



## AI TONG SCHOOL

### 2011 CONTINUAL ASSESSMENT ( 2 ) PRIMARY FOUR SCIENCE

**DURATION:** 1hr 45 min

**DATE:** 25<sup>th</sup> August 2011

### INSTRUCTIONS

**Do not open the booklet until you are told to do so.**

**Follow all instructions.**

**Answer all questions.**

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

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

**Parent's Signature :** \_\_\_\_\_

**Date :** \_\_\_\_\_

<b>Section A</b>	60
<b>Section B</b>	40
<b>Total</b>	100

**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. Which of the following is not matter?

- A Heat
- B Wind
- C Cloud
- D Shadow

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

2. Three objects were placed on the table as shown below.



1 kg milk



1 kg cotton wool



1 kg iron weight

Which of the following statement(s) about these objects is/are true?

- A All of them occupy space.
- B All of them have definite shape.
- C All of them have the same mass.

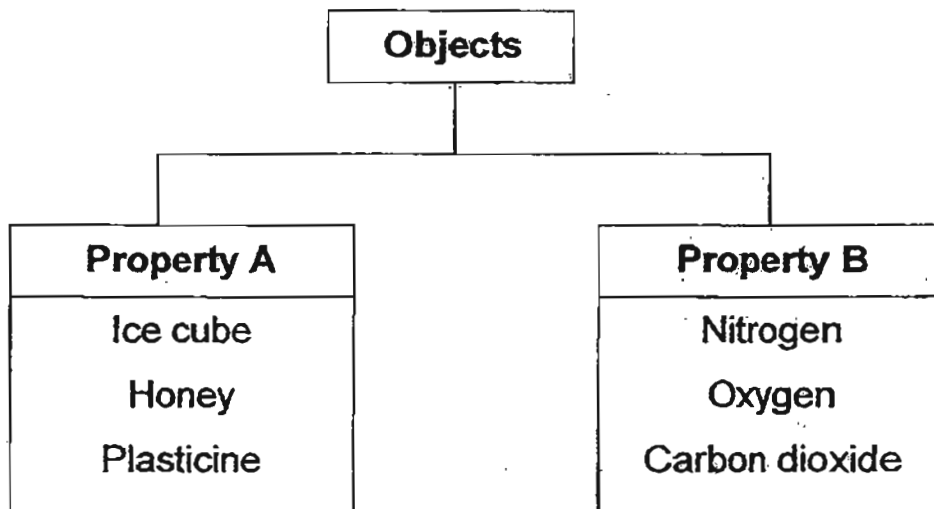
- (1) A only
- (2) A and B only
- (3) A and C only
- (4) B and C only

3. A metal bottle has a capacity of  $1000 \text{ cm}^3$ .  
Which of the following can be stored in this metal bottle?

- A 800  $\text{cm}^3$  of sand
- B 1100  $\text{cm}^3$  of water
- C 1000  $\text{cm}^3$  of oxygen
- D 1200  $\text{cm}^3$  of carbon dioxide

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

4. Study the diagram below.

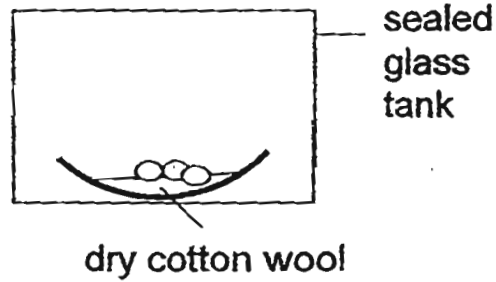


What are Property A and Property B?

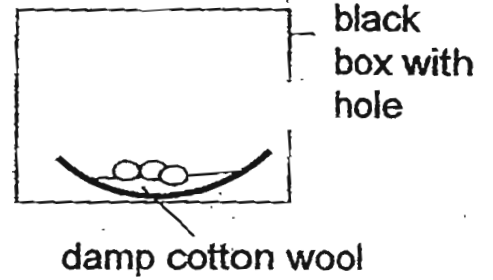
	Property A	Property B
(1)	Has mass	Has no mass
(2)	Has definite volume	Has no definite volume
(3)	Has definite shape	Has no definite shape
(4)	Can be compressed	Cannot be compressed

5. Which of the following seeds will germinate?

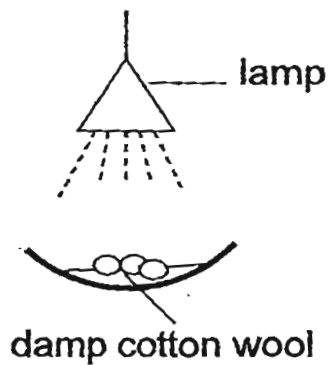
(A)



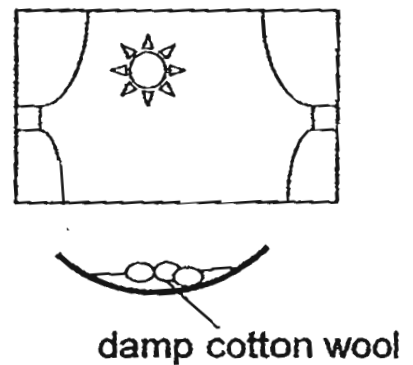
(B)



(C)

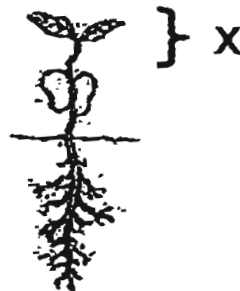


(D)



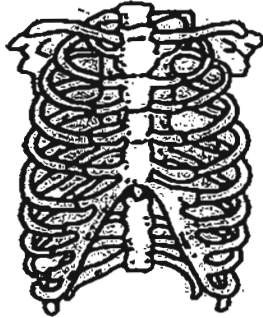
- (1) A and B only
- (2) C and D only
- (3) A, C and D only
- (4) B, C and D only

6. The diagram shows one of the stages in the life cycle of a bean plant. What is the area marked 'X'?



- (1) Root
- (2) Shoot
- (3) Seed coat
- (4) Seed leaves

7. The part of the skeleton shown below protects the \_\_\_\_\_.



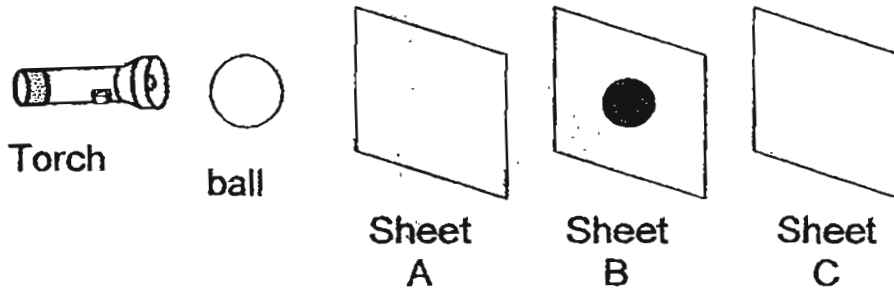
- A brain
- B lungs
- C heart
- D stomach

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

8. The lungs take in oxygen and remove carbon dioxide from the body. Which one of the following systems helps to transport oxygen to all parts of the body?

