



南洋小學
NANYANG PRIMARY SCHOOL

PRIMARY THREE SCIENCE
SEMESTRAL ASSESSMENT 2
2006

BOOKLET A

Date : 30 October 2006

Duration : 1 h 45 min

Name : _____ () .

Class: Primary _____ ()

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature:

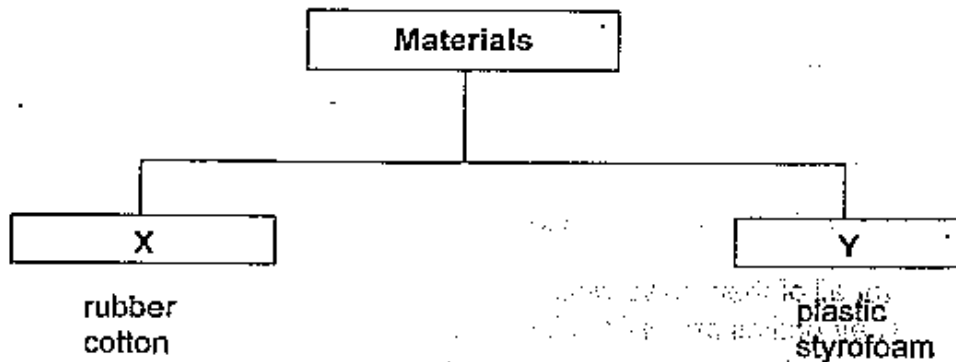
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.

Booklet A consists of 13 printed pages including this cover page.

Section A (30 x 2 marks = 60 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 provided.

1. Study the classification table below.



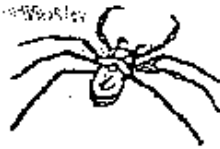
The above materials are grouped according to whether they _____.

- (1) are waterproof
 - (2) float or sink in water
 - (3) are man-made or natural
 - (4) allow light to pass through
2. Which one of the following statements is false?
- (1) Fungi reproduce from spores.
 - (2) Fungi are neither plant nor animal
 - (3) Fungi feed on dead plants and animals.
 - (4) Fungi contain chlorophyll to make their own food.

3. Gary made some observations of the animals below and recorded them.



grasshopper



spider



ant



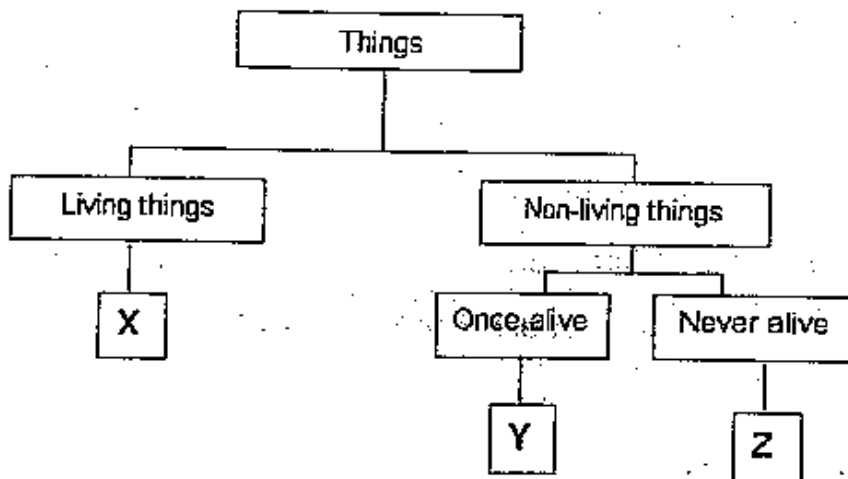
butterfly

Which one of his observations was/ were wrong?

- A Not all of them have wings.
- B Their bodies are divided into parts.
- C They have the same number of jointed legs.

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

4. Study the classification chart below.



Which one of the following groups of objects represents X, Y and Z correctly?

	X	Y	Z
(1)	orange juice	fish	glass
(2)	flower	silk	paper
(3)	eggshell	bone	plasticine
(4)	kitten	wood	iron

5. How are parrot, duck, platypus and snake similar?

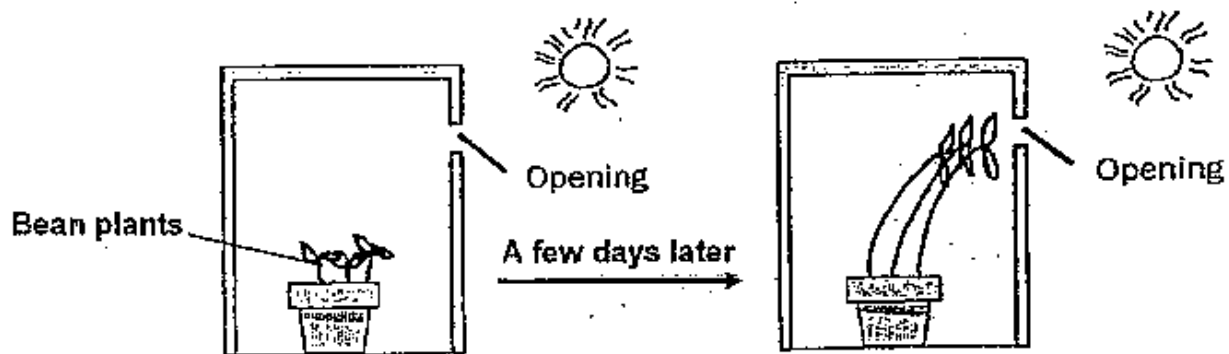
They _____

- (1) eat only meat
- (2) are not mammals
- (3) do not give birth to young alive
- (4) have an outer covering of feathers

6. Which one of the following statements about plants is not true?

- (1) All plants have chlorophyll.
- (2) All roots grow in the ground.
- (3) Some plants grow in water.
- (4) Trees and shrubs have strong stems and can stand upright.

