TAO NAN SCHOOL 道南学校

SINCERITY & PERSEVERANCE

PRIMARY 3 END-OF-YEAR EXAMINATION 2012

Name : _____ Date: 30 October 2012

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

Parent's Signature : _____ Total Marks: _____ / 100

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.

Booklet A	60

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 (OAS) provided.

1. What characteristic does **all** mammals have?

   (1) They can fly.

   (2) They live on land.

   (3) They suckle their young.

   (4) They give birth to their young alive.

2. The table below shows the characteristics of Organisms, A, B and C.
   The tick (✓) indicates the presence of a characteristic.

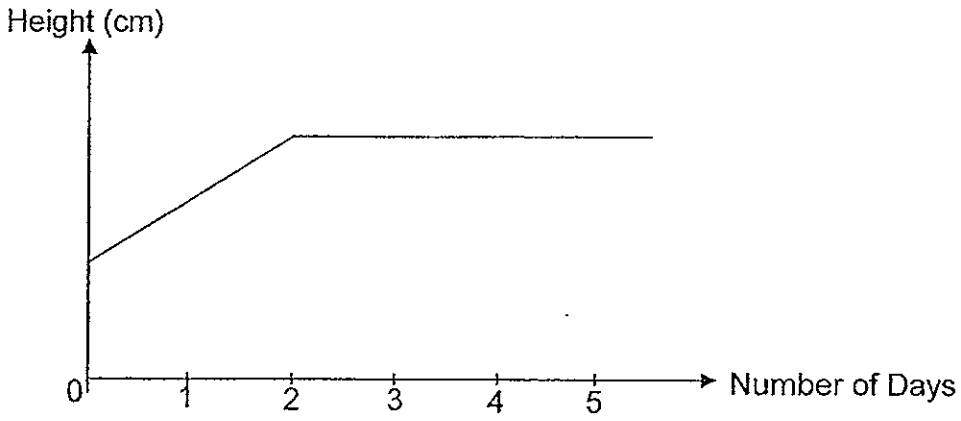
Characteristics	Organism A	Organism B	Organism C
Respond to changes	✓	✓	✓
Can reproduce	✓	✓	✓
Moves freely on its own		✓	
Produce its own food	✓		

Based on the information provided in the table above, which of the following is correctly identified?

	Organism A	Organism B	Organism C
(1)	Coconut Tree	Mushroom	Eagle
(2)	Coconut Tree	Eagle	Mushroom
(3)	Mushroom	Eagle	Coconut Tree
(4)	Eagle	Coconut Tree	Mushroom

35

3. The graph below shows the change in the height of a plant over a period of time.



After studying the graph, 3 pupils John, Sam and Peter each made a statement as shown below:

John: The plant increases in height from Day 0 to Day 2.
Sam: There is no increase in height from Day 2 onwards.
Peter: The plant dies after two days.

Which of the pupils had made the correct conclusion(s)?

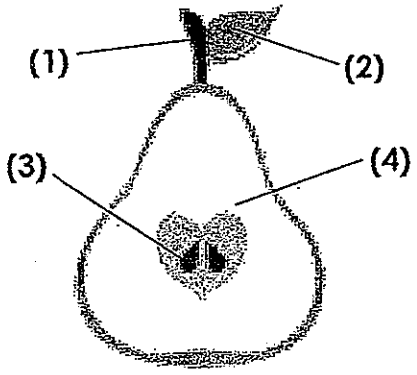
(1) John only

(2) Peter only

(3) John and Sam only

(4) Sam and Peter only

4. The diagram below shows a cross section of a pear.



Which part of the pear can develop into a new plant?

5. Study the living thing below.

The living thing above is **not** classified as an insect. Explain why?

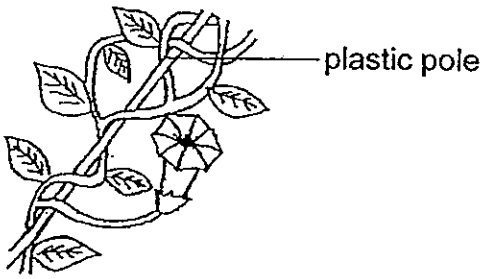
(1) It has an abdomen.

(2) It has a pair of feelers.

(3) It has more than six legs.

(4) It has a hard outer covering.

6. The drawing below shows a part of a plant growing in a garden.



Based on the drawing, which of the following about this plant is correct?

(1) It has a strong stem.

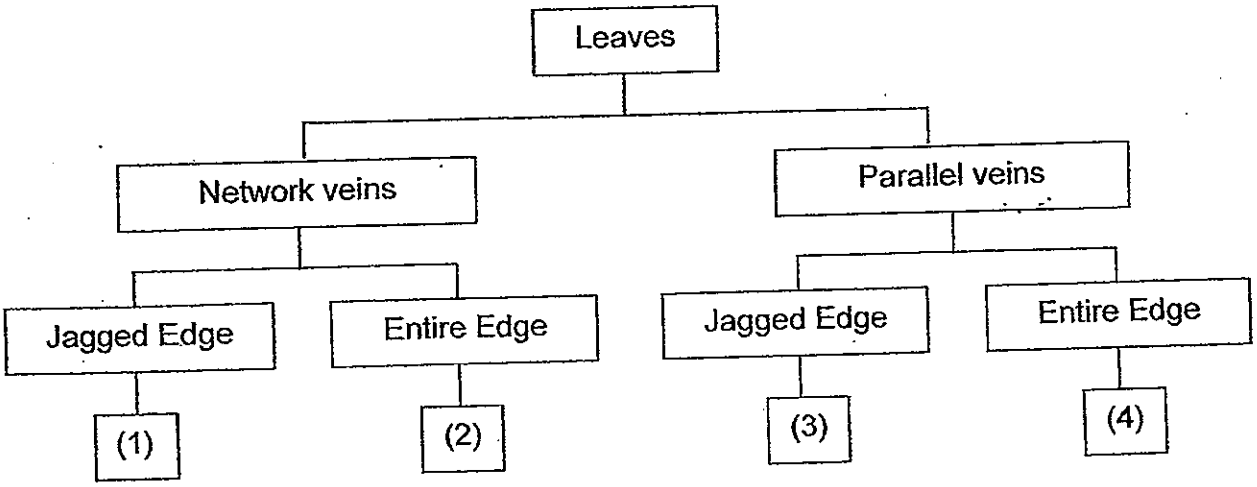
(2) It is a flowering plant.

(3) It reproduces by seeds.

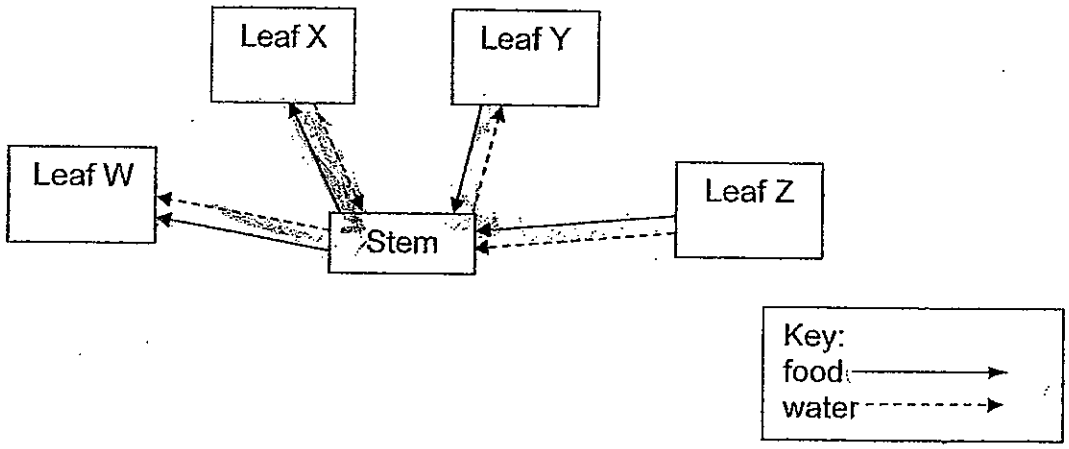
(4) It has sweet and juicy fruits.