- (1) Muscular system
- (2) Digestive system
- (3) Circulatory system
- (4) Respiratory system

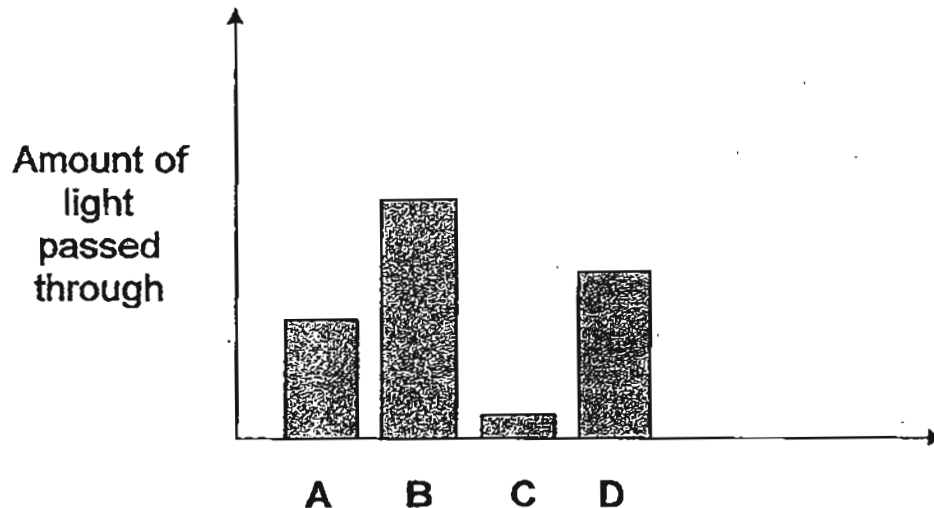
9. An experiment shown below was carried out in a dark room.



Three sheets, A, B and C, were arranged in a straight line. When the torch was shone on the ball and the sheets, a dark circular shadow was seen only on Sheet B. Which one of the following correctly describes the property of Sheets A, B and C?

	<b>Allows light to pass through</b>	<b>Does not allow light to pass through</b>	<b>Not possible to tell</b>
(1)	A	B	C
(2)	B	A	C
(3)	A	C	B
(4)	C	B	A

10. Huiling used a light sensor and data logger to find out how much light passed through four sheets, A, B, C, and D, each made of a different material. She plotted the graph below to show her results.



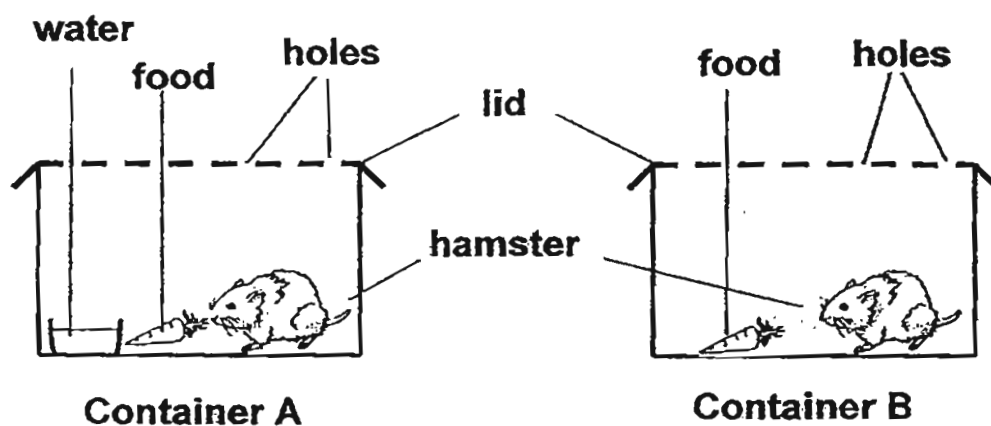
Which one of the sheets of material would cast the darkest shadow?

- (1) A
  - (2) B
  - (3) C
  - (4) D
11. Which one of the following is true about a sunflower plant and a frog?



- (1) Both can make their own food.
- (2) Both have young that resemble the adult.
- (3) Both respond to changes in their surroundings.
- (4) Both can move from place to place by themselves.

12. Mary carried out the following experiment as shown.



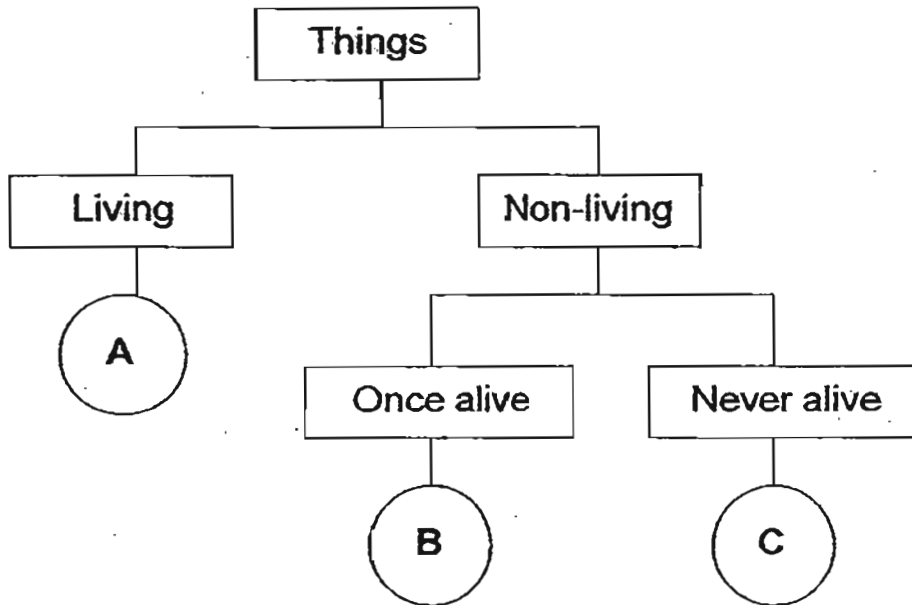
In her experiment, Mary is trying to find out if living things need \_\_\_\_\_ to survive.