7. Zoe wanted to prove that plants have the characteristics of a living thing. She put some bean plants in a black box with an opening. She then placed the box near an open window and watered them daily. From the experiment below, she was able to show some of the characteristics of a living thing.

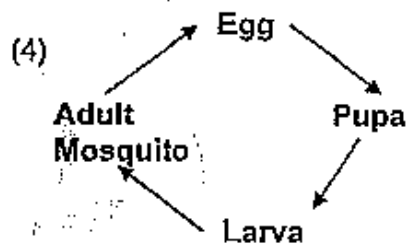
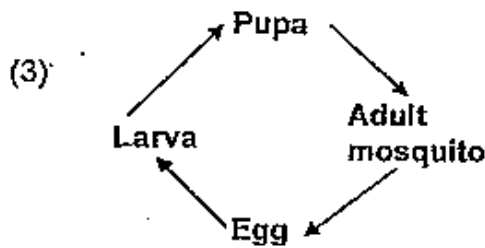
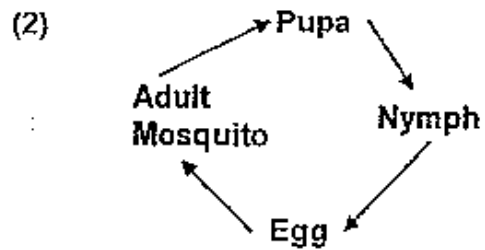
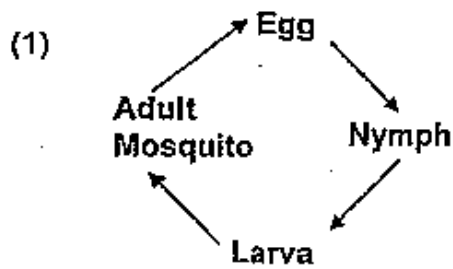


Which of the following characteristics were shown in the experiment?

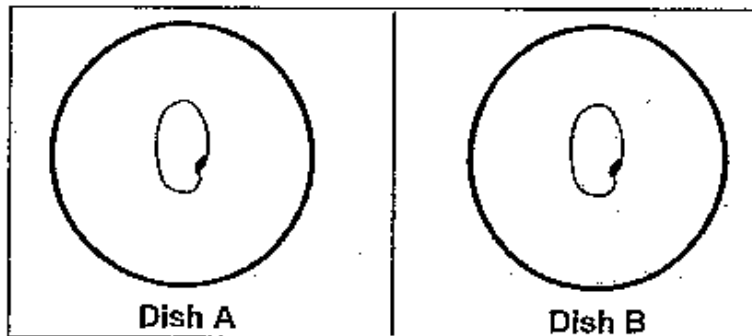
- A Plants die.
- B Plants reproduce.
- C Plants respond to changes.
- D Plants need air, water and food to grow.

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

10. Which one of the following diagrams shows the life cycle of a mosquito?



11. Two identical seeds were placed in a dish each as shown below.



After a few days, only the seed in Dish A germinated.

Which one of the following options likely describes the conditions for each seed?

	Dish A	Dish B
(1)	Placed in a dark room and watered daily	Placed in a refrigerator and watered daily
(2)	Placed in a dark place and not watered	Placed under sunlight and watered daily
(3)	Was put in a container of alcohol	Was put in a pot of oil.
(4)	Was wrapped in aluminium foil and not watered	Was put in a zip-lock bag and not watered.

15. The _____ at Desmond's elbows and knees enable him to move his limbs.

- A joints
- B bones
- C muscles

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

16. The table below describes the characteristics of Nicole's parents.

Father	Mother
Brown Hair	Black Hair
Black eyes	Brown eyes
Has long legs	Has long legs
Can roll his tongue	Can roll her tongue

Based on the above information, which of the following description of Nicole are likely to be true?

- A She has long legs and blue eyes.
- B She has brown hair and long legs.
- C She has black hair and can roll her tongue
- D She cannot roll her tongue and has short legs.

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

17. The table below shows the functions of the skeleton of different animals.

	Animal	Function of its skeleton
A	Eagle	helps it to fly
B	Monkey	gives its body shape
C	Cockroach	protects its body
D	Sea Turtle	allows it to stay under water for long period of time

Which of the above functions are correctly matched to the animals?

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

18. Three boys are talking about their surroundings as shown below.

I heard dogs barking.

Darren

I can only see cats around!

Eugene

I think there is someone breathing down my neck....

Felix

Which of the following senses did the boys use in order to make their observations?

- (1) hearing and sight
 - (2) taste, touch and sight
 - (3) hearing, smell and touch
 - (4) touch, sight and hearing
19. Which of the following statement(s) is/are true about our muscles?

- A Muscles work in pairs.
- B All muscles are attached to our bones.
- C Muscles lengthen when they contract.

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

20. In the table below, a tick ✓ indicates that water-carrying tubes can be found in that part of a plant. Which of the following options indicates the correct parts of the plant where you will find these tubes?

	Stem	Fruits	Leaves	Flowers
(1)	✓		✓	
(2)	✓	✓	✓	
(3)	✓		✓	✓
(4)	✓	✓	✓	✓

21. Which one of the following is TRUE about the veins in a leaf?

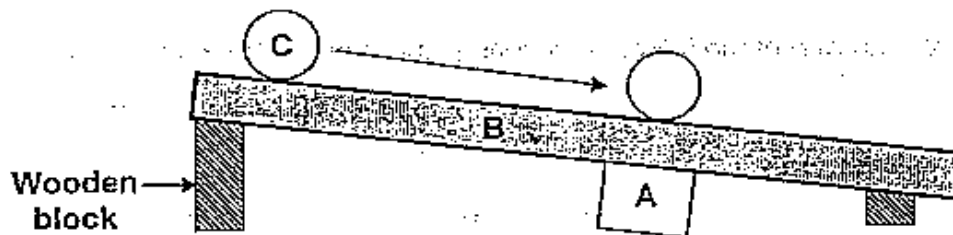
- (1) They make food for the plant.
- (2) They give the leaf its unique colour.
- (3) They are part of the transport system of the plant.
- (4) They capture the carbon dioxide needed by the plants.