7. The drawing below shows a leaf.

In the classification chart below, which group should the leaf belong?



8. The diagram below shows how water and food are transported to and from different parts of a plant.



Which leaf correctly represents the movement of food and water in a plant?

(1) Leaf W

(2) Leaf X

(3) Leaf Y

(4) Leaf Z

9. Which of the following protects our lungs?

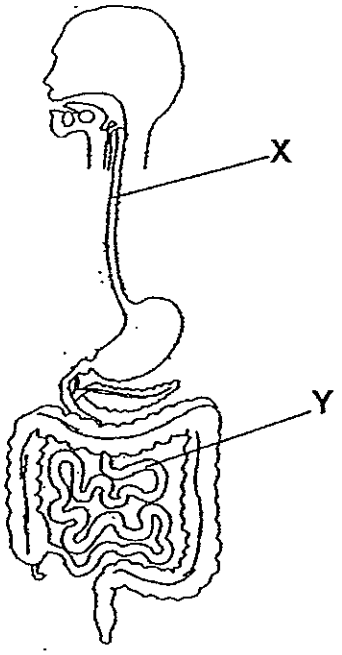
(1) Skull

(2) Ribcage

(3) Hip Bone

(4) Backbone

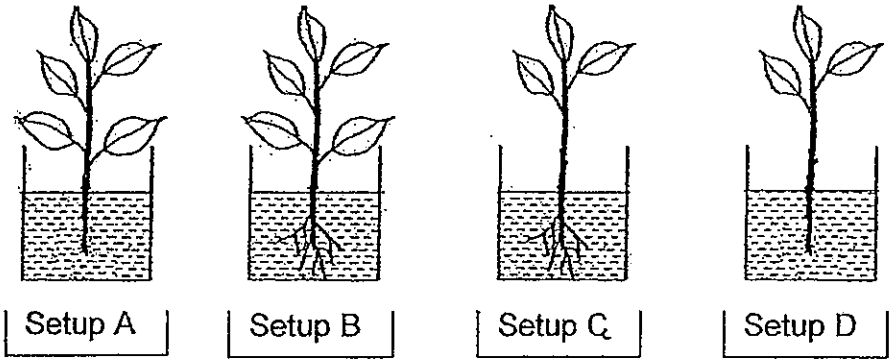
10. Look at the diagram below.



Which of the following are the correct functions of the parts labelled X and Y?

	X	Y
(1)	To allow food to travel from the mouth to the stomach.	To absorb digested food to the other parts of the body.
(2)	To distribute food to the other parts of the body.	To allow air to pass through the lungs.
(3)	To allow more digestive juices to break down the food.	To absorb water from digested food.
(4)	To allow air to pass through the lungs.	To remove nutrients from the body.

11. Sammi wanted to find out if the number of leaves affects the amount of water taken in by a plant. She set up the experiment as shown below.



Which of the two above setups should she use in order to conduct a fair test?

(1) Setup A and Setup B

(2) Setup B and Setup C

(3) Setup C and Setup D

(4) Setup A and Setup D

12. Study the classification table below.

Respiratory system	Skeletal system	Digestive system	Circulatory system
lungs	bones	gullet	blood vessels
nose	muscles	mouth	heart

Which organ is placed in the **wrong** group?

(1) gullet

(2) lungs

(3) muscles

(4) blood vessels

13. The drawings below show two organisms.

Bird's nest fern

Mushroom

Compare the two organisms above. Which of the following is true?

(1) Both organisms are green plants.

(2) Both organisms are flowering plants.

(3) Both organisms reproduce by spores.

(4) Both organisms can make their own food.

14. Which of the following are needed for plants to make food?

A: water
B: sunlight
C: oxygen
D: carbon dioxide

(1) A and D only

(2) B and C only

(3) A, B and D only

(4) A, B, C and D

15. Which of the following is a system?

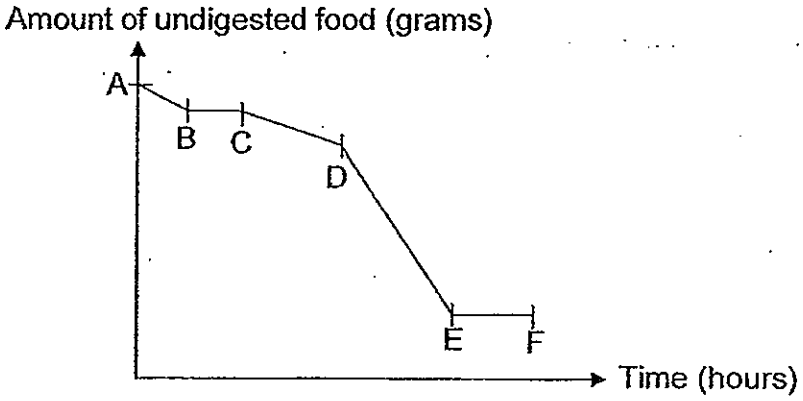
(1) A stapler

(2) A toothpick

(3) A sheet of paper

(4) A piece of rock

16. The graph below shows the amount of undigested food as it travels through the human digestive system.



16. Which part of the graph represents the amount of undigested food in the stomach?

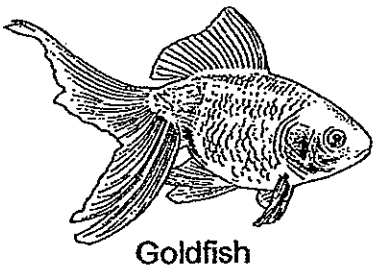
(1) AB

(2) CD

(3) DE

(4) EF

17. The pictures below show a goldfish and a parrot.



Goldfish

Parrot

Based on the pictures above, which of the following is correct about them?

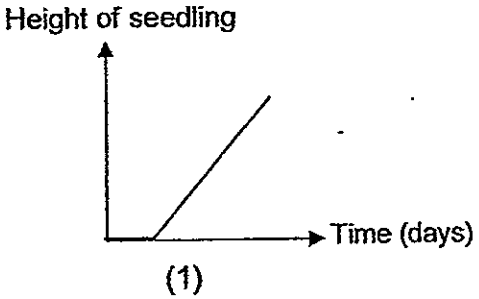
(1) They lay eggs.

(2) They have wings.

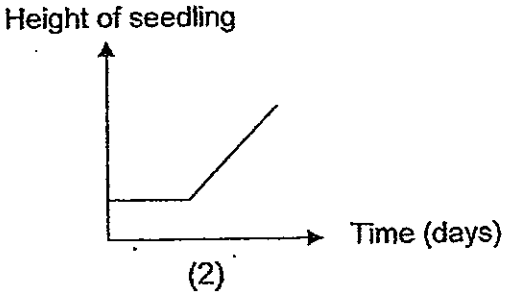
(3) The goldfish has gills and the parrot has lungs.

(4) The goldfish has scales and the parrot has feathers.

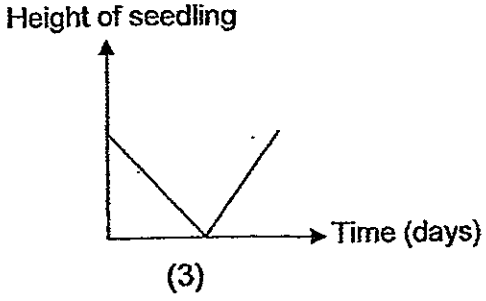
18. Liling placed a seed in a pot of moist soil and put it in a dark cupboard for 5 days. Which of the following graphs is most likely to show the change in height of the seedling across the 5 days?