- A air
- B food
- C water

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



13. Study the classification diagram below.



Which of the following can be placed in Groups A, B and C?

	A	B	C
(1)	rabbit	electric fan	plastic bottle
(2)	dog	leather bag	drinking glass
(3)	snake	wooden table	wool sweater
(4)	crocodile	water	cotton Shirt

14. Study the classification table below.

Group A	Group B	Group C	Group D
deer	dolphin	owl	rabbit
lion	goldfish	eagle	frog

The animals are grouped according to \_\_\_\_\_.

- (1) the way they move
- (2) the way they reproduce
- (3) the types of food they eat
- (4) their outer body coverings

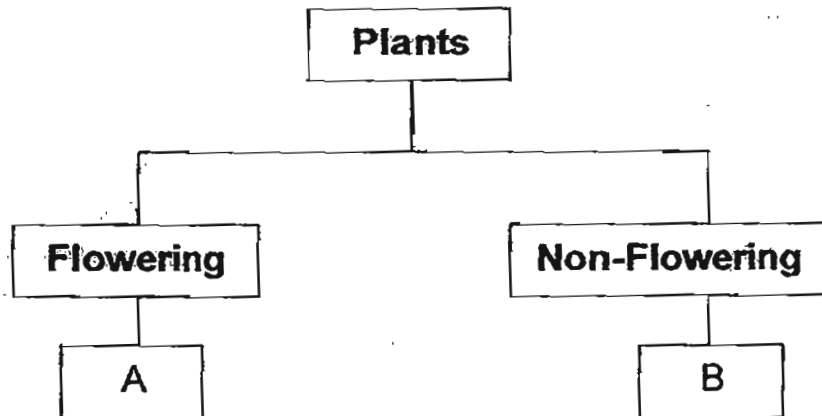
15. Study the table below carefully.

Animal	Has wings	Gives birth to young alive	Has body covering of hair
A	No	No	No
B	Yes	No	No
C	No	Yes	No
D	No	Yes	Yes

Which one of the animals is most likely to be a mammal?

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

16.



Plants A and B are green. Which one of the following statements is true for both Plants A and B?

- (1) They can bear fruits.
- (2) They reproduce from seeds.
- (3) They reproduce from spores.
- (4) They can make their own food.

17. Haorong was observing two living things, A and B. She used a table shown below to record her observations. She placed a tick (✓) against the characteristics she observed.

Characteristics	A	B
Presence of green leaves	✓	
Presence of spores		✓
Presence of flowers	✓	

Which of the following correctly fits the observations made by Haorong?

	A	B
(1)	Bougainvillea	Mushroom
(2)	Mosquito Fern	Hibiscus
(3)	Money Plant	Tree Fern
(4)	Bread mould	Bracket Fungus

18. Which of the following statements about spores are correct?

- A Spores are light.
- B Spores can grow into new plants.
- C Spores can be found on the underside of some leaves.
- D Spores are produced by flowering and non-flowering plants.

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

19. Which of the following groups consists of only micro-organisms?

- (1) Yeast and bacteria.
- (2) Yeast and puff balls.
- (3) Mould and toadstool.
- (4) Bacteria and bracket fungus.

20. Why is iron not suitable for making a school bag?

- A Iron is heavy.
- B Iron tends to rust.
- C Iron gets hot easily.
- D Iron is not transparent.

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

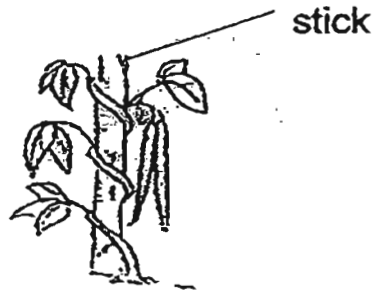
21. The table below shows how some objects are grouped into two groups.

Group A	Group B
A piece of wood	A glass cup
A plastic spoon	An eraser
A styrofoam cup	A 5-cent coin

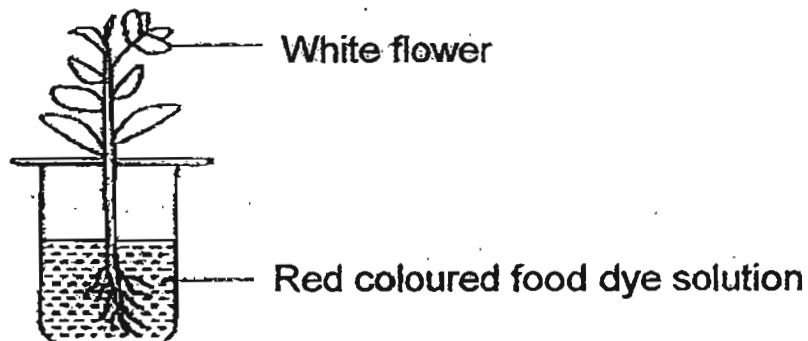
They are grouped according to \_\_\_\_\_.

- (1) how hard or soft they are
- (2) whether they can float on water or not
- (3) whether they are waterproof or not waterproof
- (4) whether they are made of natural or man-made materials

22. The picture below shows a bean plant. Which part of the bean plant helps it to climb up the stick?



- (1) Stem  
(2) Roots  
(3) Fruits  
(4) Leaves
23. Beatrice placed a plant in a beaker filled with red coloured food dye solution as shown below.



What would Beatrice observe after a few days?

- A The flower turned red.  
B The leaves turned red.  
C The water lost its colour.  
D The water level dropped.
- (1) A and B only  
(2) C and D only  
(3) A, B and C only  
(4) A, B and D only

24. Joseph made two observations about two animals, A and B.

Observation	Animal A	Animal B
Eggs	Laid in water	Laid on land
Stages in life cycle	4	3
Number of legs in its adult stage	6	6

Which one of the following is correct?