22. What do plants produce when they undergo photosynthesis?

- A. Oxygen
- B. Carbon Dioxide
- C. Salt
- D. Sugar

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

23. The diagram below shows Ball C rolling down Plane B. It stopped when it reached the point above A.



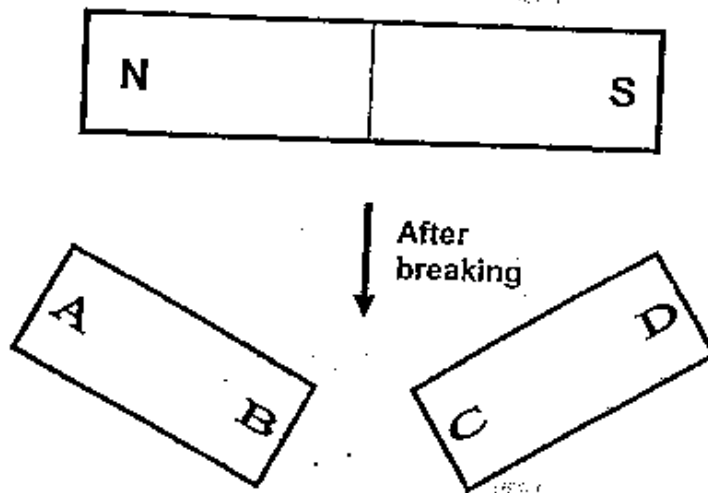
Which of the following options best describes the properties of A, B and C?

	A	B	C
(1)	Magnetic	Strong Magnet	Non-Magnetic
(2)	Non-Magnetic	Magnetic	Strong Magnet
(3)	Strong Magnet	Non-magnetic	Magnetic
(4)	Non-Magnetic	Magnetic	Magnetic

24. Which of the following items would interact with a magnet?

- (1) a pair of gold earrings
- (2) a nickel coin
- (3) a plastic spoon
- (4) a wooden ruler

25. A magnet was broken into 2 pieces as shown below.



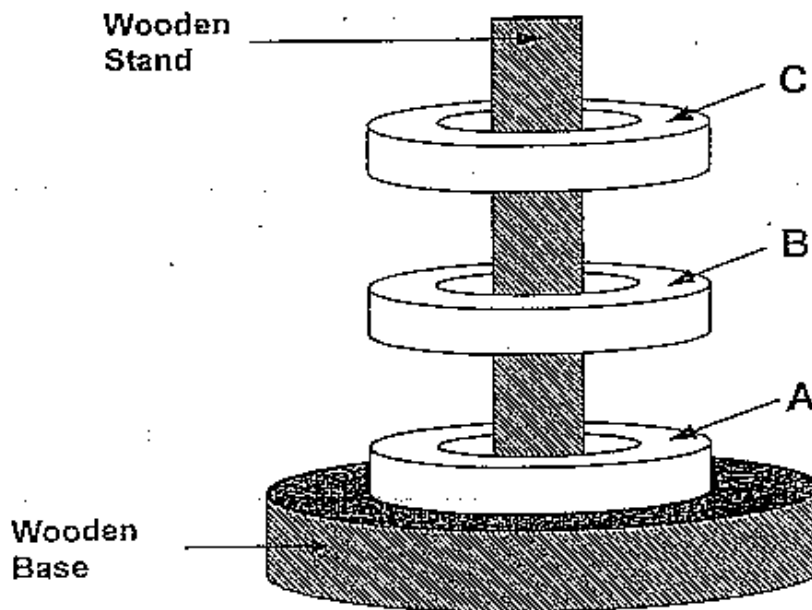
Which one of the following options shows the possible poles at A,B,C and D?

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

26. Which one of the following items does not have magnets in them?

- | | |
|----------------|---------------|
| (1) light bulb | (2) compass |
| (3) radio | (4) telephone |

27. The diagram below shows 3 ring magnets, A, B, and C.

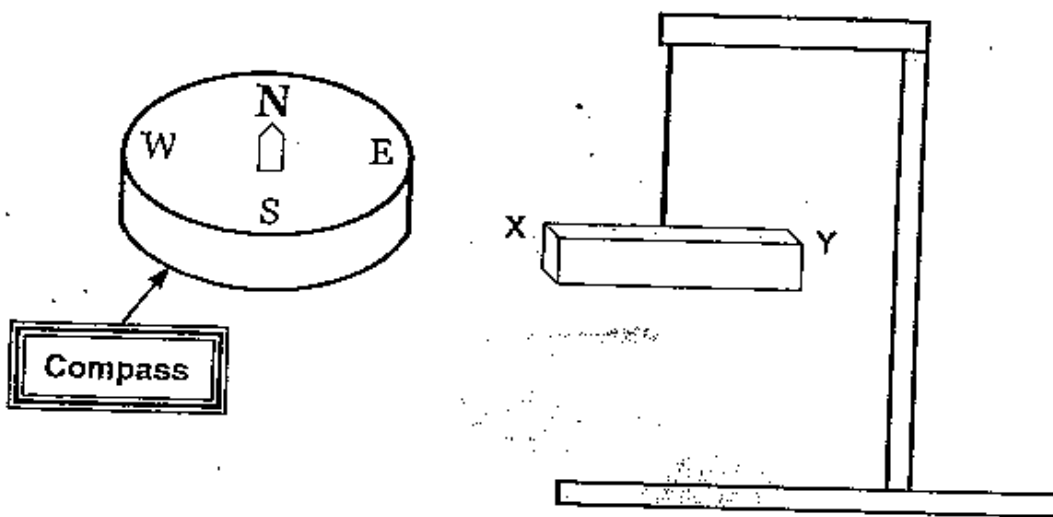


Which one of the following options represents the poles at A, B and C?

