Q38
a) Part A: Windpipe
Part B: Lungs
b) To protect the lungs
c) To allow oxygen to enter the body and remove carbon dioxide from the body.

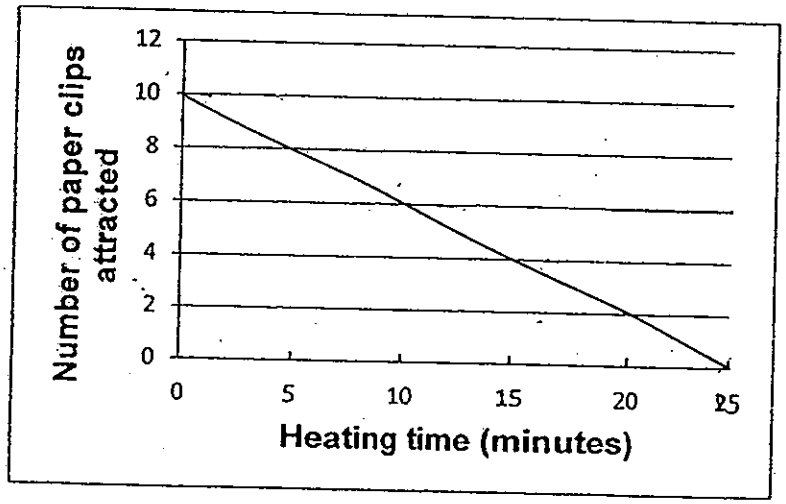
Q43



Q44

a) The paper clips attracted should be getting lesser and lesser as the magnet is slowly losing its magnetism

b)



Q39
a) His aim is to check if the type of water affects the outcome
b) Danny should count the number duckweeds left.
c) Yes, as there is only one difference in all three set-up.

Q40
a) The metal block is too heavy for the piece of wood to carry. Thus the piece of wood sank
b) i) The submarine must let all the water out so that the submarine can rise
ii) Metal. It is a strong material

Q41

	True	False	Not possible to tell
(a) All the materials will have scratch marks on them when a diamond is used to scratch them	√		
(b) When copper is used to scratch cobalt, there will be scratch marks on the cobalt		√	
(c) Material X is steel as it is harder than iron			√
(d) Material X is a harder material than cobalt	√		

Q42
a) Object L
b) Object L repels the magnet
c) Object M. The eraser is a non-magnetic material; hence the spring's length remained the same.