	Animal A	Animal B
(1)	Butterfly	Cockroach
(2)	Dragonfly	Cricket
(3)	Frog	Chicken
(4)	Mosquito	Grasshopper

25. Four children made the following statements about the difference between a nymph and an adult.

**Peter** The nymph does not have wings.

**John** The nymph cannot fly.

**Jane** The nymph cannot reproduce.

**Mary** The nymph does not have feelers.

Which of the children made the correct statements?

- (1) Peter, John and Jane only.
- (2) John, Jane and Mary only.
- (3) Peter, Jane and Mary only.
- (4) Peter, John and Mary only.

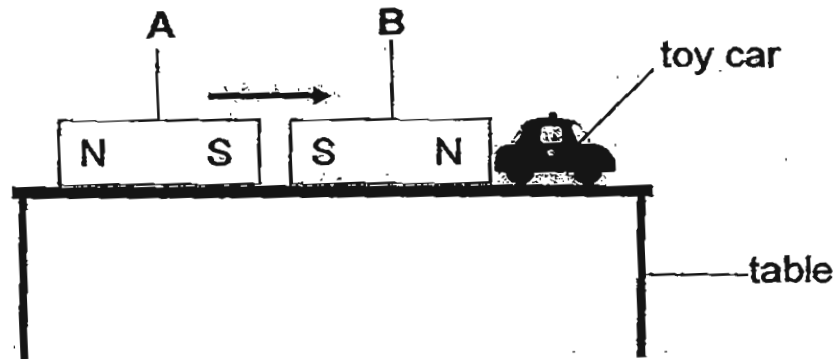
26. Joshua kept four mealworm beetles, A, B, C and D, each at different stages of their life cycles, in four containers. He placed 20 g of food next to each of them. He measured the mass of food left in the containers after 2 days and recorded the results in a table.

Mealworm	Mass of food left
A	7 g
B	12 g
C	10 g
D	20 g

Which mealworm is most likely to be in the pupa stage?

- (1) A
  - (2) B
  - (3) C
  - (4) D
27. Which of the following is true about using the 'stroke' method to make a nail into a magnet?
- (1) Only a bar magnet can be used.
  - (2) The nail can be made of any metal.
  - (3) The nail must be stroked with a magnet in the same direction.
  - (4) Only the north pole of the magnet should be used to stroke the nail.

28. Two magnets, A and B, are placed next to each other as shown. What will most likely happen to the plastic toy car when A moves towards B in the direction shown below?



The toy car will \_\_\_\_\_.

- (1) stay where it is
- (2) become a magnet
- (3) move nearer to the magnets
- (4) be knocked off the edge of the table



29. Raymond set up an experiment to find out how three objects, A, B and C, would interact with a magnet.

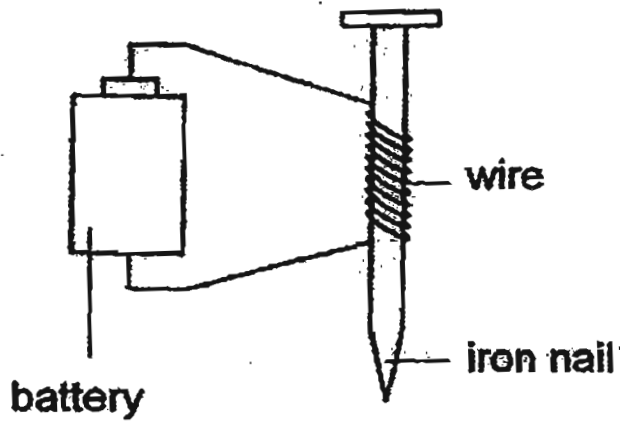
He brought the magnet close to each of the three objects, A, B and C, and recorded his observations in the table below.

Object	Observations
A	It moved towards the magnet.
B	It did not move.
C	It moved away from the magnet.

Based on the above observations, which of the following most likely represents A, B and C?

	A	B	C
(1)	aluminium foil	iron nail	eraser
(2)	magnet	aluminium foil	iron nail
(3)	iron nail	copper wire	magnet
(4)	copper wire	eraser	aluminium foil

30. Look at the set-up below.



Which of the following can be done to increase the strength of the electromagnet?

- A Use a copper nail.
- B Use a thicker wire.
- C Use more batteries.
- D Have more coils around the nail.

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

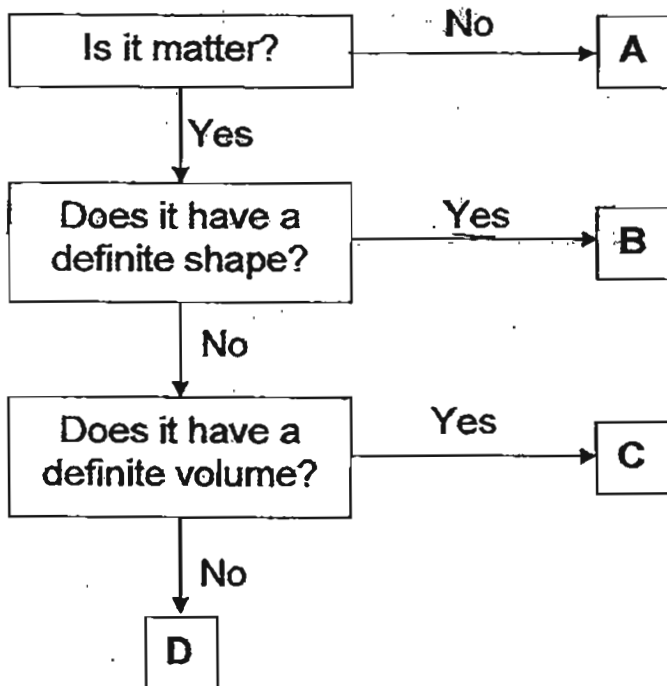
Name : \_\_\_\_\_ ( )

Class : \_\_\_\_\_

**Section B (40 marks)**

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

31. The flow chart below classifies 4 objects, A, B, C and D according to their properties.



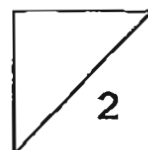
Fill in the blanks with “ruler”, “air”, “sound” and “water” to correctly match the letters, A, B, C and D. [2]

A: \_\_\_\_\_

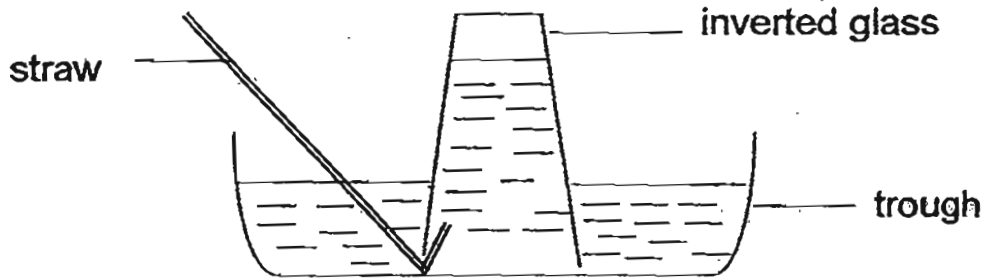
B: \_\_\_\_\_

C: \_\_\_\_\_

D: \_\_\_\_\_



32. Clarice set up the following experiment as shown below.



Clarice took a deep breath and blew into the straw.