	A	B	C
1)	North	South	South
2)	South	North	North
3)	North	South	North
4)	South	South	North

28. Which one of the following actions would not result in magnetisation of the materials below?
- (1) Passing an electric current through a copper wire which is coiled 20 times around an iron nail.
 - (2) Stroking the entire length of an iron nail 20 times with one pole of a bar magnet in the same direction.
 - (3) Coiling a copper wire 20 times around an iron nail. Then, stroke the copper wire with another nail in the same direction.
 - (4) Stroking half the length of an iron nail 20 times with the south pole of a bar magnet in the one direction and then stroking the other half of its length 20 times using the north pole of another magnet in another direction.

29. A bar magnet XY was left to turn freely and it rested in the position as shown in the diagram below.



Which one of the following options below explains the above situation?

- (1) A free turning magnet would always rest in a West-East position.
 - (2) X is the West pole of the bar magnet, thus it is attracted by the East pole of the compass needle.
 - (3) The compass has been dropped so many times that it does not point in the same direction as the free turning magnet.
 - (4) The compass has a very strong magnetic needle, so it is able to interact with the bar magnet and cause it to rest in a West-East position.
30. Which of the following are common uses of electromagnets?

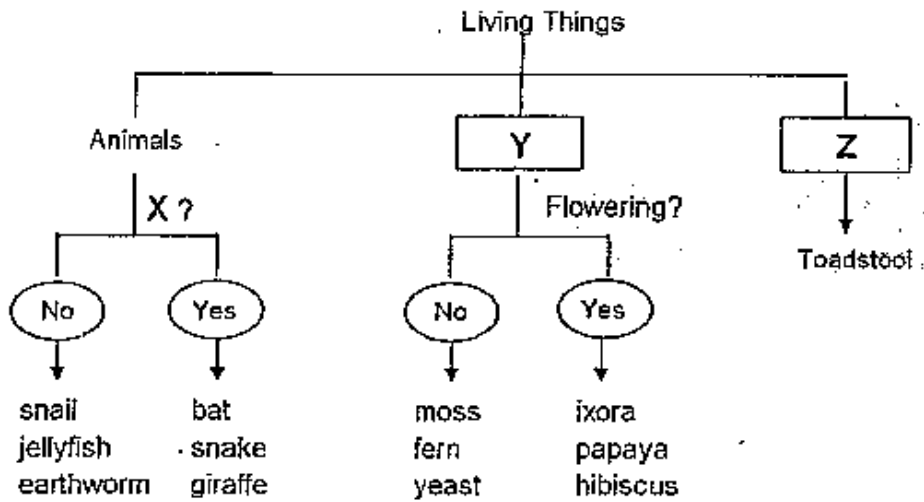
- A) televisions
- B) loudspeakers
- C) toy magnetic chess set

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

Section B (40 marks)

Write your answers to questions 31 to 46 in the spaces provided.
Marks will be deducted for misspelt key words.

31. Study the classification chart below carefully.
Then answer questions (a), (b) and (c).



- a) Describe characteristic X above. (1 mark)

- b) The heading for Y is _____ (1 mark)

The heading for Z is _____ (1mark)

- c) There is a mistake in the classification chart above. Circle it. (1mark)

32. Ben was given 5 items to observe the material used to make each item. Then he had to write down the important property of the material which explains why the material was chosen. He had written the property for one of the materials chosen. Complete the rest of the table by explaining the property for each item. (2 marks)

	Item	Material	Why it is suitable
1)	T-shirt	cotton	absorbs sweat
2)	balloon	rubber	
3)	cooking pot	steel	good
4)	raincoat	plastic	
5)	boat	wood	

33. Sally has a hamster. She gives it seeds to eat and water to drink every day. Sally loves to watch her hamster run on the wheel in its cage. It will need a bigger cage soon as it has grown too big for its cage.

List two characteristics which show that Sally's hamster is a living thing. (2 marks)

i. _____

ii. _____

34. Below are the characteristics of two animals A and B. Study the characteristics and use them to answer the following questions.

Characteristics of Animal A	Characteristics of Animal B
<ul style="list-style-type: none"> • Lives on land and in water • Eats other smaller animals • Lays eggs • Feeds its newborn with scraps of food. 	<ul style="list-style-type: none"> • Lives in water • Eats fish • Gives birth to young alive • Feeds its newborn with milk

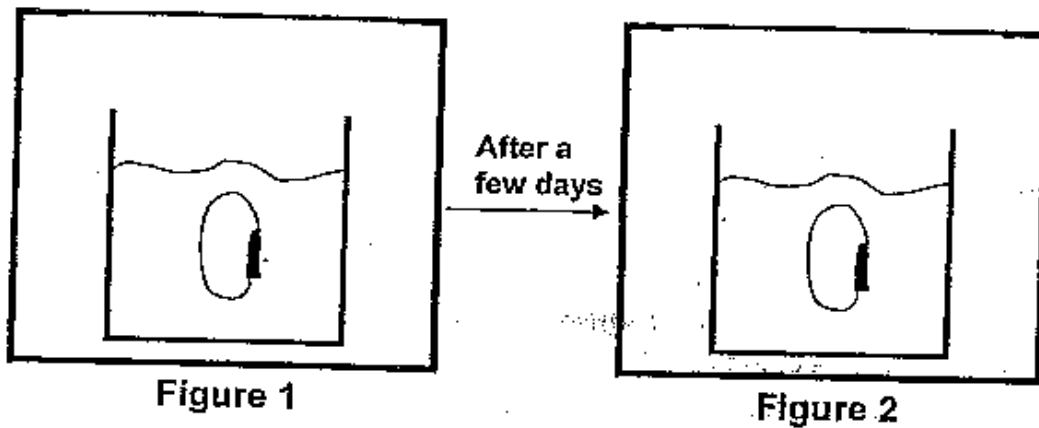
- a) Which animal(s), A or B, is/are not a mammal? (1mark)
-
- b) Using the information/characteristics in the table above, explain your answer in (1) (1 mark)
-

35. State whether the following statements are true or false. Write "T" for True and "F" for False in the brackets provided. (2 marks)

- A) All living things goes through a life cycle. ()
- B) A life cycle can be made up of just one stage. ()
- C) A frog and a beetle has the same number of stages in their life cycles. ()
- D) ()
- E) A pattern that repeats itself over and over again is a cycle. ()

36. A chilli seed was planted in a pot of soil and was given all the right conditions for it to germinate.

- a) In Figure 2, draw only the next stage of development for the germinating seed. (1 mark)



- b) A seedling first gets its food from the _____. The seedling can only start making food when the _____ develop.

