



RAFFLES GIRLS' PRIMARY SCHOOL

SEMESTRAL ASSESSMENT (1)
2008

Your score out of 100 marks		
	Class	Level
Highest score		
Average score		
Parent's signature		

Name : _____ Index No.: _____ Class: P4 _____

7th May 2008

SCIENCE

ATT: 1 h 30 min

SECTION A (25 x 2 marks)

For each question from 1 to 25, four options are given.
One of them is the correct answer. Make your choice (1, 2, 3 or 4).
Shade the correct oval on the Optical Answer Sheet (OAS) provided.

1. Jill was at a shop when she saw a toy giraffe.

Which of the following statements tell(s) us that the toy giraffe is a non-living thing?

- A It has four legs.
- B It will reproduce.
- C It does not need air, water and food.

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

2. David observed a specimen of a butterfly in the laboratory.

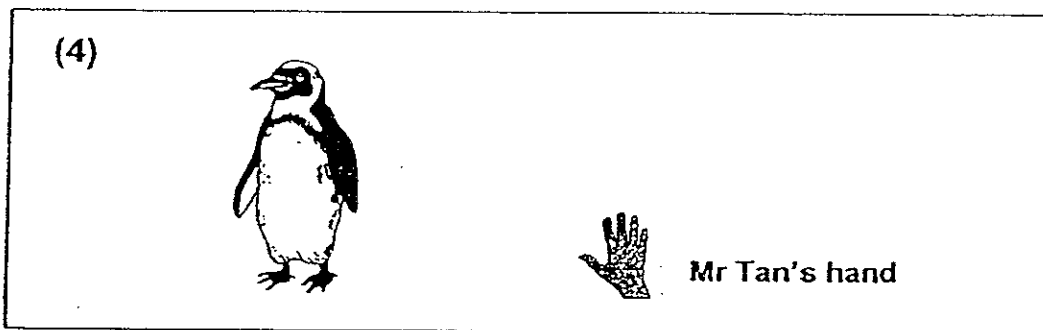
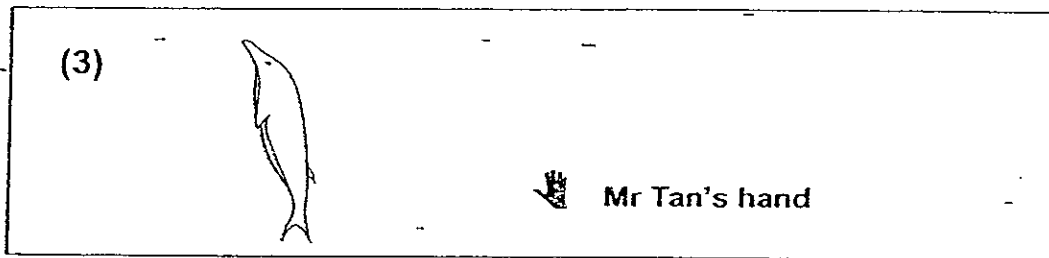
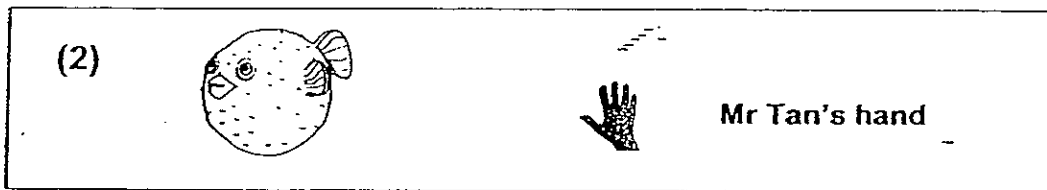
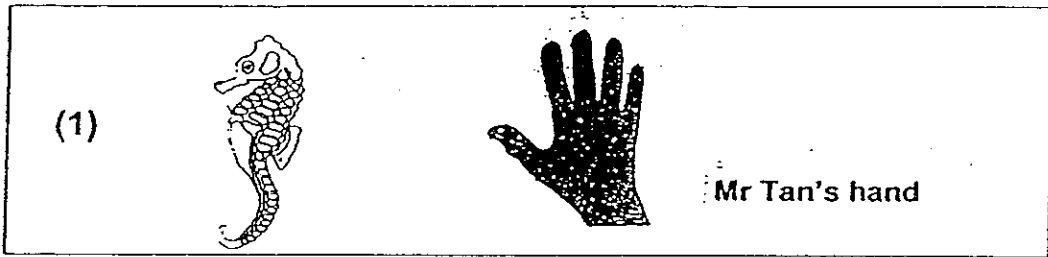


After observing it for a few minutes, David concludes that the butterfly is **NO** longer a living thing because the butterfly _____.

- A has wings
- B does not lay eggs
- C does not move by itself
- D does not respond to its surroundings