- (a) What would Clarice observe about the water level in the inverted glass when she blew into the straw? [1]

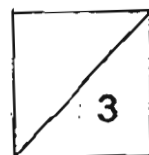
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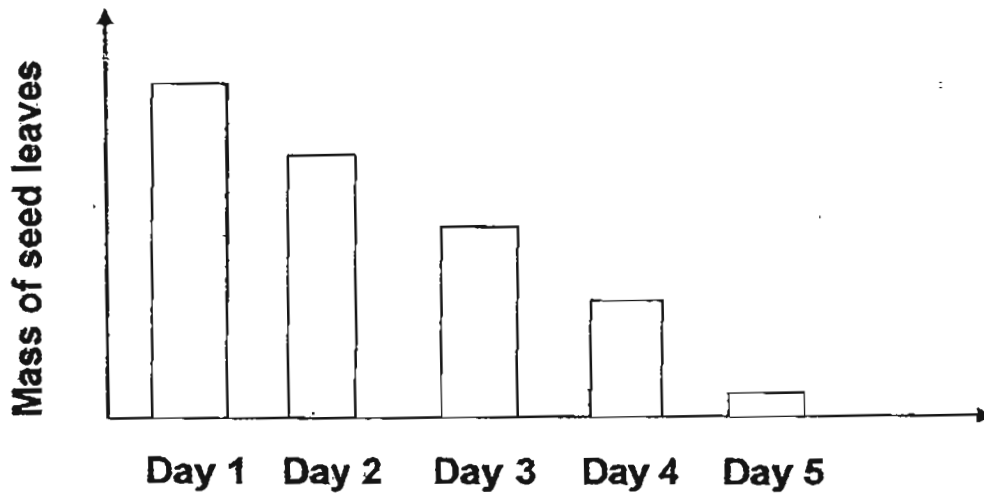
- (b) Give an explanation for your answer in (a). [2]

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33. The bar graph below shows the change in the mass of the seed leaves of a bean seedling over a period of 5 days.



- (a) What does the graph tell you about the mass of the seed leaves during the experiment? [1]

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- (b) Explain why the mass changed during the experiment. [1]

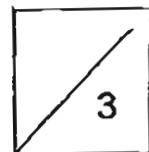
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- (c) How did the seedling get its food after Day 5? [1]

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34. The table below shows three organs, X, Y and Z, in the digestive system and their functions.

Organ	Digests food	Absorbs digested food	Removes water from undigested food
X	✓	✓	x
Y	✓	x	x
Z	x	x	✓

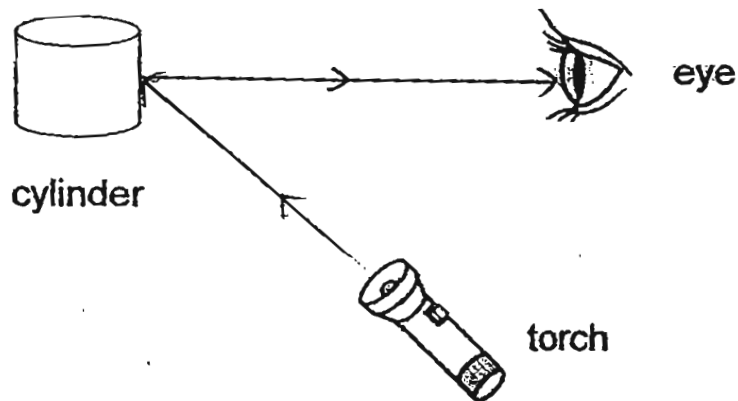
From the table, identify the organs, X, Y and Z, in the digestive system. [3]

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

Y : \_\_\_\_\_

Z : \_\_\_\_\_

35. (a) In the diagram below, draw arrows to show how the eye sees the cylinder when the torch is shone on it. [1]

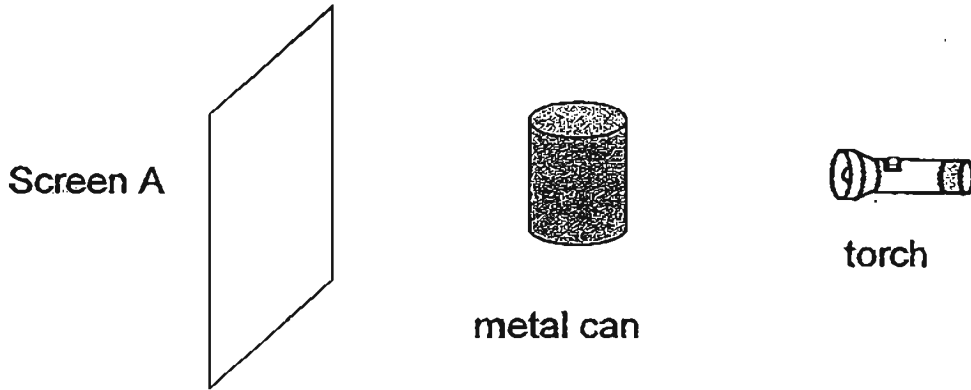


- (b) Describe how the eye is able to see the cylinder. [2]

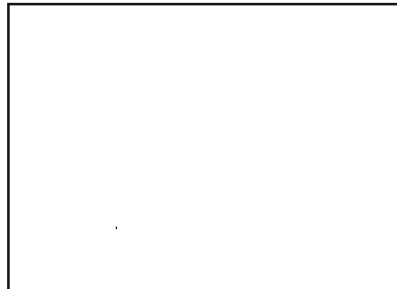
\_\_\_\_\_

\_\_\_\_\_

36. The diagram below shows a torch shining on a metal can.



(a) Draw and shade the shadow cast on Screen A in the box provided below. [1]



Screen A

(b) Explain how the shadow is formed. [1]