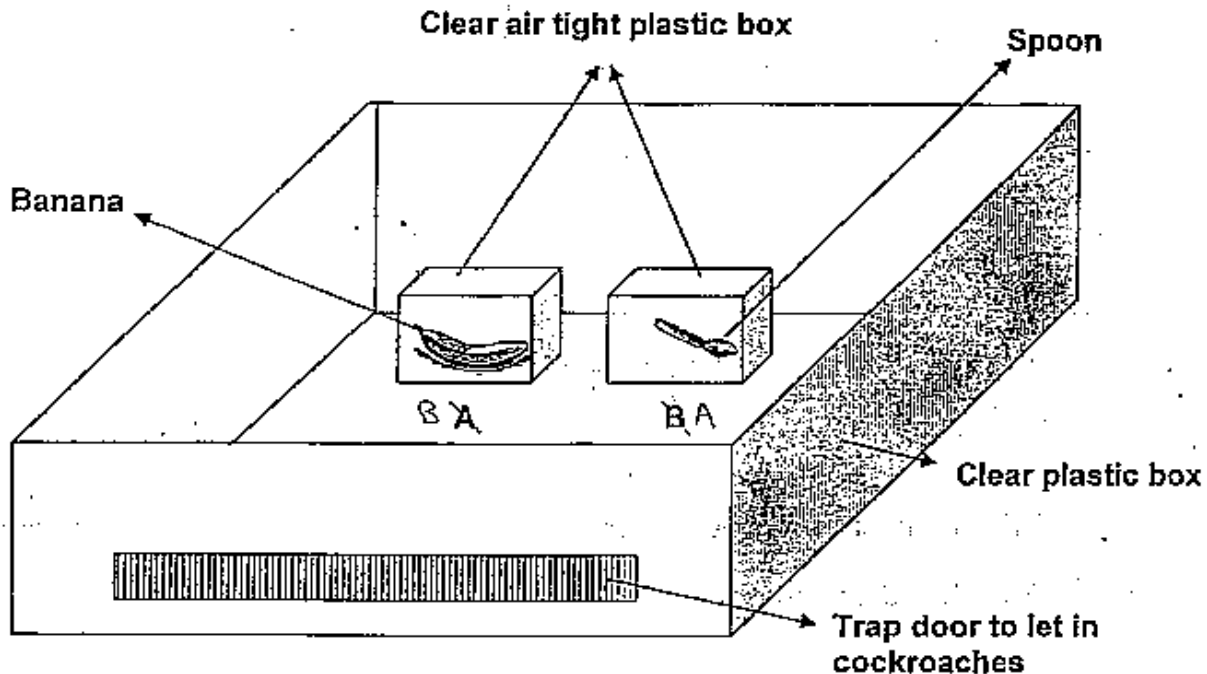
(1 mark)

37 Anna studied the nymph of an insect over a period of time and noticed that it moulted several times.

- a) Why does a nymph of an insect moult? (1 mark)

- b) How many stages are there in the life cycle of the insect studied by Anna? (1 mark)

For Questions 38 and 39 please refer to the diagram below.

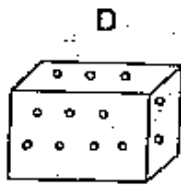


38. Betty used the set-up as shown below to study the senses of the cockroach. She placed a metal spoon in container A and a peeled banana in container B. She then released ten cockroaches outside the trap door of the above set-up. Thirty minutes after she had released the cockroaches, she counted the number of cockroaches that were crawling around each container.

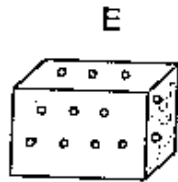
a) Which one of the cockroach's senses was Betty studying? (1 mark)

b) Why did Betty need two different objects in the containers for this experiment? (1 mark)

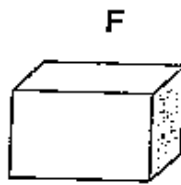
39. Betty would like to study if cockroaches could use only their sense of smell to look for food. She used the same set up as shown in the diagram for the previous question. However, she replaced the clear plastic containers with the following containers:



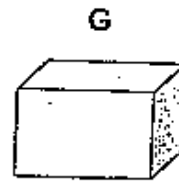
Clear plastic container with tiny holes



metal container with tiny holes



Clear, air tight glass container without holes



metal container without holes

Which one of the above container should she use?

a) She should use container _____ (1 mark)

b) Besides looking for food, state another function of the senses of the cockroach. (1 mark)