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

3. The size of each animal is compared to Mr Tan's hand as shown below.
Which one of these animals is the smallest?

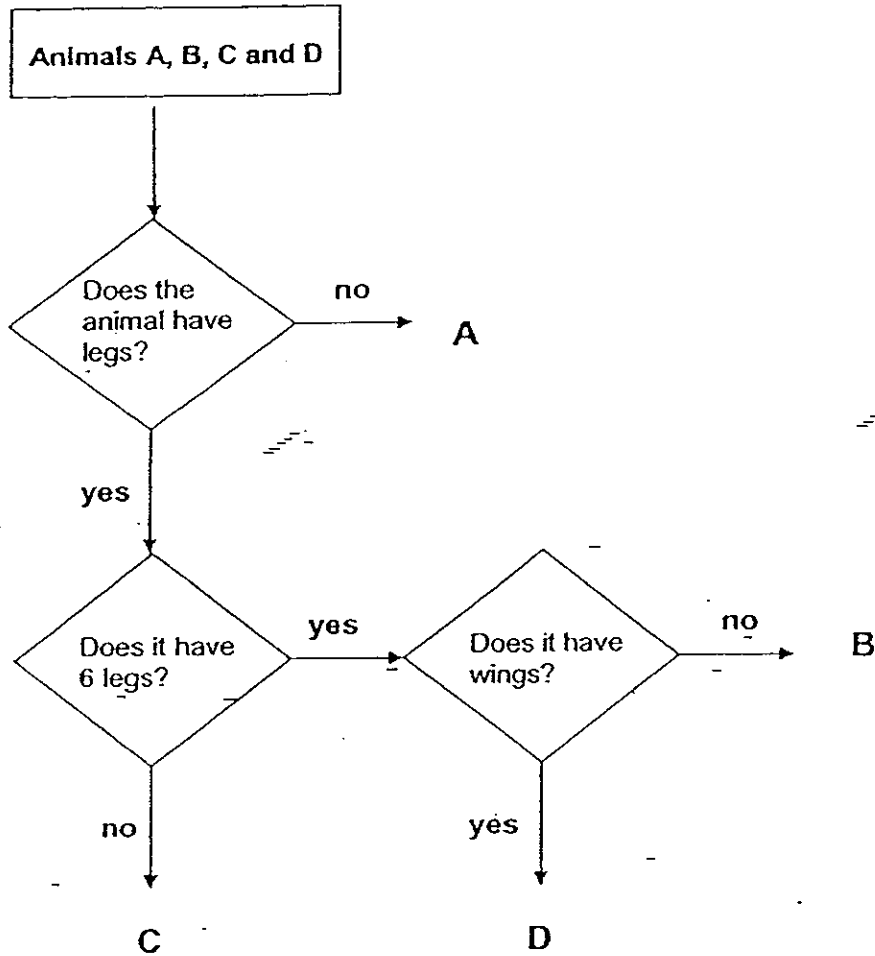


4. Which of the following statements explain(s) why animals move?

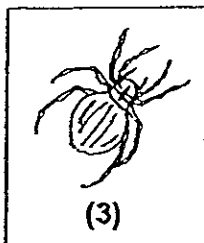
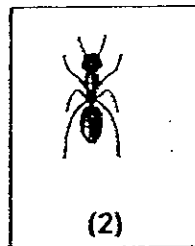
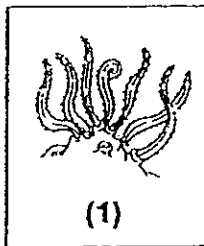
- (A) Animals move to escape from harm.
- (B) Animals move about to look for shelter.
- (C) Animals move about to look for food and water.

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

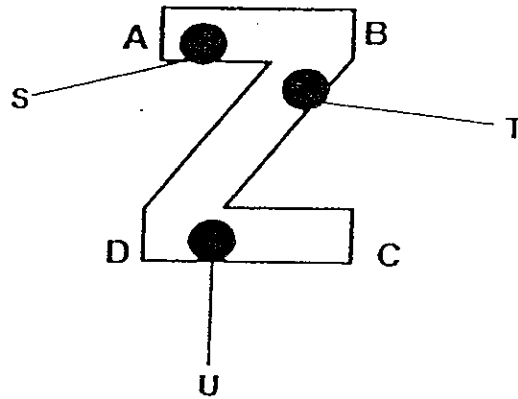
5. The diagram below shows how some animals are different.



Based on the diagram above, which one of the following animals is D?



6. S, T and U are blobs of wax on a piece of wire shaped like the letter "Z".



When the wire was heated at a certain point, the blobs of wax melted in the order of T, S and U. At which point, A, B, C or D, was the wire heated?

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

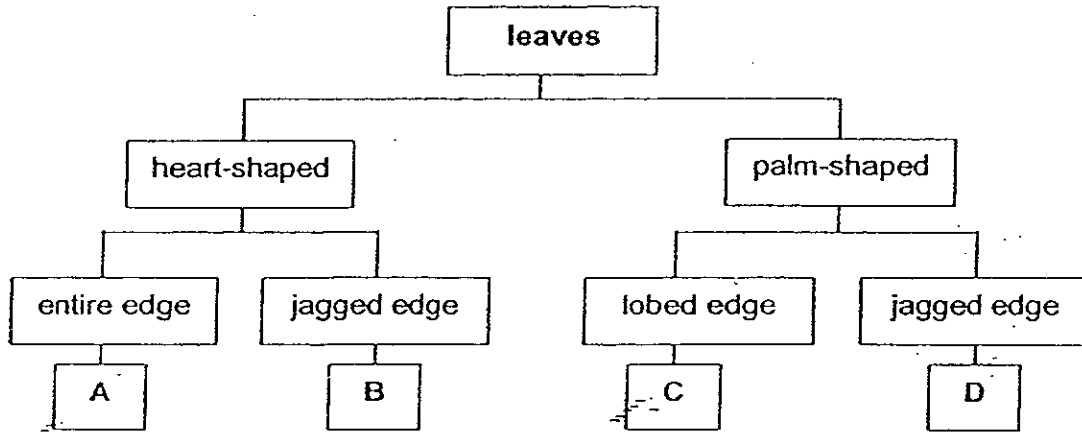
7. The table below shows the comparisons between a plant system and an animal system.