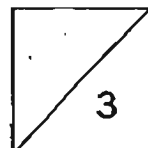
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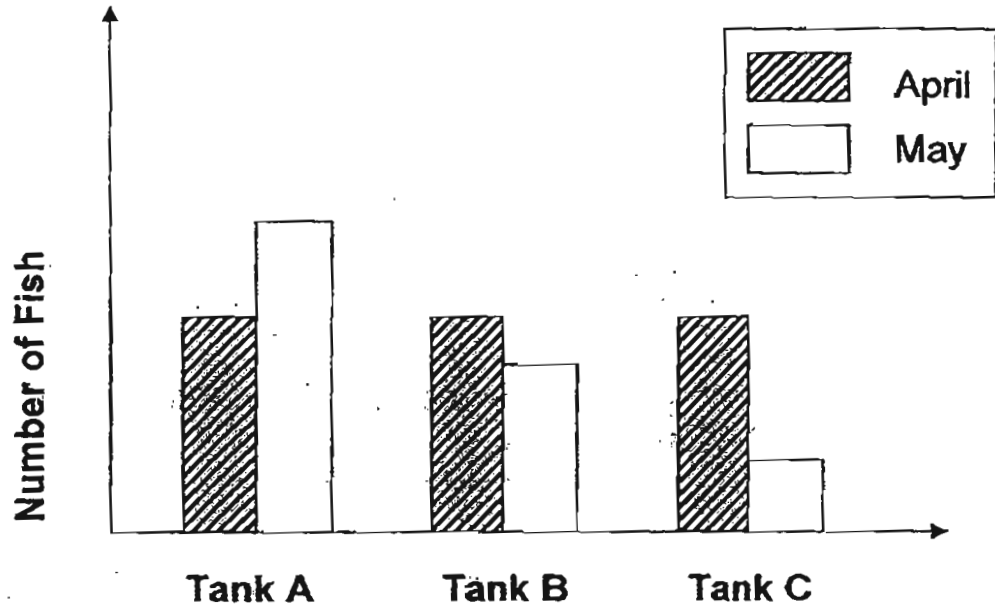
(c) Describe one way which a bigger shadow can be formed without moving the screen. [1]

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37. Jimmy put an equal number of fish in three tanks, A, B and C, in April. The graph below shows the number of fish in the three tanks over a period of two months.



- (a) Which one of the tanks shows an increase in the number of fish in May? [1]

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- (b) Which characteristic of living things will explain the increase in the number of fish? [1]

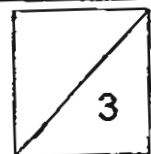
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- (c) What do the fish need to stay alive? [1]

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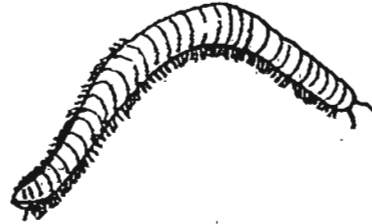




38. Look at the pictures of the two animals shown below.



housefly



millipede

(a) Based on the pictures only, describe one similarity between these animals. [1]

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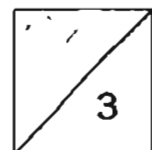
(b) Which is not an insect? [1]

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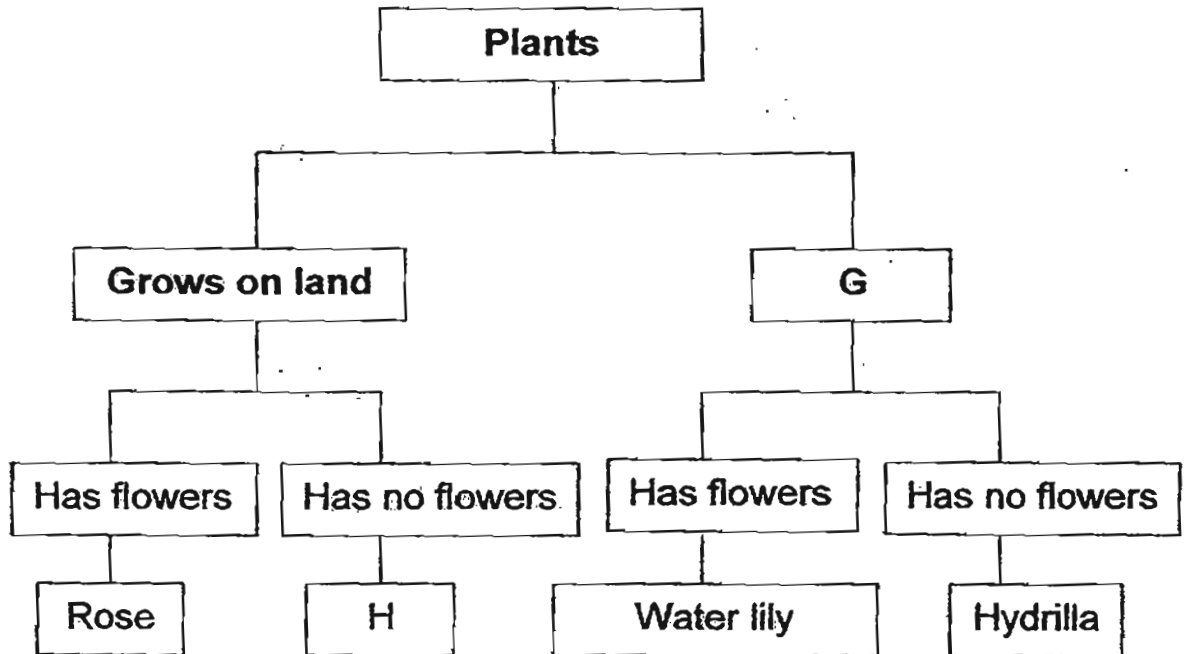
(c) Give a reason for your answer in (b). [1]

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39. Study the classification chart below.



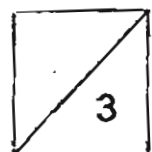
(a) Give a suitable heading for G. [1]

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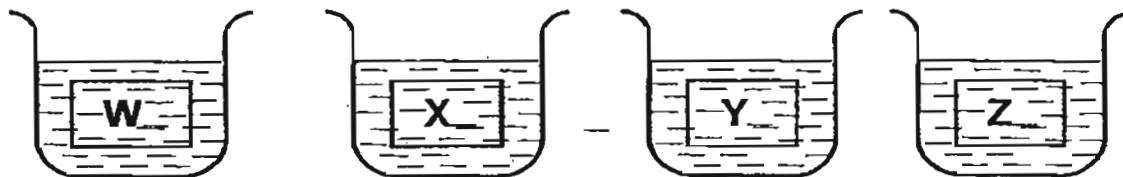
(b) What are the two characteristics of H? [2]

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40. Four thin pieces of materials of the same size, W, X, Y and Z, were weighed individually before they were put into the beakers of water as shown below.