6/10

40. Study the diagram below.



Diagram A



Diagram B

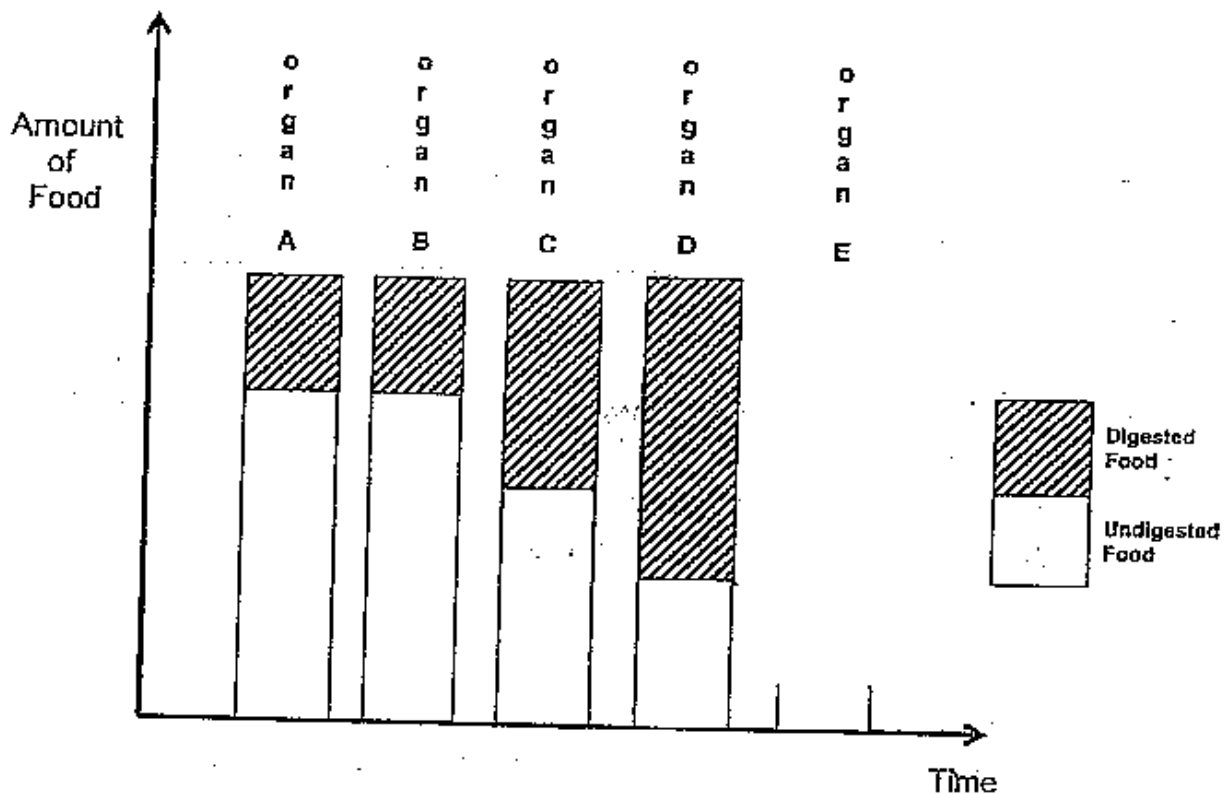
The frog can hop very far with its hind limbs.

- a) Which of the above diagrams shows the hind limbs of the frog? (1 mark)

- b) The muscles of the hind limbs of a frog allow it to hop very far. Describe how the muscles of the hind limbs are different from that of the front limbs. (1 mark)

125

41. Jerry just ate a slice of pizza. The bar graph below shows the amount of digested and undigested pizza in four organs (A, B, C and D) of the digestive system over 2 hours.

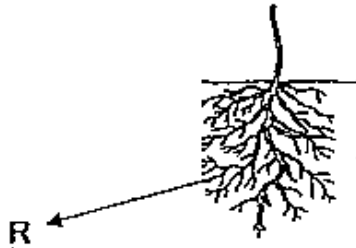


- a. Which organ of our digestive system is organ C most likely to be? (1 mark)

- b. Explain your answer in part a. (2 marks)

- c. The bar representing the amount of digested and undigested food found at organ E is missing. Complete the graph above by drawing a suitable bar to represent the amount of digested food and undigested found that you might find at organ E. (1 mark)

42. The diagrams below show 2 plant parts, R and S.



Rose plant



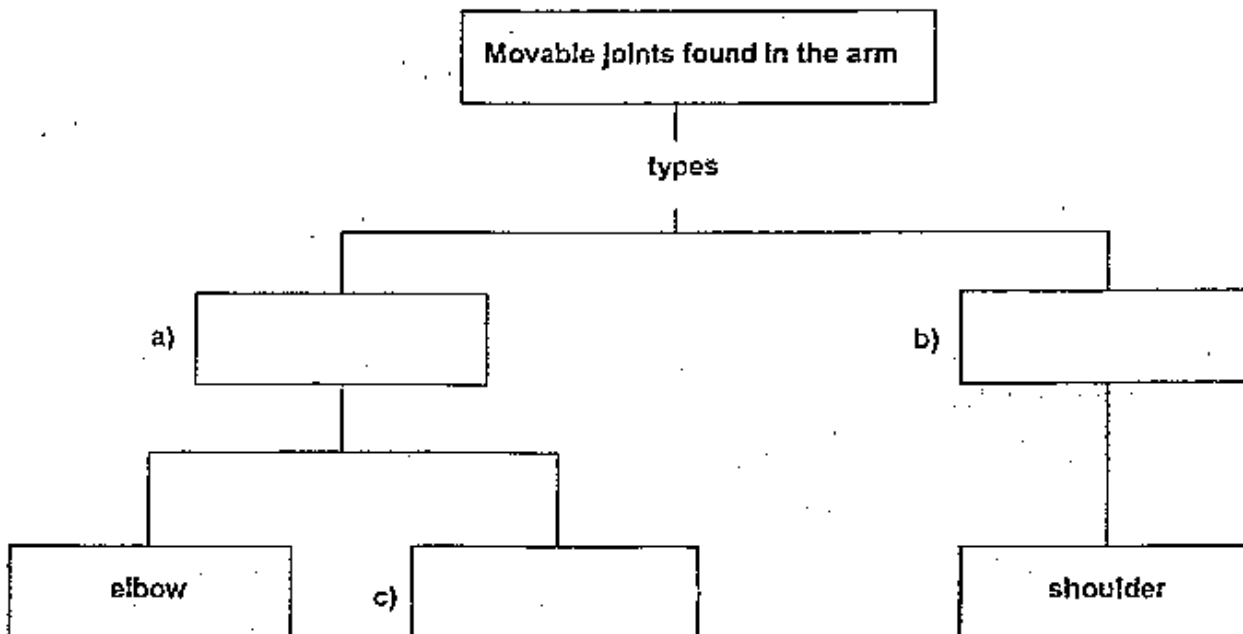
Sweet potato plant

a) State one similarity between R and S. (1 mark)

b) State one difference between R and S. (1 mark)