	Animal system	Plant system
X	is made up of different parts that do NOT work together	is made up of different parts that work together
X	needs oxygen to stay alive	does NOT need oxygen to stay alive
X	responds to changes	CANNOT respond to changes
X	does NOT make its own food, so it hunts for food	makes its own food, so it does NOT hunt for food

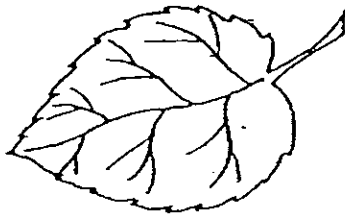
Which of these statements is / are true?

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

8. Some leaves are classified as shown below.



Based on the chart above, which group, A, B, C or D, does the leaf below belong to?



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

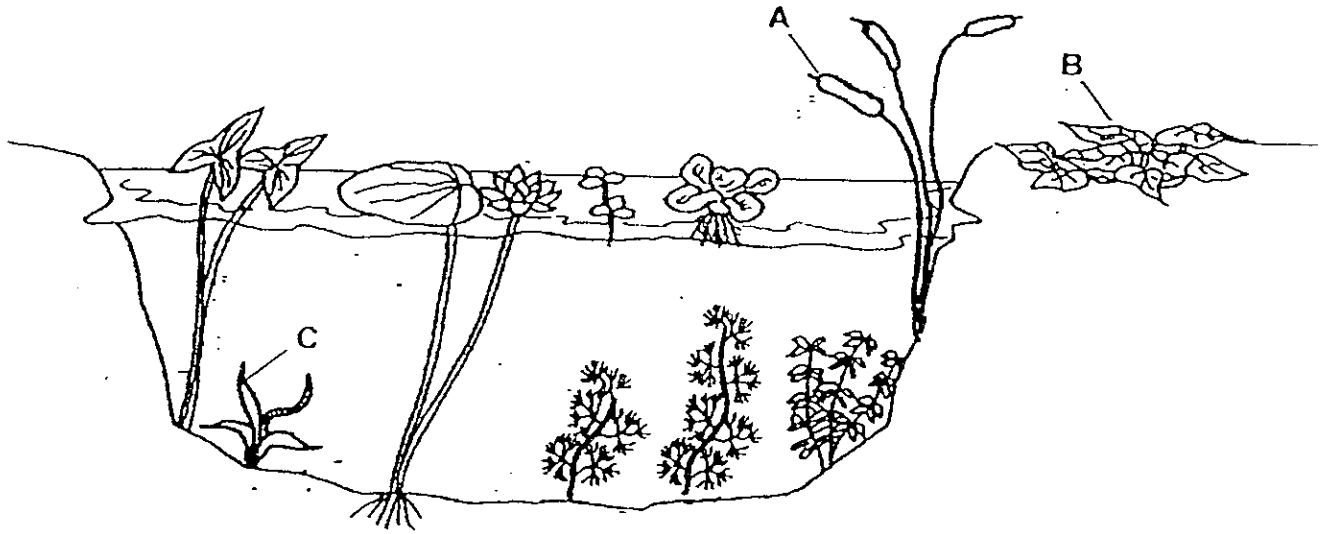
9. Some plants are classified into 2 groups as shown below:

plants	
flowering	non-flowering
cactus	moss
coconut	ladder fern
lotus	jasmine

Which one of the following plants has been classified wrongly?

- (1) moss (2) lotus
 (3) jasmine (4) coconut

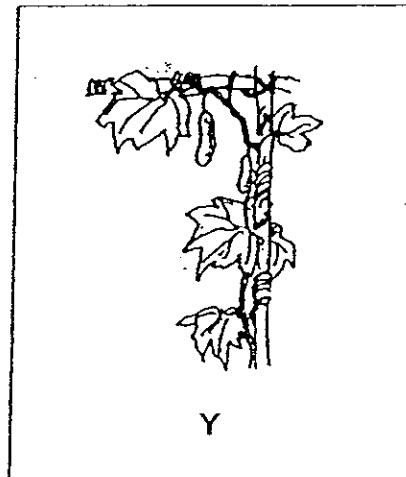
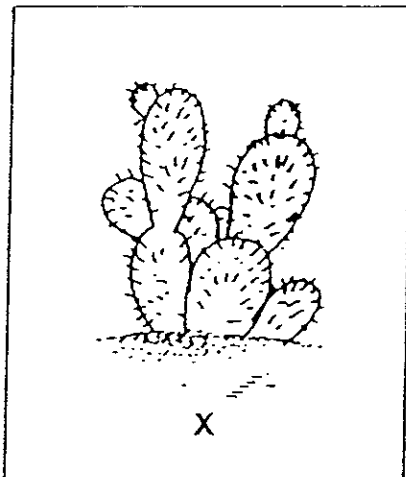
10. The picture below shows the different types of plants growing in or near a pond.



Which one of the following identifies correctly the natural habitat of each plant?

	A	B	C
(1)	land	land	pond
(2)	pond	pond	land
(3)	pond	land	pond
(4)	land	pond	land

11. Johari compared the plants, X and Y, as shown below:



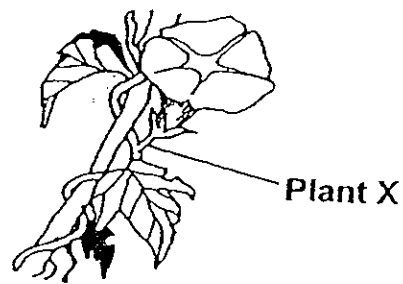
He made the following statements:

- A - X has needle-like leaves.
- B - Both X and Y reproduce by spores.
- C - X has no stem but Y has a weak stem.

Which of the statements above is/ are correct?