After 15 minutes, each piece was weighed again. Their masses were recorded in the table below.

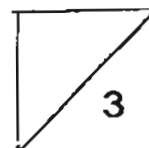
Material	Mass at the beginning (g)	Mass after 15 minutes (g)
W	8	10
X	10	20
Y	12	12
Z	13	18

- (a) Based on the results above, which material is most suitable for making a raincoat? [1]

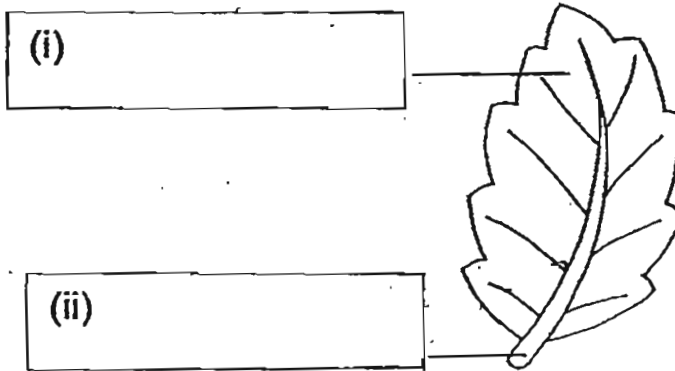
\_\_\_\_\_

- (b) Give a reason for your answer in (a). [2]

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



41. The diagram below shows a leaf.



(a) Label the parts of the leaf by filling in the boxes above. [1]

(b) What is the main function of the leaf? [1]

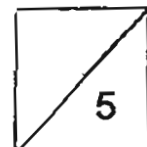
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(c) How is the shape of the leaf suited for its function? [1]

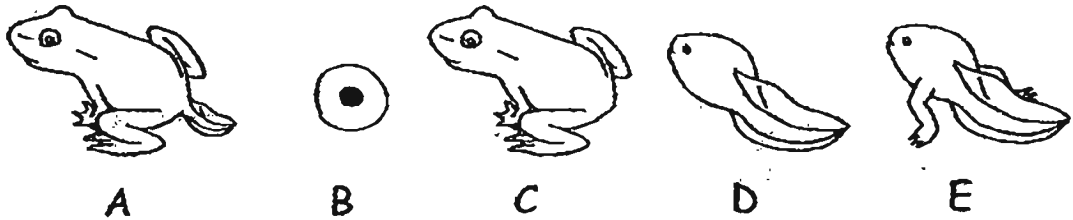
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42. Weiling wrote the following statements below in her Science notebook about plants. Write "T" in the boxes provided for each statement that is true and "F" for each statement that is false. [2]

(a)	Mosses are not plants.	
(b)	Mosses prefer to live in damp shady places.	
(c)	Not all plants produce flowers.	
(d)	All plants reproduce from seeds.	



43. The diagram below shows how a frog changes during its life cycle.



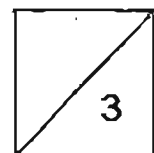
(a) Arrange the letters, A, B, C, D and E, to show the correct order of the life cycle of a frog. [2]



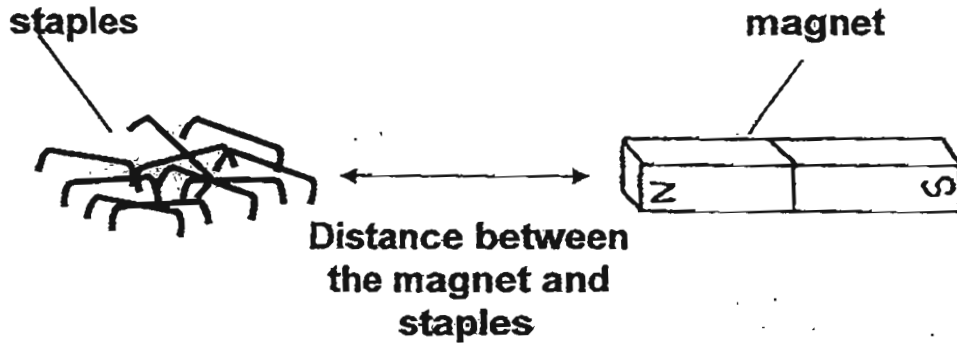
(b) State one difference between Stage A and Stage D. [1]

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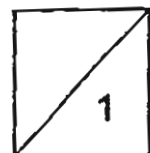
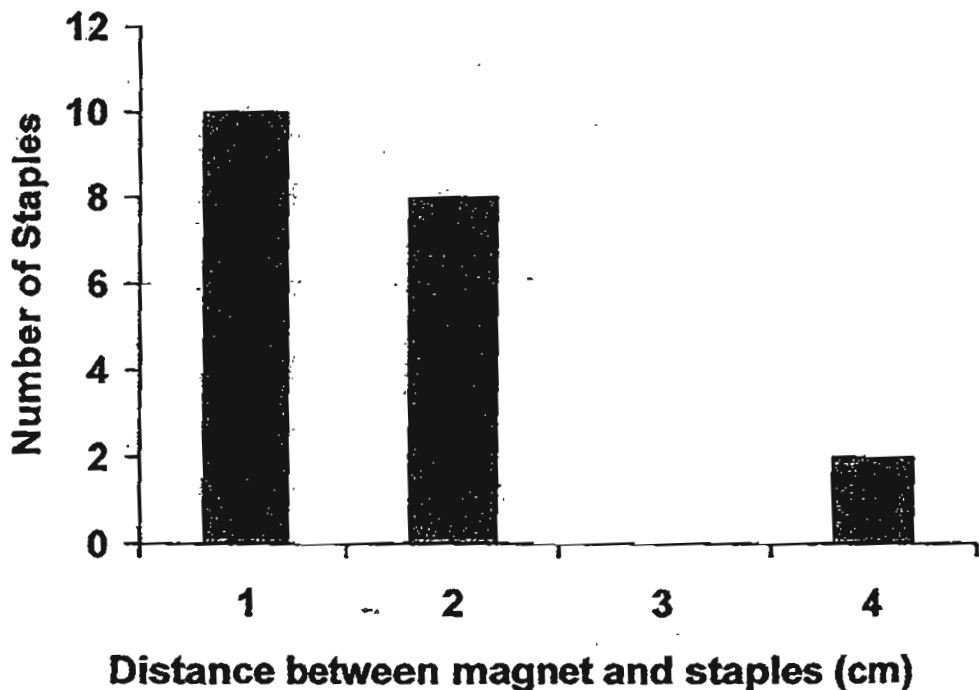


44. The magnet below can attract different number of staples at different distances. The number of staples attracted at various distances is recorded in a table below.