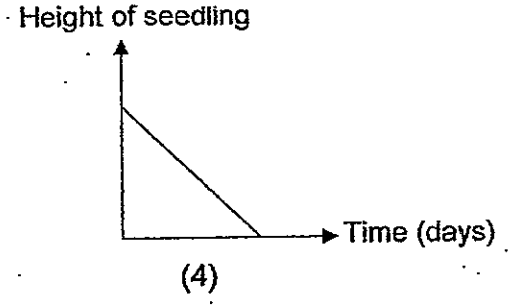
(1)



(2)

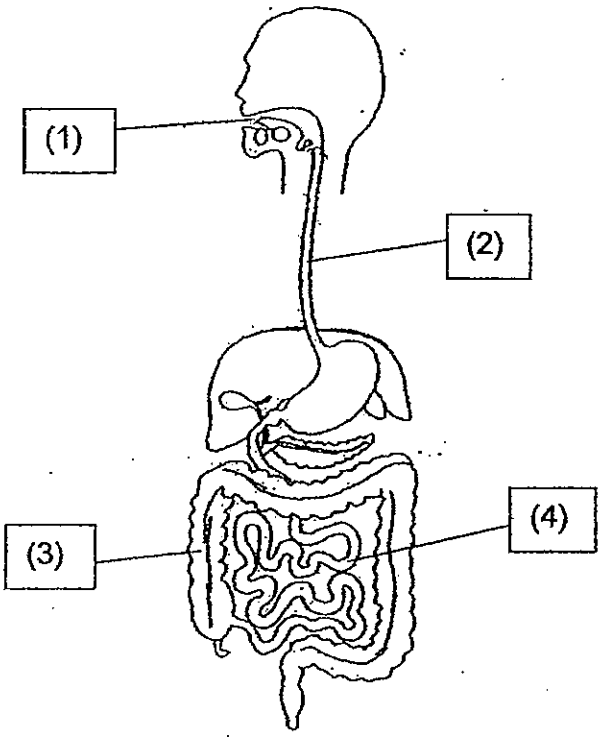


(3)



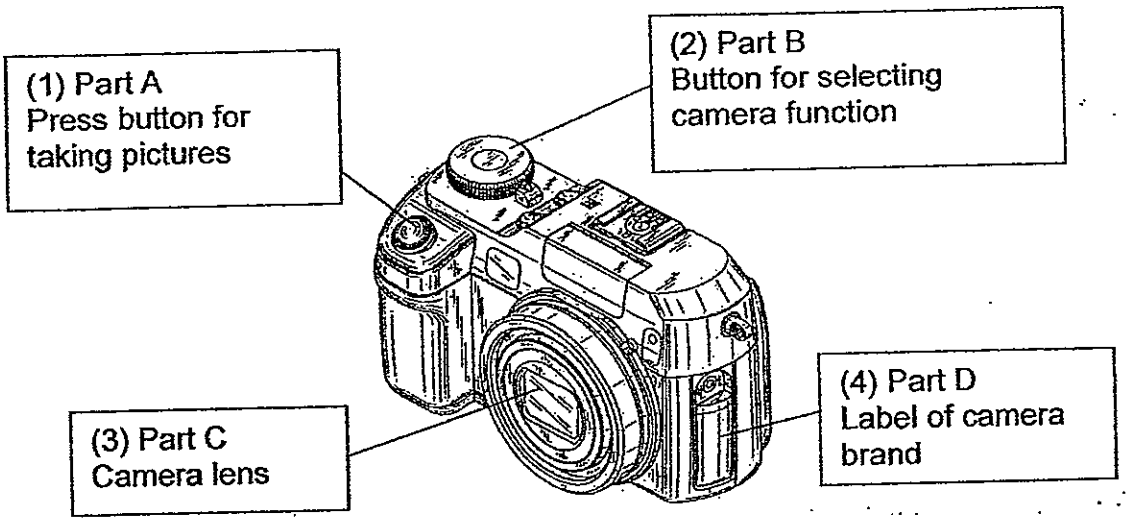
(4)

19. The diagram below shows a human digestive system.



In which of the labelled parts is digestion completed?

20. The diagram below shows a camera which is a complex system.



Which of the parts, when removed, will not affect its function?

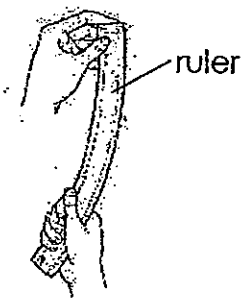
(1) Part A

(2) Part B

(3) Part C

(4) Part D

21. Sam took a ruler and bent it as shown in the drawing below.



Which property of the ruler will he **be able** to find out from this experiment?

(1) The texture of the material.

(2) The strength of the material.

(3) The flexibility of the material.

(4) The hardness of the material.

22. There are four shirts made of different materials. Which shirt do you think is the most comfortable to put on?

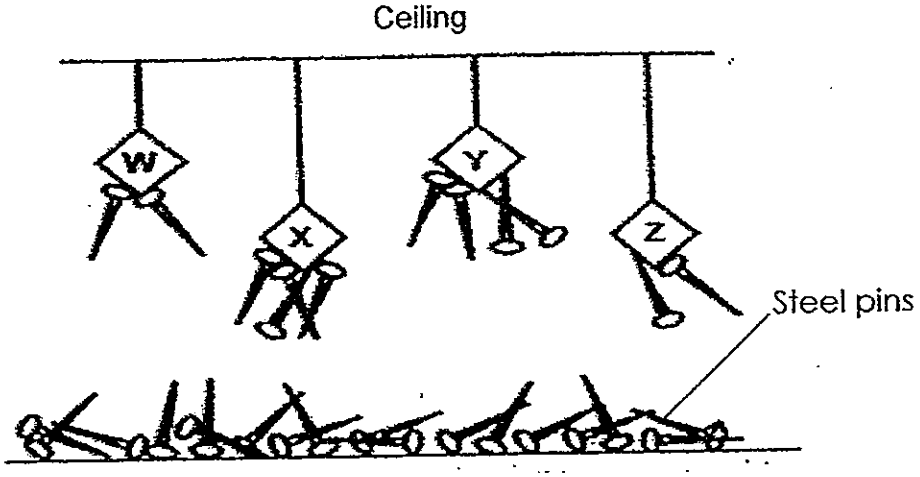
Cardboard Shirt (1)

Silk Shirt (2)

Rubber Shirt (3)

Plastic Shirt (4)

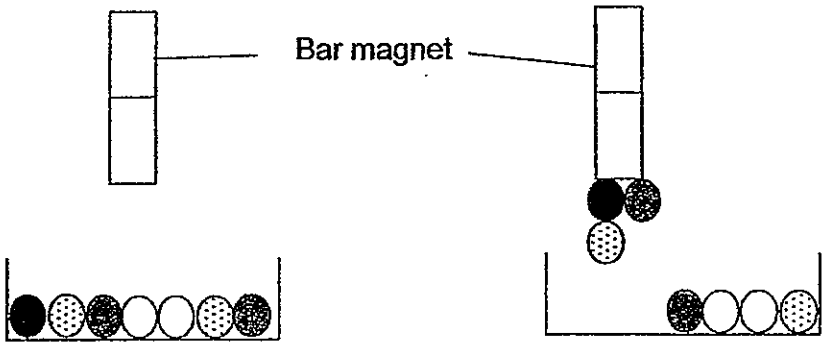
23. Four magnets, W, X, Y and Z, are hanging from strings of different lengths from a ceiling as shown in the drawing below.



Which magnet, W, X, Y or Z, is the strongest magnet and which is the weakest magnet?

	strongest magnet	weakest magnet
(1)	W	X
(2)	Y	X
(3)	W	Z
(4)	Y	Z

24. The drawing below shows what happens when a magnet was lifted after it was allowed to touch the balls in a container. There are four types of balls as shown below by their pattern and/or colour.