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

12. The picture below shows parts of a Plant X.



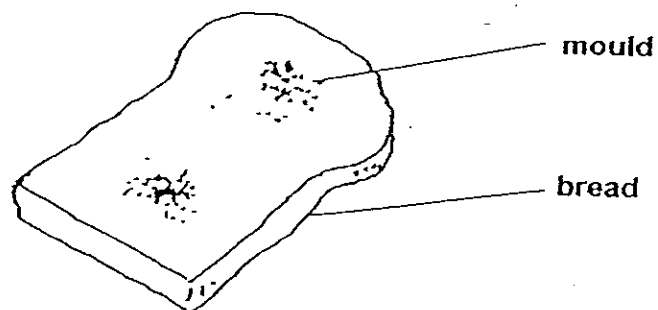
Why does the stem of Plant X twirl around the stick?

- A To obtain sunlight
- B To support the plant
- C To compete for water

Which of these statements above is / are true?

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

13. The diagram below shows a piece of mouldy bread.



The mould gets its food directly from the _____.

- (1) bread
- (2) oxygen in the air
- (3) light from the Sun
- (4) moisture from the air

14. Which of the following statements about bones are correct?

- A Although bones are hard, they can bend.
- B The place where two bones meet are called joints.
- C The bones in our body make up our skeletal system.
- D Some of the bones in the skeletal system protect the important organs inside the body.

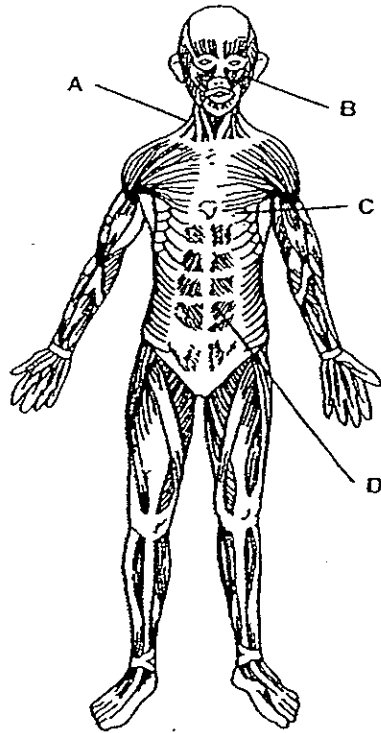
(1) A and B only

(2) C and D only

(3) A, B and D only

(4) B, C and D only

15. The diagram below shows parts of Mary's muscular system.



Which one of these muscles, A, B, C or D, helps Mary to smile?

(1) A

(2) B

(3) C

(4) D

Name : _____

Index No.: _____ Class: P4 _____

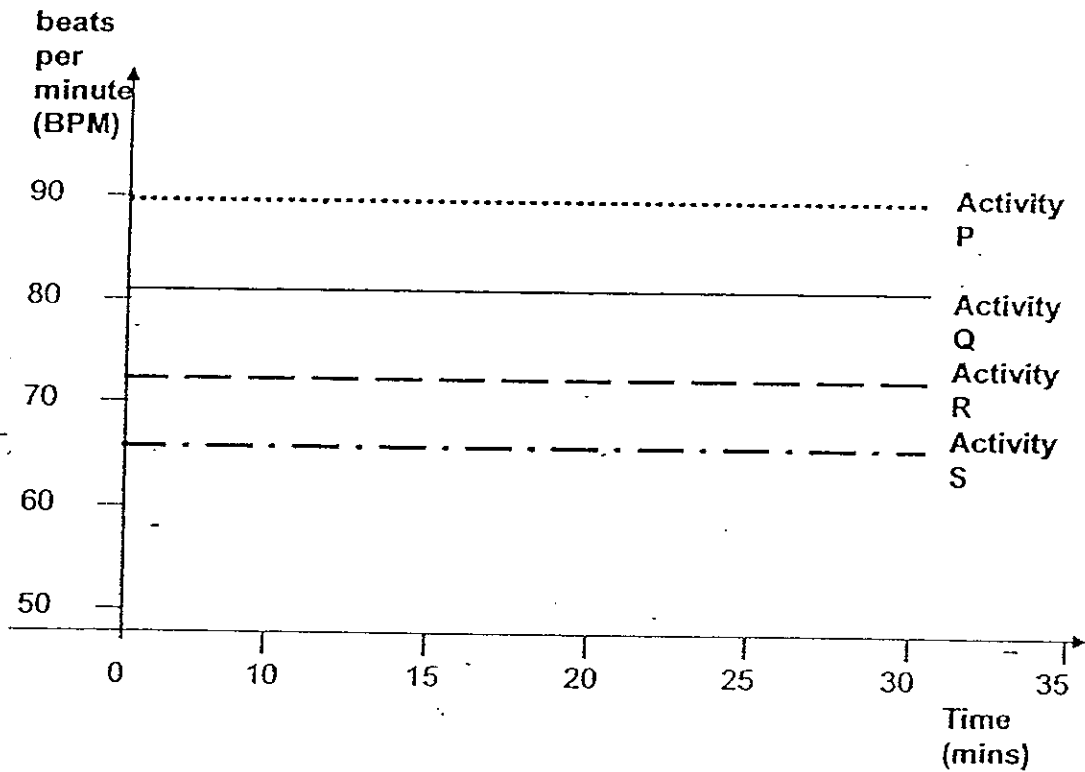
16. The table below shows some of the systems, their organs and functions in the human body.

body system	organs	function
(A) respiratory	nose mouth lungs windpipe	<ul style="list-style-type: none">exchanges gases
(B) digestive	gullet mouth stomach intestines	<ul style="list-style-type: none">breaks down food
(C) skeletal	bones skin	<ul style="list-style-type: none">supports the body
(D) circulatory	heart blood blood vessels	<ul style="list-style-type: none">allows blood to flow in the body

Which of the above systems, A, B, C and D, are correct?