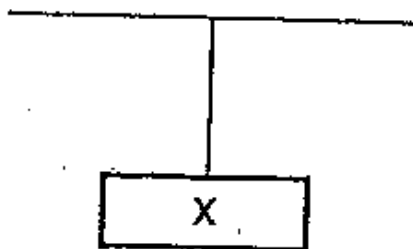
c) Draw an arrow and label it in the diagram above indicating a plant part where food is made for the sweet potato plant. (1 mark)

43. Fill in the empty boxes with suitable word(s) to complete the flow chart below. (3 marks)

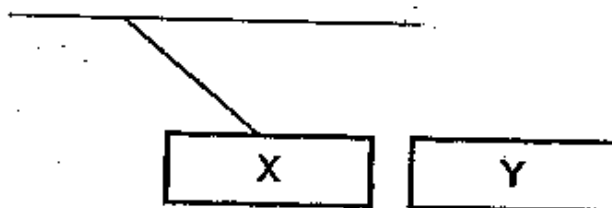


47

44. Magnet X was supported by a string as shown below.

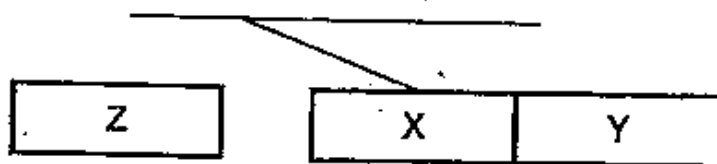


a) Magnet Y was then brought near Magnet X as shown below.



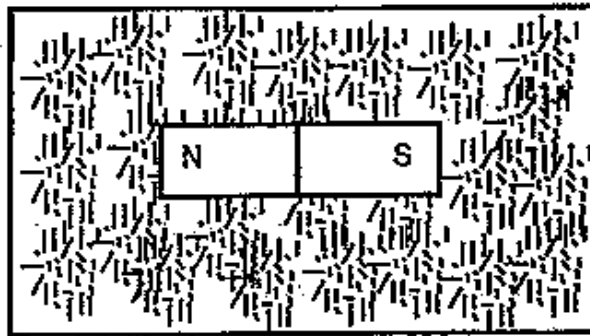
Explain why the string was slanted to the right as shown above?
(1 mark)

b) Magnet Z was then brought near to Magnet X and the diagram below shows what was observed.



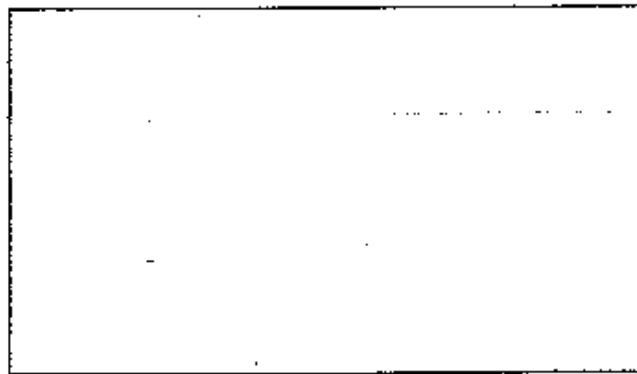
Why was there no gap between magnet X and Y as compared to the diagram in (a)?
(2 marks)

45. Peter put a bar magnet into a container of iron filings.



Container of Iron Filings

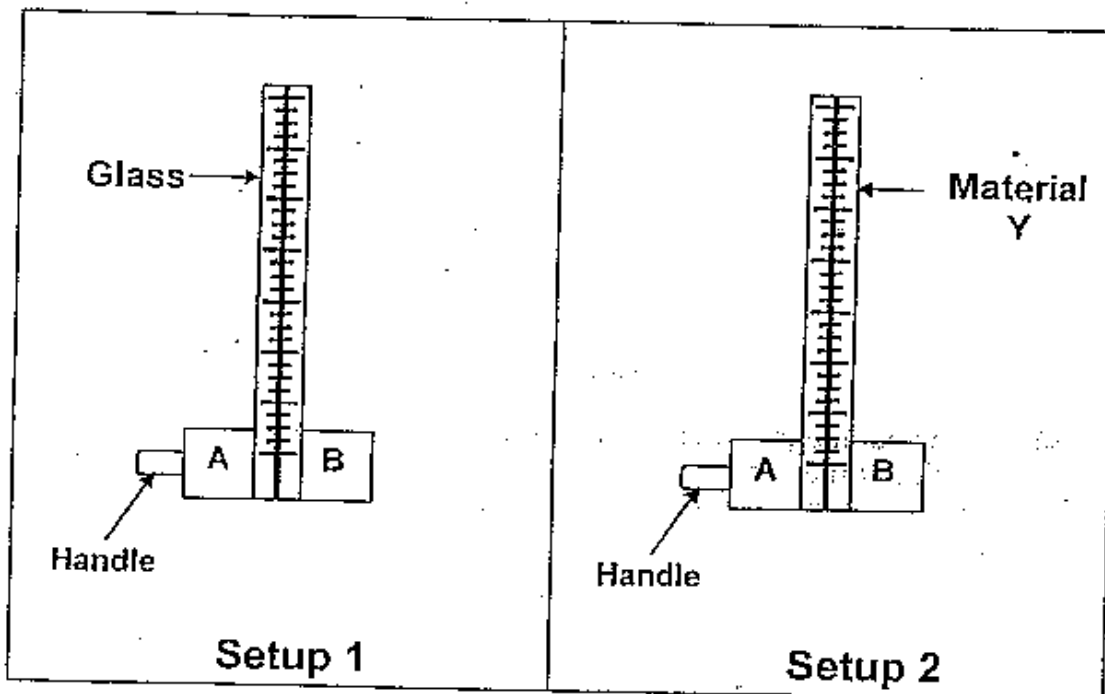
- a) The bar magnet was then removed from the container. In the box below, draw the magnet to show where most of the iron filings would be found, after it had been removed from the container. (1 mark)



- b) Explain your drawing in (a) (1 mark)

46. In the setups below, both A and B are magnets.

Markings are made on the materials to measure the distances moved by the magnets.