Which of the following shows the correct grouping of the balls in the container?

(1)	Magnetic	Non-magnetic
(2)	Magnetic	Non-magnetic
(3)	Magnetic	Non-magnetic
(4)	Magnetic	Non-magnetic

25. Mary was given four different objects, P, Q, R and S. She scratched the four objects against each other. She then wrote down her observations as follows:

P could scratch R.

Q could scratch S.

Q could scratch P.

Based on her observations, which of the following is definitely correct?

(1) R is harder than S.

(2) S is harder than P.

(3) P is the hardest material.

(4) Q is the hardest material.

26. Muthu wants to demagnetise a magnet. Which of the following methods can he use?

A: Heating the magnet over a fire.

B: Passing electricity through the magnet.

C: Dropping the magnet several times from a height.

D: Stroking the magnet many times in the same direction with an iron nail.

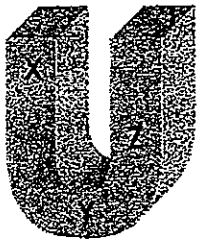
(1) A and C only

(2) A and D only

(3) B and C only

(4) B and D only

27. The diagram below shows a U-shaped magnet.



Cindy placed the magnet near 10 paper clips and observed the number of paper clips attracted to the various parts X, Y and Z of the magnet. She recorded on a table the number of paper clips attracted at each part.

Which table below represents the number of paper clips attracted at different parts of the magnet?

(1)

Parts labelled on magnet	X	Y	Z
Number of paper clips	6	6	6

(2)

Parts labelled on magnet	X	Y	Z
Number of paper clips	6	0	6

(3)

Parts labelled on magnet	X	Y	Z
Number of paper clips	2	6	4

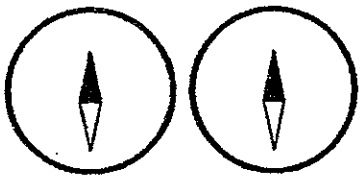
(4)

Parts labelled on magnet	X	Y	Z
Number of paper clips	6	1	4

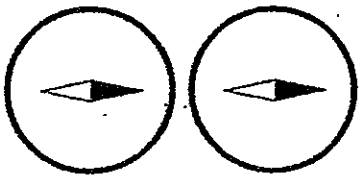
28. Mary placed 2 compasses beside each other.

Which pair of compasses below shows the correct positions of compass needles **after** they were placed beside each other.

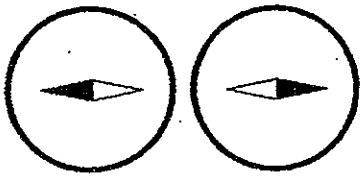
(1)



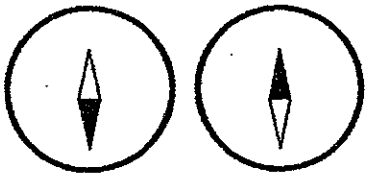
(2)



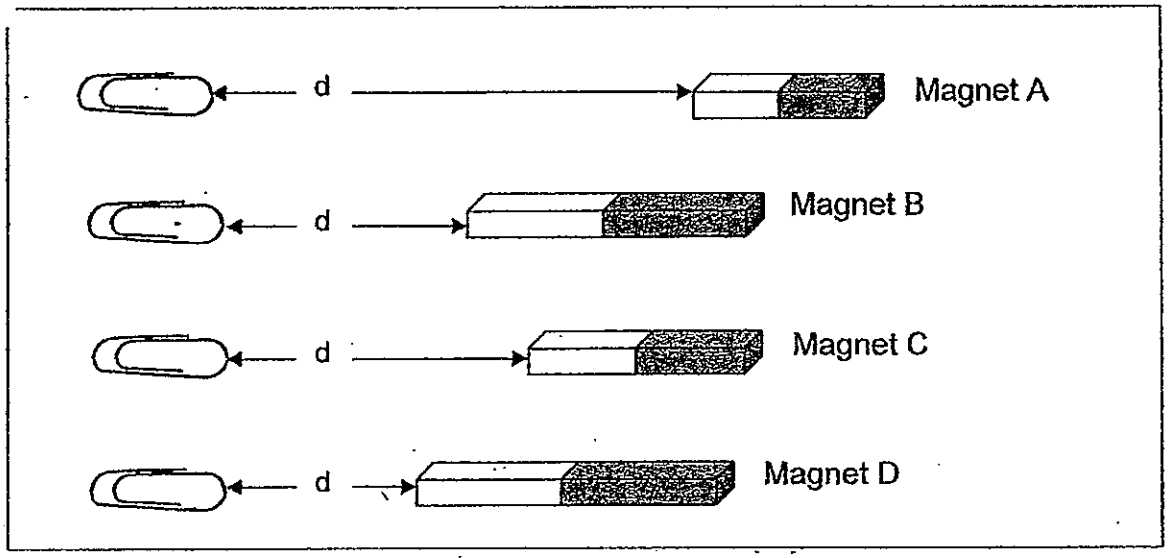
(3)



(4)



29. Lily uses four bar magnets to carry out an experiment. The diagram below shows the greatest distance 'd' between the paper clips and each of the magnets at which each magnet will attract the paper clips.



What can Lily conclude from her experiment?

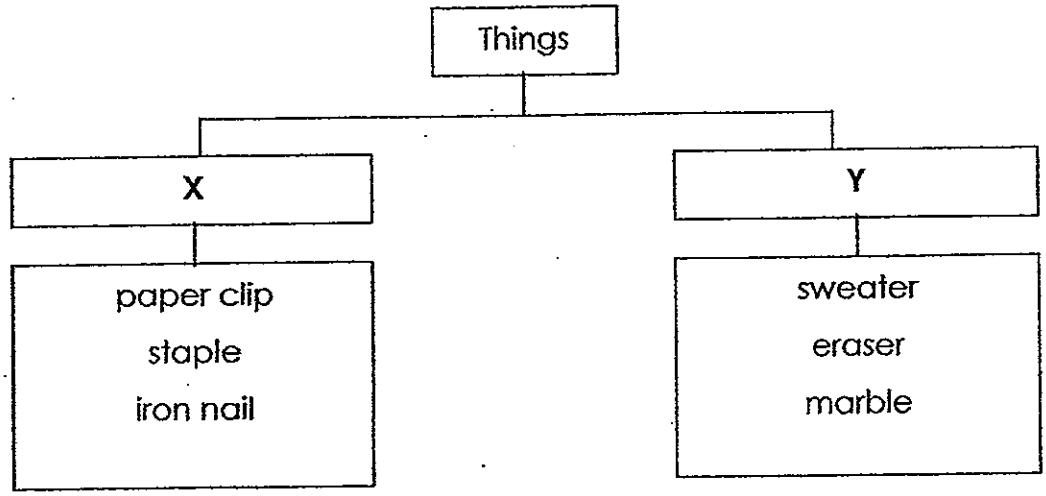
(1) Magnet B is stronger than Magnet C.

(2) The magnets lose their magnetism when they are heated.

(3) Length of the magnet does not affect the strength of the magnet.

(4) Magnet A is the strongest magnet because it is the shortest magnet.

30. Study the classification table below.



Which of the following correctly represents X and Y?

	X	Y
(1)	Hard	Soft
(2)	Flexible	Stiff
(3)	Sinks in water	Floats on water
(4)	Magnetic objects	Non-magnetic objects

End of Booklet A

TAO NAN SCHOOL 道南学校

SINCERITY & PERSEVERANCE

PRIMARY 3 END-OF-YEAR EXAMINATION 2012

Name : _____ ( ) Date: 30 October 2012

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

Parent's Signature . _____

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.