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

17. The graph below showed Julie's pulse rate when she was engaged in different activities.



Julie's pulse rate increased when she was engaged in a vigorous activity.

Which one of the following shows correctly the activities that Julie was engaged in?

(1) ✓

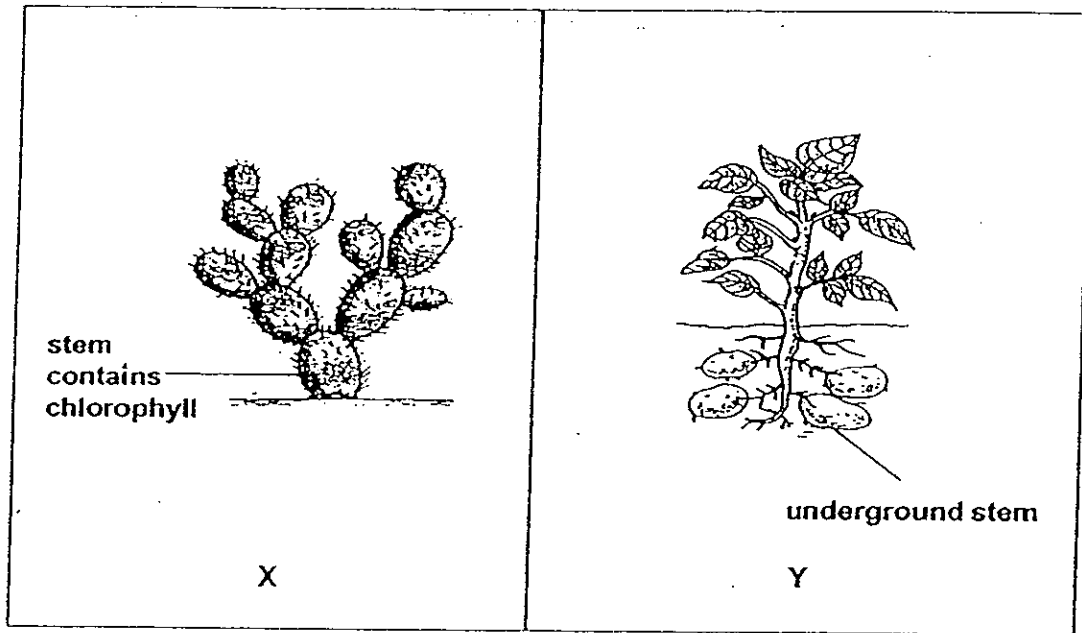
(2)

(3)

(4)

	P	Q	R	S
(1)	sleeping	running	walking	sitting
(2)	walking	running	sleeping	sitting
(3)	running	sitting	sleeping	walking
(4)	running	walking	sitting	sleeping

18. The diagrams below show 2 different types of plants, X and Y.



Which of the following statements about plants X and Y are correct?

- A Plant X stores food in its stem.
- B Plant X makes food in its stem.
- C Plant Y stores food in its underground stem.
- D Plant Y makes food in its underground stem.

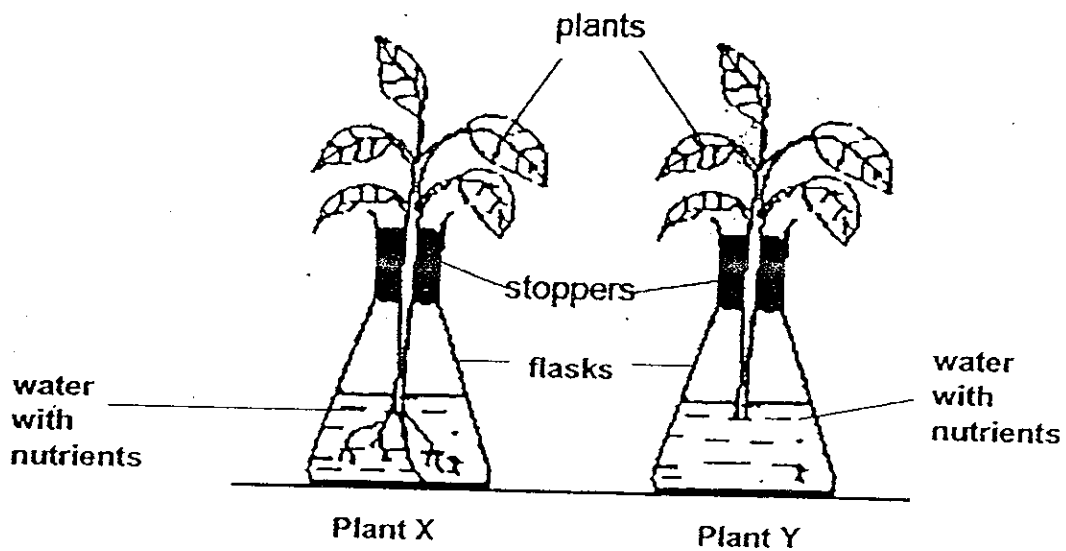
(1) A, B and C only

(2) A, B and D only

(3) A, C and D only

(4) B, C and D only

19. Anna conducted an experiment using two plants, X and Y, of similar sizes. She placed them in 2 glass flasks. She cut off the roots of Plant Y and left the roots intact for Plant X as shown below.



Anna placed the 2 flasks near an open window. After a week, she recorded the amount of water left in both flasks.