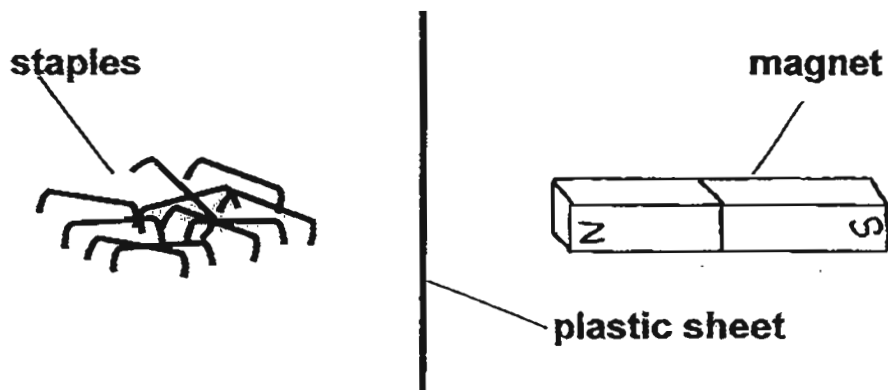


Distance between magnet and staples	1 cm	2 cm	3 cm	4 cm
Number of staples attracted	10	8	?	2

- (a) Based on the information above, predict and draw in the bar graph below how many staples were attracted at a distance of 3 cm. [1]



44.



(b) What happens when a plastic sheet is placed between the magnet and staples as shown? [1]

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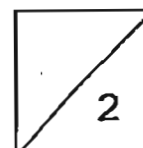
(c) Explain your answer in (b) [1]

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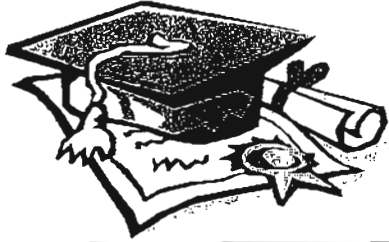
**END OF PAPER**

**PLEASE CHECK YOUR ANSWERS**







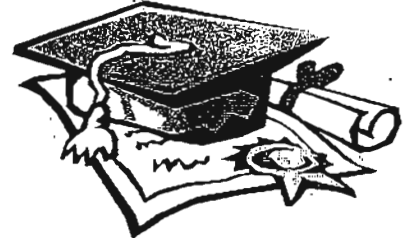


# ANSWER SHEET

**EXAM PAPER 2011**

**SCHOOL : AITONG  
SUBJECT : PRIMARY 4 SCIENCE**

**TERM : CA2**



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

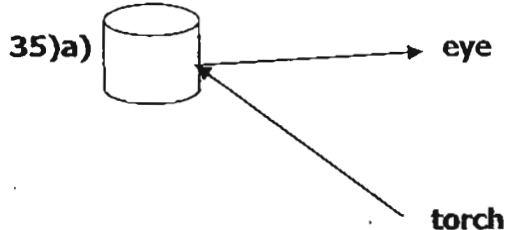
Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
3	1	1	2	1	4	4	1	4	3	4	3	2

31)A: sound    B: ruler    C: water    D: air

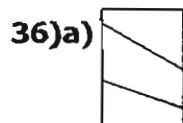
32)a)She would observe that the water level in the inverted glass would decrease.  
b)Air is own into the inverted glass and pushes the water out of the inverted glass as air takes up space.

33)a)The mass of the seed leave decreases everyday.  
b)The seedling was consuming the food stored in the seed leaves.  
c)Which have now developed and can make it own food for the plant.

34)X: small intestine    Y: stomach    Z: large intestine



b)The torch shines onto the cylinder and the cylinder reflects light into the eye.



b)The metal can blocked the path of light shone from the torch to the screen and light travels in straight lines.  
c)Move the metal can nearer to the torch.

- 37)a) Tank A.  
 b) Living things reproduce.  
 c) The fish need air, food and water.

- 38)a) Have legs.  
 b) Millipede.  
 c) An insect has six legs while a millipede has more than six legs.

- 39)a) Grown in water.  
 b) H grown on land and has no flowers.

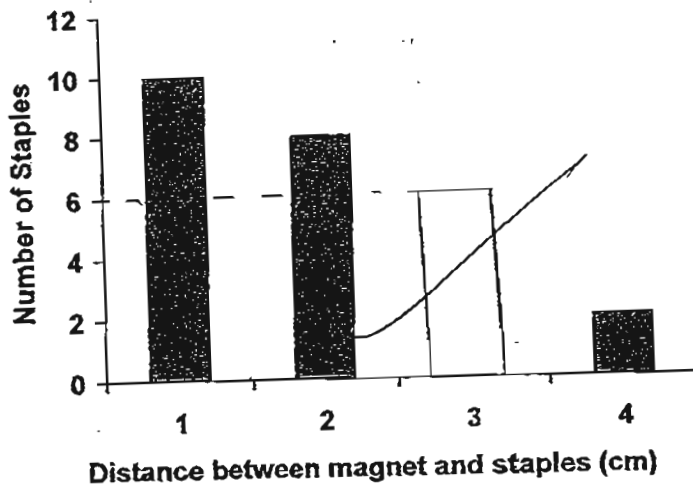
- 40)a) Y.  
 b) Y did not absorb any water, so it is waterproof and raincoats have to be waterproof to ensure that the wearer does not get wet.

- 41)a) i) leaf blade ii) leaf stalk  
 b) The main function of the leaf is to make food for the plant.  
 c) It has a large surface area and can trap more sunlight.

- 42)a) F b) T c) T d) F

- 43)a) B → D → E → A → C →  
 b) Stage A can move on land and in water, while stage D lives in water.

44)a)



- b) The staples would still be attracted to the magnet.  
 c) A plastic sheet is not a magnetic material, hence magnetic can still pass through.