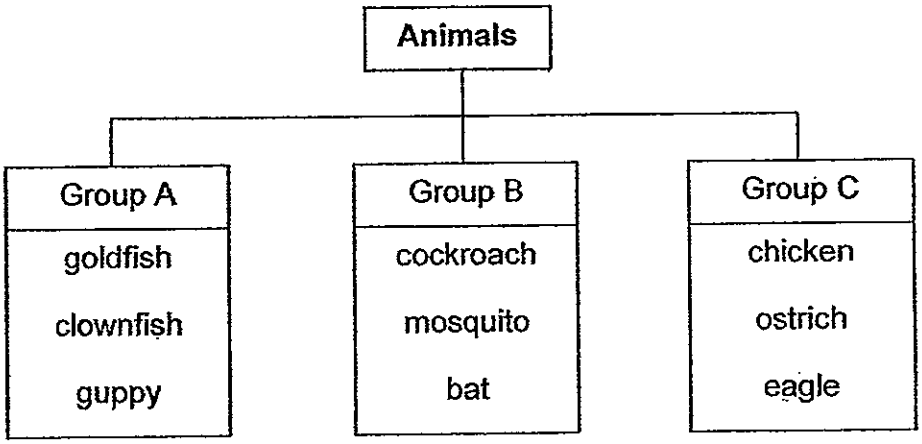
Answer all questions.

Booklet B	/ 40

Section B (40 marks)

Write your answers to questions 31 to 44 in the spaces provided.

31. Study the classification chart below.



(a) Name the animal which is classified wrongly. Explain why it is not in the right group. [1]

_____

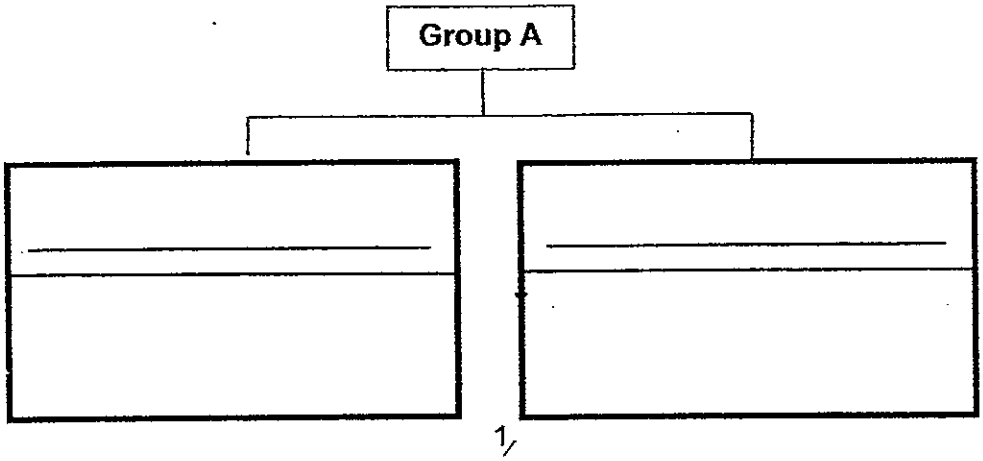
_____

(b) Which group can the whale be placed in? Explain why. [1]

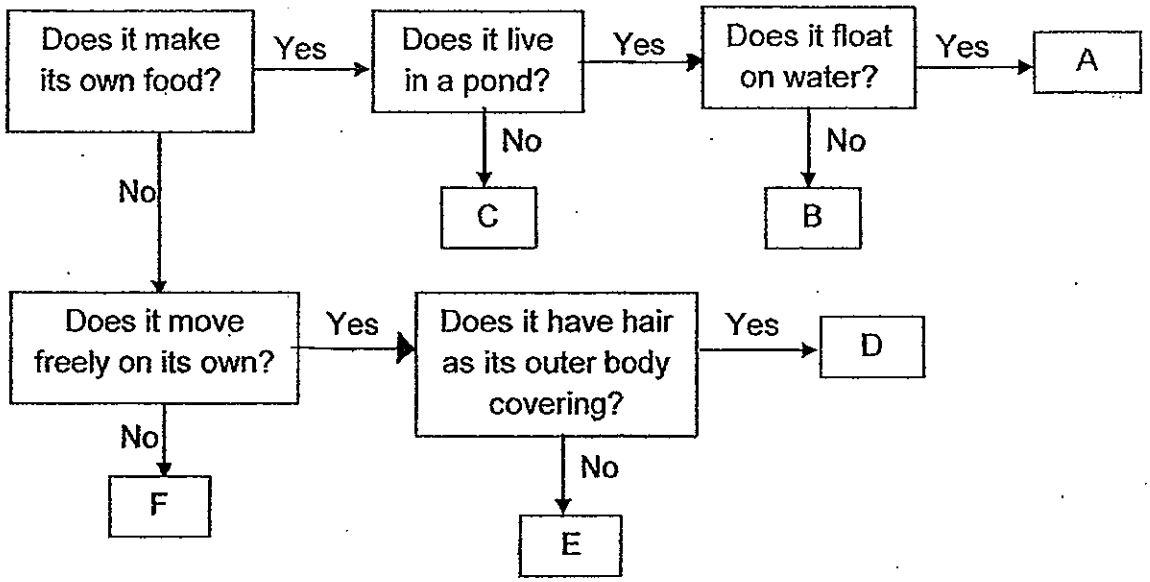
_____

_____

(c) Regroup the animals in group A into 2 smaller groups in the classification chart below. [1]



32. The flow chart below shows how organisms A, B, C, D, E, and F are classified. Use the information from the flowchart to answer the questions below.



(a) Which group of living things can organism A be classified under? [1]

_____

(b) State a difference between the organisms, E and F. [1]

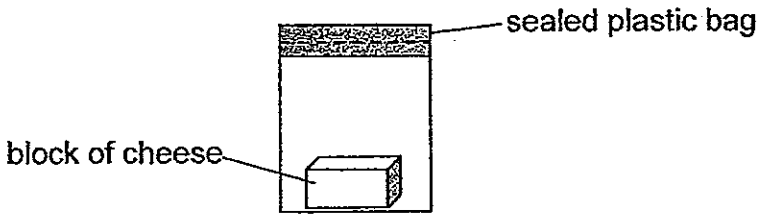
_____

_____

(c) Which of the following could the organisms, B, C, D and E, be? Write the letter representing the organism in the table below. [2]

Examples of organism	Organism
Spiny anteater	
Staghorn's fern	
Hydrilla	
Parrot	

33. Kim wants to find out if the location where the cheese is placed affects the growth of mould. She prepares several set-ups like the one shown below.



(a) To ensure that Kim carries out a fair test, what are the conditions that she must keep the same? Put a tick (✓) in the box/es to indicate that the conditions must be kept the same. [1]

Condition	Tick (✓)
The type of cheese used.	
The place where the cheese is placed.	
The size of the plastic bag.	
The amount of cheese used.	