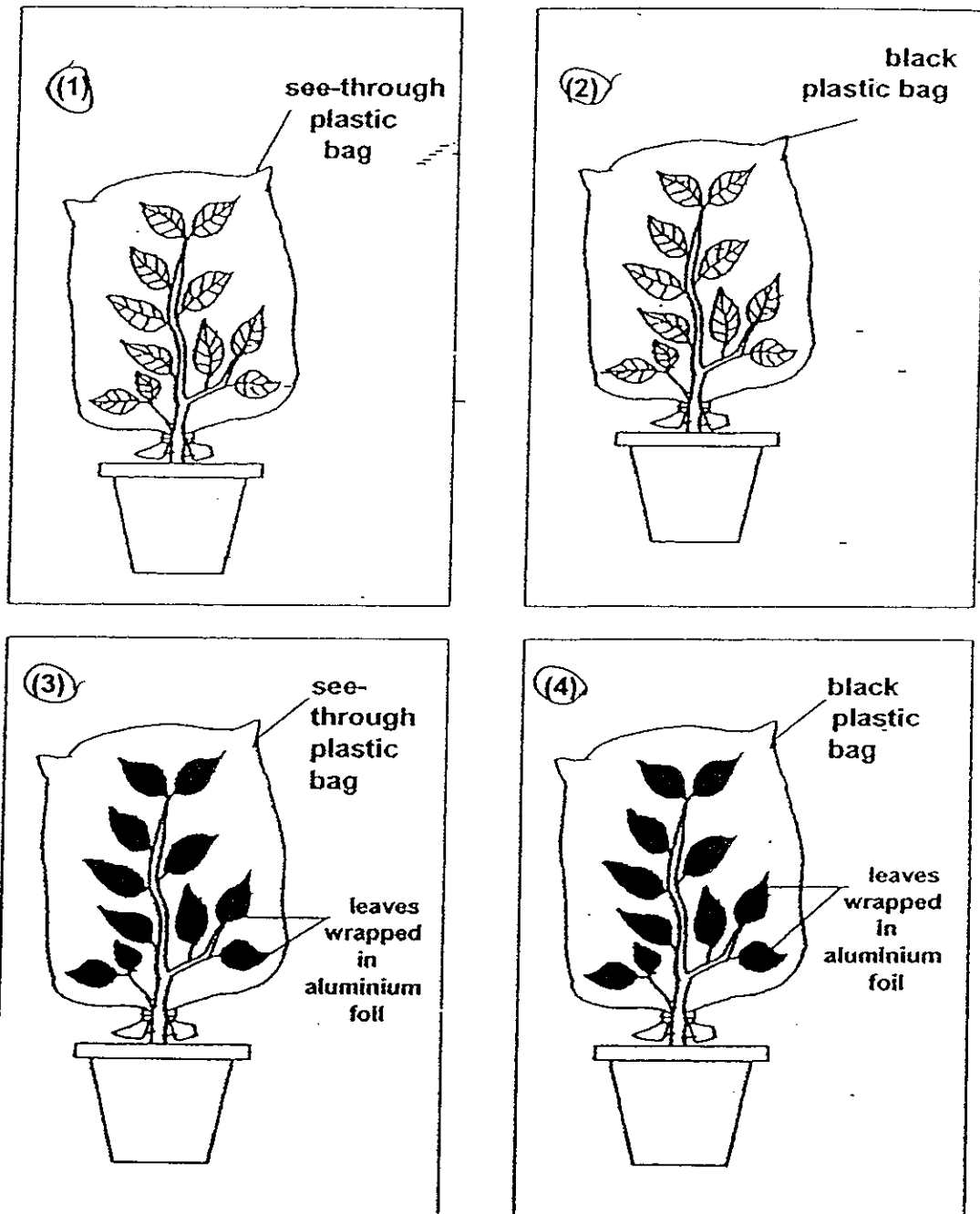
In the above experiment, Anna was trying to find out if _____

- (1) the sunlight allowed the plants to make food
- (2) the roots help the plant to grow by taking in water
- (3) the nutrients from the water help the plants to grow
- (4) the stoppers prevented the water from evaporating into the air

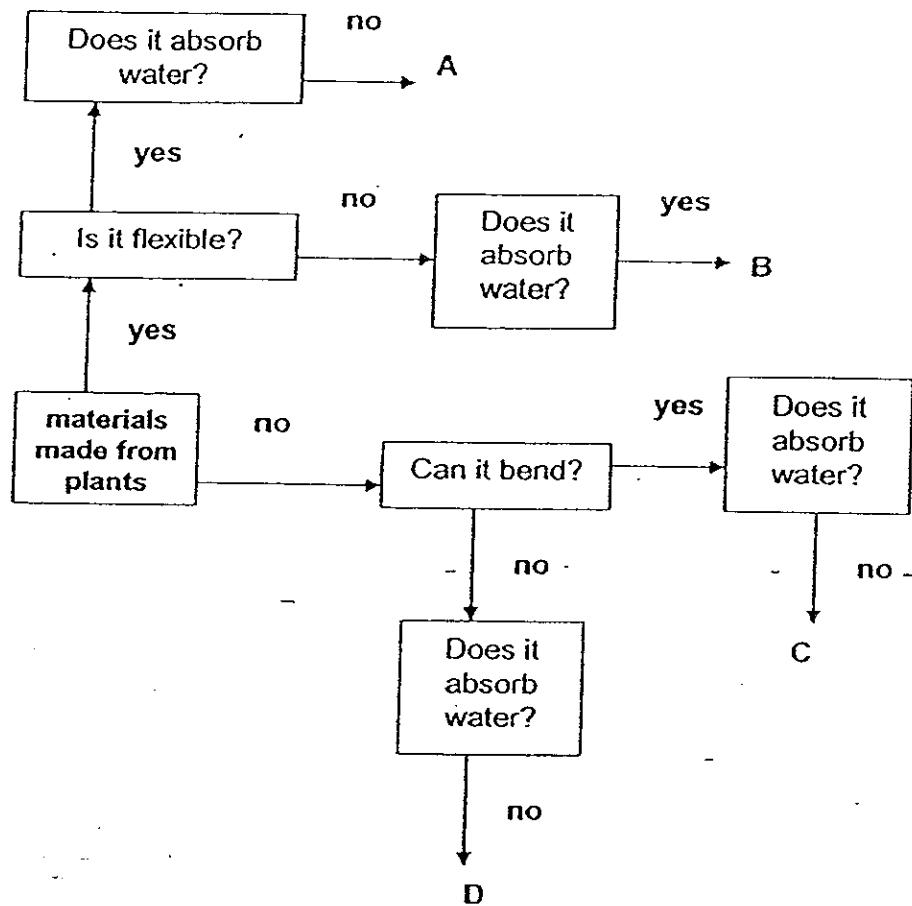
20. When plants make food, the excess food that is produced is stored as starch in the plant.