Magnet A was moved upwards and the distances moved by Magnet A and B were then recorded in the tables below.

Setup 1 (Glass)

Distance moved by A (cm)	Distance moved by B (cm)
5	5
10	10
15	15

Setup 2 (Material Y)

Distance moved by A (cm)	Distance moved by B (cm)
5	0
10	0
15	0

a) What material could Y be made of? (1 mark)

b) Explain your answer in (a).

(2 marks)

-----END OF PAPER-----

Answer Sheets
Nanyang Pri 3 SA2 / 2006 Science

- | | | | | |
|-------|-------|-------|-------|-------|
| 1) 3 | 2) 4 | 3) 2 | 4) 4 | 5) 3 |
| 6) 2 | 7) 3 | 8) 3 | 9) 2 | 10) 3 |
| 11) 1 | 12) 4 | 13) 3 | 14) 2 | 15) 4 |
| 16) 2 | 17) 3 | 18) 4 | 19) 1 | 20) 4 |
| 21) 3 | 22) 2 | 23) 3 | 24) 2 | 25) 3 |
| 26) 1 | 27) 3 | 28) 3 | 29) 3 | 30) 3 |

- Q31a. Body coverings
 b. The heading for Y is plants
 The heading for Z is fungi
 c. It is yeast.

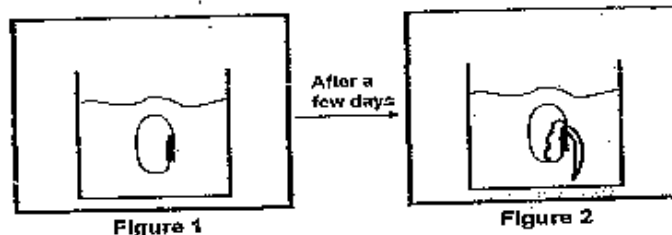
- Q32. (2) balloon - rubber : it is elastic
 (3) cooking pot - steel : good conductor of heat
 (4) raincoat - plastic : it is waterproof
 (5) boat - wood : it can float

- Q33 (i) It needs food, water and air.
 (ii) It can grow.

- Q34a. Animal A is not a mammal.
 b. It feeds its newborn with scraps of food.

- Q35a. All living things goes through a life cycle. True
 b. A life cycle can be made up of just one stage. False
 c. A frog and a beetle has the same number of stages in their life cycles. False
 d. A pattern that repeats itself over and over again is a cycle. True

Q36a.



- b. A seedling first gets its food from the seed leaf. The seedling can only start making food when the leaves develop.

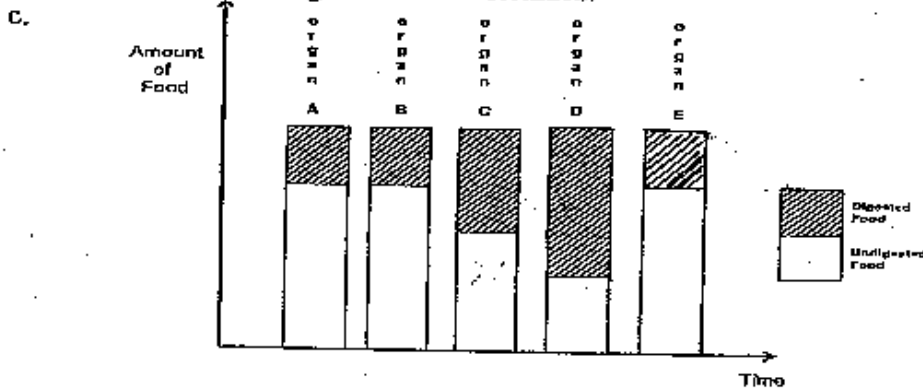
- Q37a. It sheds its old skin and grows a new one as it grows bigger.
 b. It has 3 stages of life cycle.

- Q38a. It uses its sense of sight.
 b. She wants to find out how many cockroaches crawl to the peeled banana in Box B.

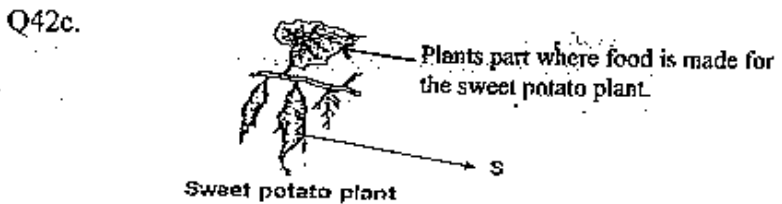
- Q39a. She should use container E
 b. The sense of sight helps the cockroaches to see any danger around and keep away from danger.

- Q40a. Diagram B
 b. The muscles in the hind legs are stronger than the front limbs.

- Q41a. Digested Food
 b. Digested food that we eat starts in the mouth. The food that we swallow travels down the gullet into the stomach.



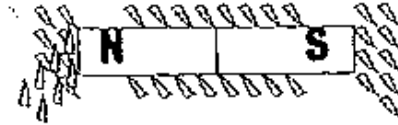
- Q42a. Both have roots.
 b. Rose plant has tap root while sweet potato plant has storage root.



- Q43a. Hinge joint
 b. Ball and socket
 c. finger

- Q44a. Because both are unlike poles, its attract each other.
b. Magnet Z repels Magnet X because they are like poles. Like poles of two different magnets will repel or push each other away.

Q45a.



- b. Magnetism is strongest at the poles
- Q46a. Steel
b. Objects that are not attracted to magnets are known as non-magnetic objects.