(b) Kim wants to **speed up** the growth of the mould on the cheese. State 2 things she can do to the cheese to achieve the result. [1]

(i) _____

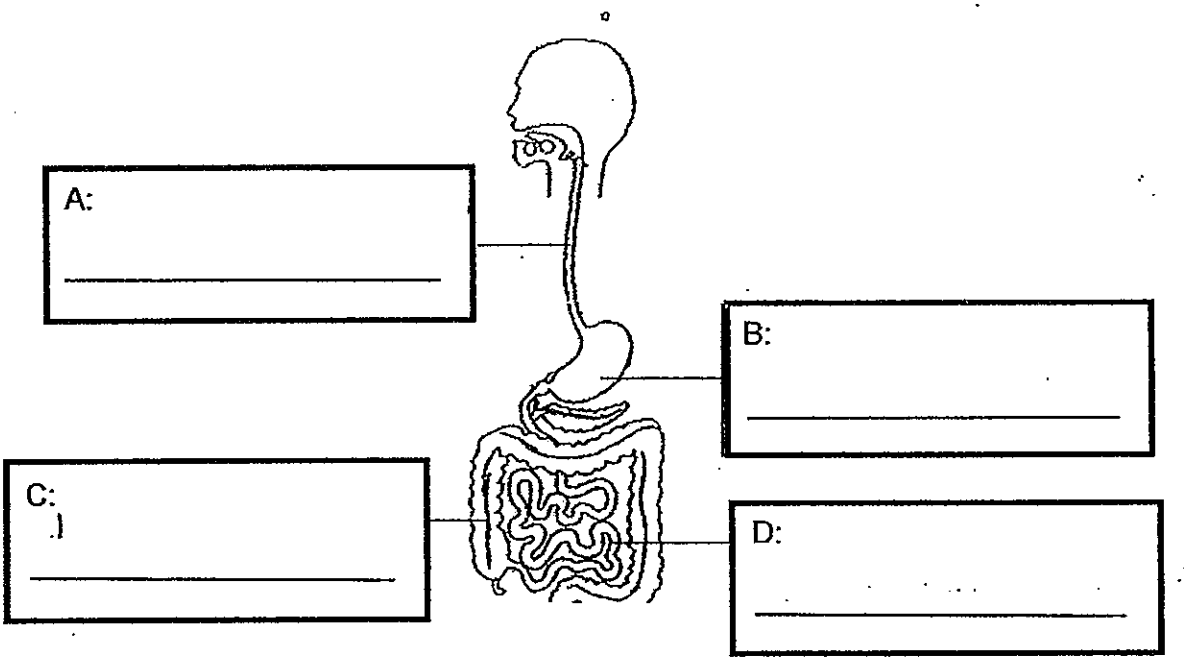
(ii) _____

(c) After 3 days, Kim observed more greenish and yellowish patches on her cheese. What characteristic of living things is observed? [1]

_____

_____

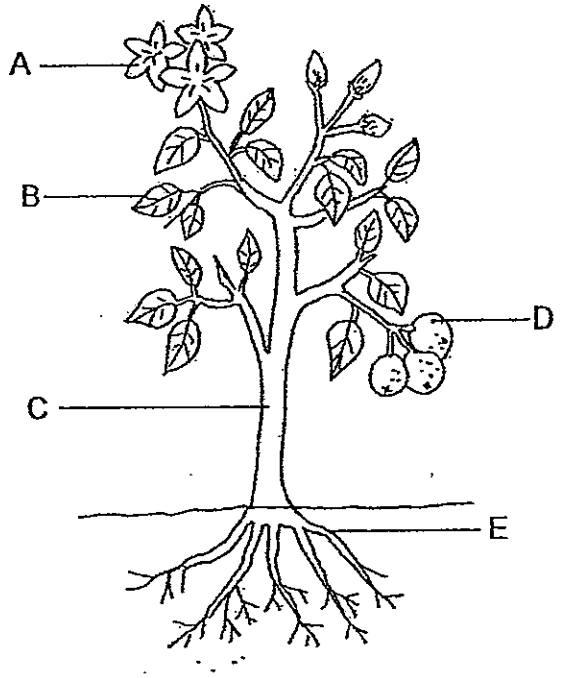
34. The diagram below shows the human digestive system.



(a) Identify the parts, A, B, C and D in the diagram above. [2]

(b) What will happen if the part labelled C is missing from the system? [1]

35. The diagram below shows a plant.



(a) Which part of the plant, A, B, C, D or E, enables the plant to stand upright? [1]

_____

(b) What will happen to the plant if all part Bs are removed? [1]

_____

_____

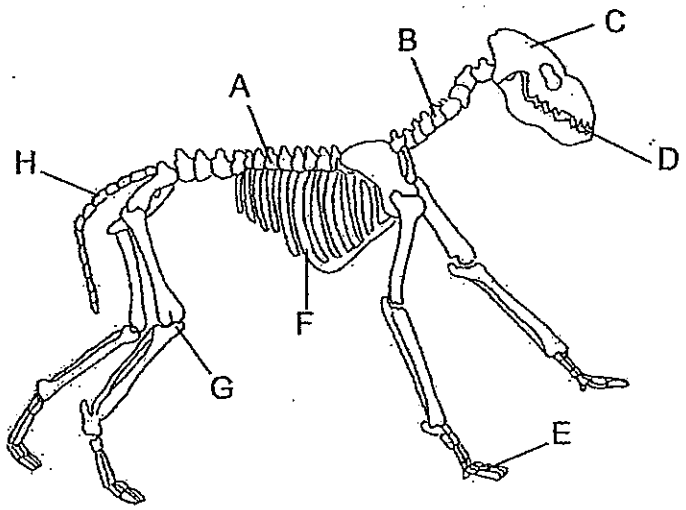
(c) What will happen to the plant if all part Es are cut off? Explain why. [1]

_____

_____

6

36. The diagram below shows the skeletal system of an animal.



(a) State **one** reason why the skeletal system is important to the animal. [1]

_____

_____

(b) Identify the part, C. Explain why this part is important to the animal. [1]

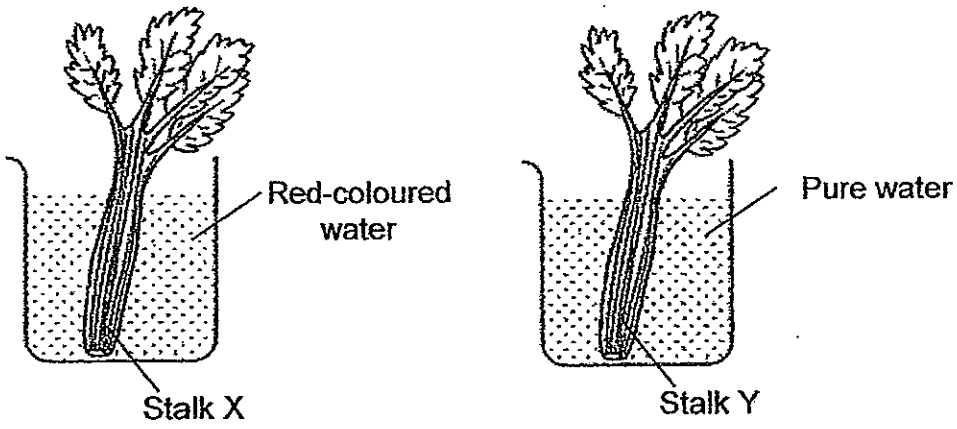
_____

_____

(c) Which part is similar to the ribcage of the human skeletal system? [1]

_____

37. Ryan placed two similar stalks of celery, X and Y, into a beaker containing red-coloured water and pure water respectively as shown in the diagram below. The stalks of celery were observed to be healthy after a few days.



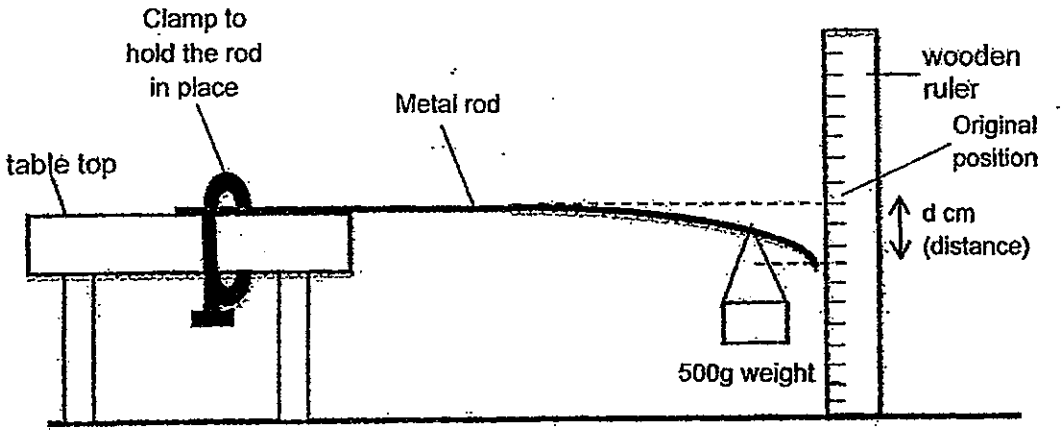
(a) What is the difference between the leaves of Stalk X and Stalk Y after 8 hours? [1]

(b) Explain the difference in (a). [1]

(c) What does this experiment show about living things?