The set-ups shown below were placed in a garden at a sunny spot. After 2 days, a leaf was plucked from each set-up to be tested for the presence of starch.

Which one of the following set-ups would most starch be found?



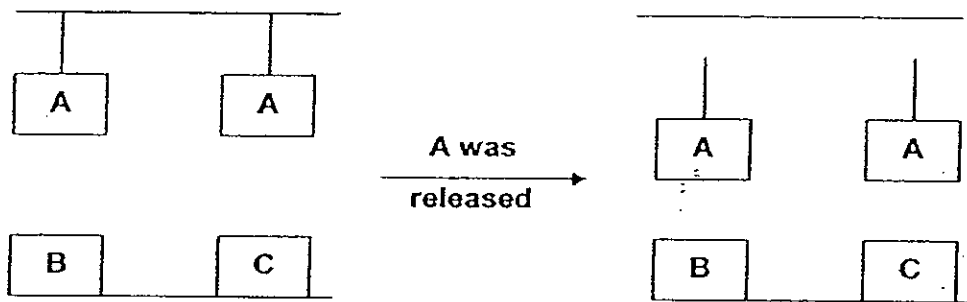
21. The diagram below shows the properties of various materials which made the objects A, B, C and D.



Which one of the following matches correctly what objects A, B, C and D are made of?

	A	B	C	D
(1)	wood	rubber	metal	glass
(2)	rubber	metal	glass	wood
(3)	rubber	wood	metal	glass
(4)	wood	metal	glass	rubber

22. Rafizah compared the hardness of 3 metals, A, B and C, by dropping A onto B and C as shown below.



Rafizah repeated the experiment by dropping B onto A and C, and finally by dropping C onto A and B.

She recorded her observations as shown below:

When A came into contact with B, B was dented but A remained the same.

When B came into contact with C, B was dented but C remained the same.

When C came into contact with A, A was dented but C remained the same.

Which one of the following shows the correct arrangement of the 3 metals arranged in increasing order of hardness?

(1) ✓

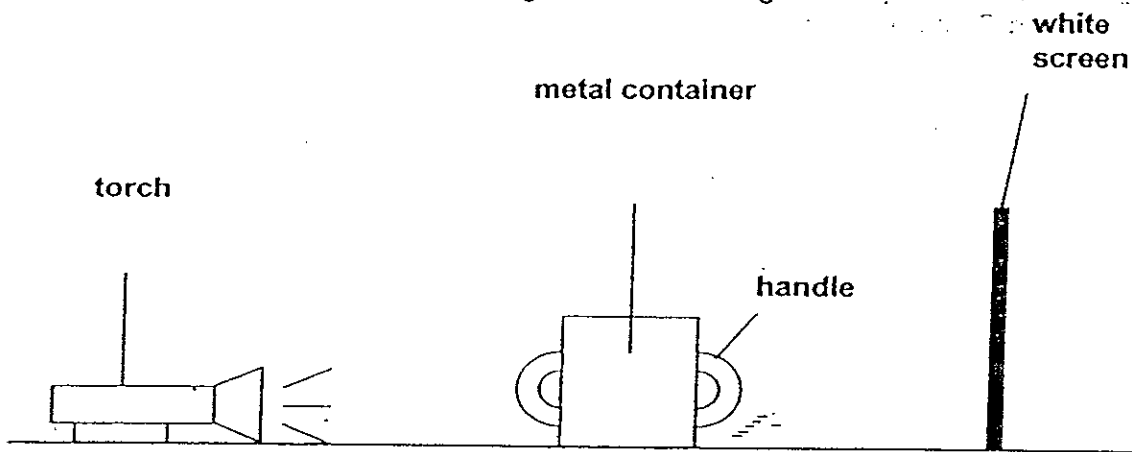
(2)