63

38. Lily hung a 500g weight near the end of a metal rod and measured the distance, d, where the rod bent from its original position as shown in the diagram below.



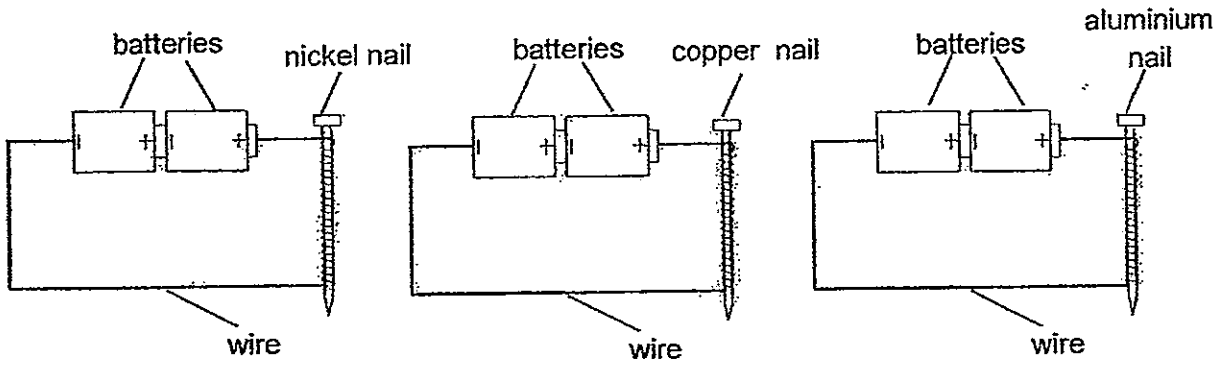
Lily repeated the experiment with different weights of 600g and 700g, and recorded her results in the table below.

Weight	d cm (distance)
500 g	8 cm
600 g	8.5 cm
700 g	9 cm

(a) What can Lily conclude from the experiment regarding the distance, d, where the metal rod bent, and the weight? [1]

(b) Which property of the metal rod is Lily testing? [1]

39. Jon used three nails of different materials in an experiment. He allowed electricity to pass through each nail.



(a) Which nail(s) will attract paper clips? [1]

_____

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

_____

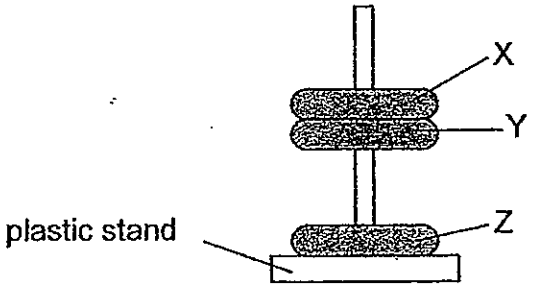
_____

(c) State the condition that Jon changed in the experiment to ensure a fair test. [1]

_____

_____

40. The diagram below shows three similar rings, X, Y, Z, each with a hole in the centre. One of them is a wooden ring while the other two are ring magnets.



(a) Which ring, X, Y or Z, is the wooden one? [1]

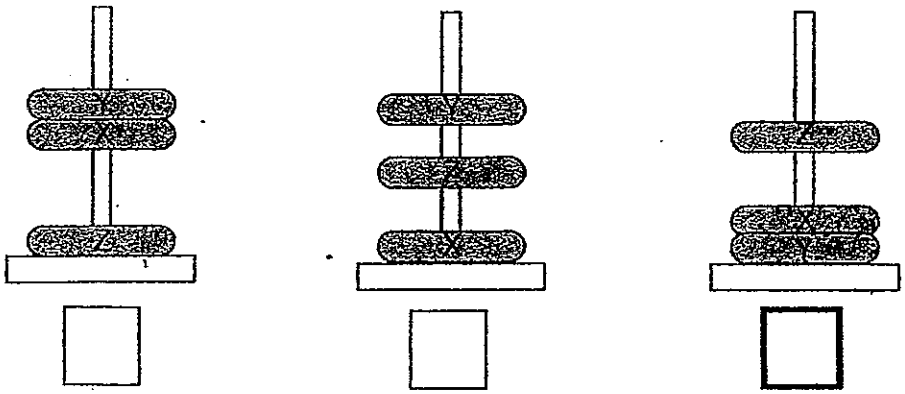
_____

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

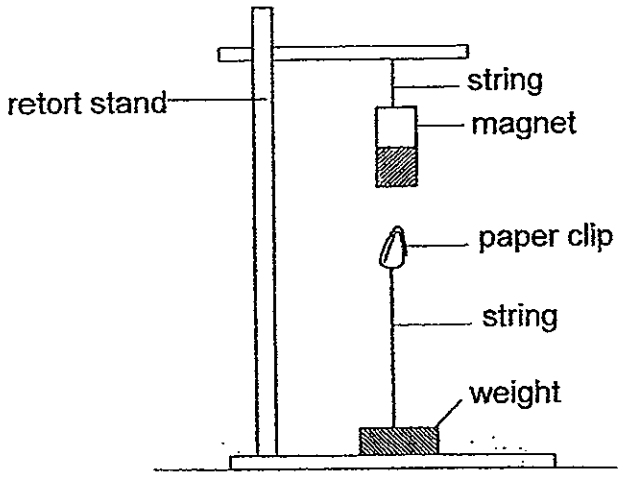
_____

_____

(c) Which of the following is **another** possible arrangement of the rings? Put a tick (✓) in the box. [1]



41. Tom set up an experiment as shown below.



(a) When the paper clip was placed near the magnet as shown above, the paper clip remained suspended in the air. Explain why. [1]

_____

_____

(b) Tom shortened the string and this time the paper clip could not remain suspended in the air. Explain why. [1]

_____

_____

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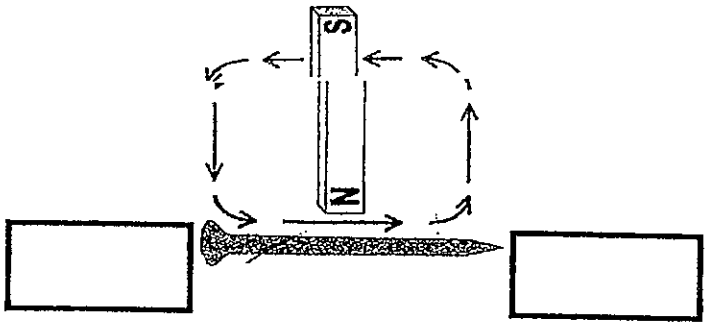
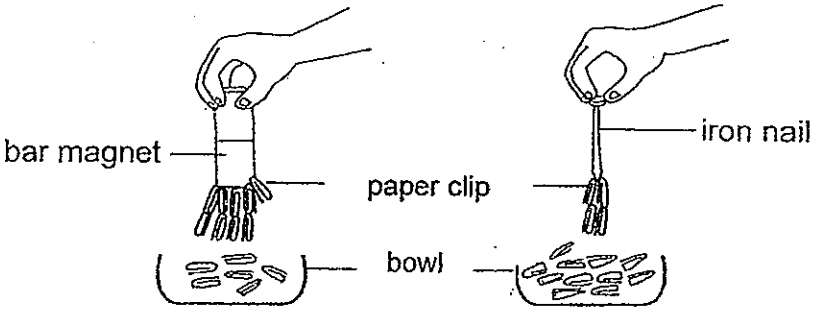
42. Cindy stroked an iron nail with a bar magnet about 20 times in order to turn it into a temporary magnet.



(a) **Label** the poles at each end of the nail and write 'North' and 'South' in the boxes provided in the diagram above. [1]

Cindy had two bowls with equal number of paper clips in them. Then, she put a bar magnet and a magnetised iron nail into the bowls respectively as shown in the diagram below. She noticed that more paper clips were attracted to the bar magnet than the iron nail.



(b) Explain Cindy's observation. [1]

_____

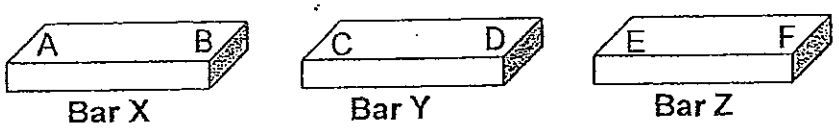
_____

(c) Suggest how Cindy could increase the magnetic strength of the iron nail using only the above materials. [1]

_____

_____

43. Fred had 3 bars, X, Y and Z. Their ends were labelled A and B, C and D and E and F respectively. He put the ends of Bar X, Bar Y and Bar Z close to one another as shown in the diagram below to find out if they would attract or repel each other.



The table below shows the results of Fred's experiment.

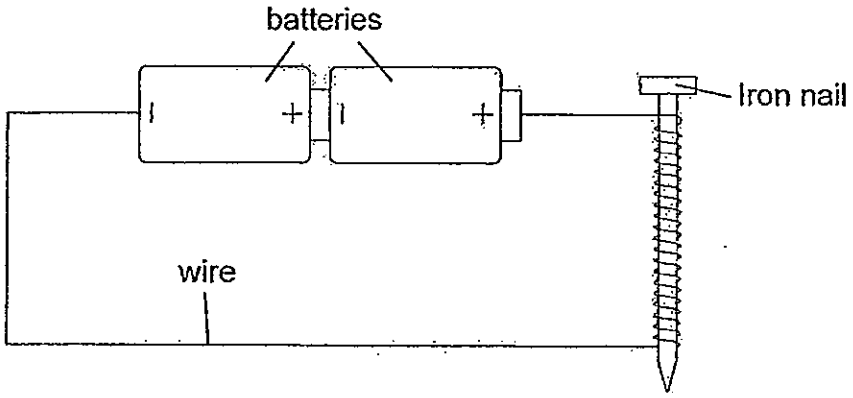
		Y		Z	
		C	D	E	F
Bar X	A	attract	attract	attract	attract
	B	attract	attract	attract	attract
Bar Y	C	-	-	attract	repel
	D	-	-	repel	attract

Based on the information above, put a tick (✓) in the correct box to indicate if the following statements are 'True', 'False' or 'Not possible to tell'.

[2]

Statement	True	False	Not possible to tell
(a) Bars X, Y and Z are magnets.			
(b) Only Bars Y and Z are magnets.			
(c) Bar Y is made of iron.			
(d) Bars X, Y and Z are made from magnetic materials.			

44. Siti used the method below to make an iron nail into an electromagnet. She then placed the iron nail near some paper clips and recorded the number of paper clips it attracted. She repeated the process by increasing the number of coils around the iron nail.



(a) Complete the table below, which shows the number of paper clips attracted by the iron nail with different number of coils. [1]

Number of coils	15	20	25	30
Number of paper clips attracted	2		9	12

(b) What is the relationship between the number of coils and the number of paper clips attracted? [1]

_____

_____

(c) What must Siti do to the set-up in order to attract 15 paper clips? [1]

_____

_____

End of Paper

Answer Ke

EXAM PAPER 2012
SCHOOL : TAO NAN PRIMARY SCHOOL
SUBJECT : PRIMARY 3 - SCIENCE
TERM : SA 2

Booklet A

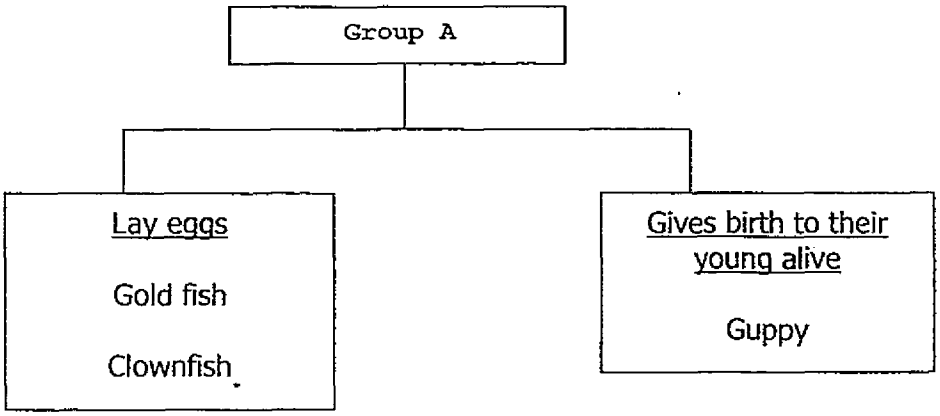
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
3	2	3	3	3	2	1	3	2	1	2	3	3	3	1	2

Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
4	1	4	4	3	2	4	4	4	1	4	2	3	4

31a) It is the bat. A bat is a mammal and not an insect.

31b) A whale is a mammal so it cannot fit into any of the group.

31c)



32a) Floating Plants.

32b) Organism E moves freely on its own but organism F does not move freely on its own.

32c)

Examples of organism	Organism
Spiny anteater	D
Staghorn's fern	C
Hydrilla	B
Parrot	E

33a)

Condition	Tick
The type of cheese used	√
The place where the cheese is placed	
The size of the plastic bag	√
The amount of cheese used	√

33b) i) She could put the cheese in a warmer place.

ii) She could add water to the cheese.

33c) Living things grow.

34a) A: gullet
B: stomach
C: large intestine
D: small intestine

34b) No, the water can be removed from undigested food.

35a) Part C.

35b) The plant will not be able to make food and eventually wither and die.

35c) The plant will eventually wither and die. It cannot absorb water and mineral salts from the soil and the plant will not be able to stay upright.

36a) It protects the delicate organs.

36b) Skull. It protects the brain.

36c) Part F.

37a) Stalk X's leaves will become red but stalk Y's leaves will remain the same colour.

37b) Stalk X absorb the red-coloured water and transport the red-coloured water to the leaves but stalk Y absorbed pure water and transport the pure water to the leaves.

37c) Living things need water to survive.

38a) The heavier the weight, the further the metal rod will bend from the original position.

38b) She is testing the strength of the metal rod.

39a) The nickel nail.

39b) Nickel is a magnetic material so it can be a temporary magnet but copper and aluminium are non-magnetic materials.

39c) The material of the nail.

40a) Ring X

40b) Ring Z repelled ring Y.

40c)

		√

41a) The paper clip is a magnetic material and it can be attracted by the magnet.

41b) It is too far from the magnet and the magnet could not attract the paper clip.

42a)

North	South

42b) The bar magnet has a greater magnetism as compared to the iron nail.

42c) She could use the bar magnet and stroke the iron nail with a greater number of times.

43)

Statement	True	False	Not possible to tell
(a) Bars X, Y and Z are magnets		√	
(b) Only bars Y and Z are magnets	√		
(c) Bar Y is made of iron			√
(d) Bars X, Y and Z are made from magnetic materials	√		

44a) 5

44b) The greater number of coils of wire around the iron nail, the greater number of paper clips that will be attracted to the iron nail.

44c) She must add more number of coils of wire around the iron nail to attract 15 paper clips.