(3) ✓

(4) ✓

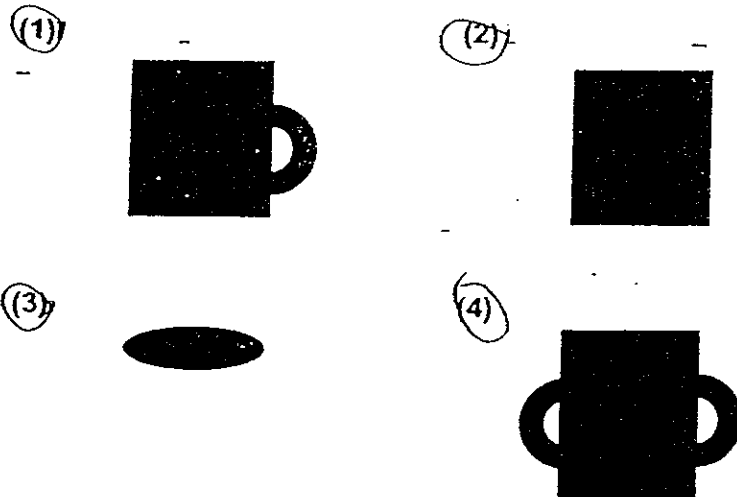
→ hardest		
A	B	C
A	C	B
B	A	C
C	B	A

23. The diagram below shows a lighted torch shining on a metal container.

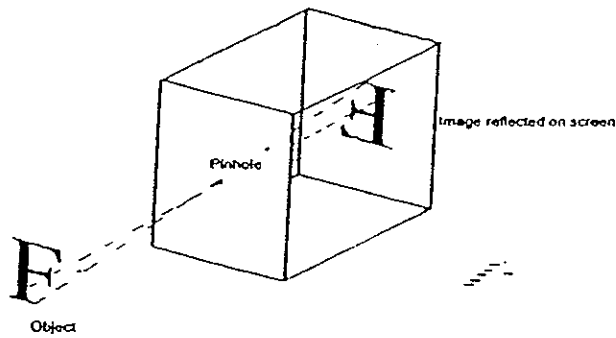


The shadow of the metal container was formed on the white screen.

Which one of the diagrams below shows the correct shadow of the metal container formed on the white screen?



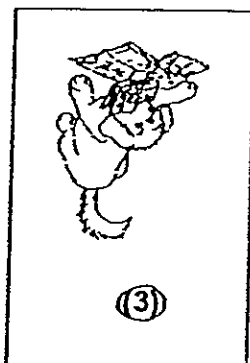
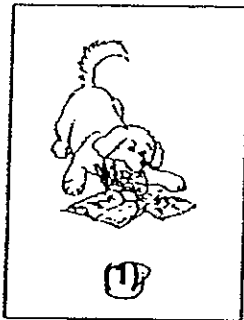
24. A pin-hole camera is a box with a very tiny hole on one side of the box and a piece of tracing paper as a screen on the opposite side. Light from the object enters the pin-hole and forms an inverted image on the screen as shown in the diagram below.



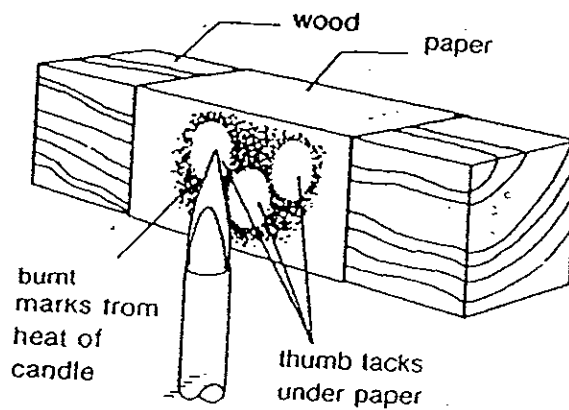
Nicole made a pin-hole camera. She used the pin-hole camera to see the picture below.



Which one of the following images would Nicole see on the screen?



25. Stanley set up an experiment as shown in the diagram below.



At the end of the experiment, Stanley found out that the flame burnt the part of the paper that covered wood but **NOT** the part of the paper that covered the thumb tacks.

Which one of the following explains correctly what happened? -

- ① The paper was a poor conductor of heat.
- ② The wood absorbed too much heat from the flame.
- ③ The fire could **NOT** burn the paper evenly due to the wood and the thumb tacks.
- ④ The metal thumb tacks conducted heat away quickly before the paper was burnt.

Name : _____ Index No: _____ Class: P4 _____



SECTION B (50 marks)

For questions 26 to 44, write your answers clearly in the spaces provided.

The number of marks available is shown in brackets [] at the end of each question or part question.

26. Name **TWO** of each of the following things found in your school canteen.

[2]

things	
living	non-living

27. Bala kept a bird in a cage as shown below.



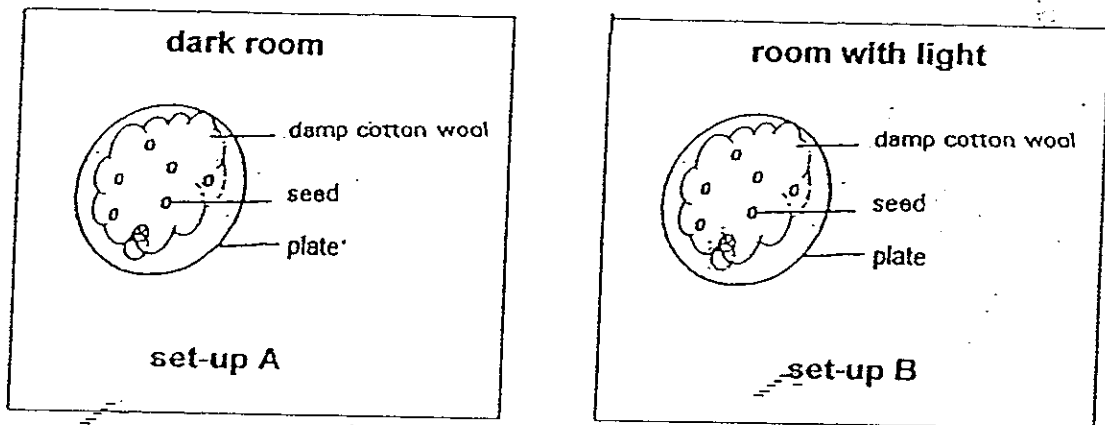
bird in a cage

Bala went for a holiday and left his bird unattended. After seven days, it was found dead.

What should Bala have done to keep the bird alive?

[2]

28. Hui Ching set up an experiment as shown in the pictures below.

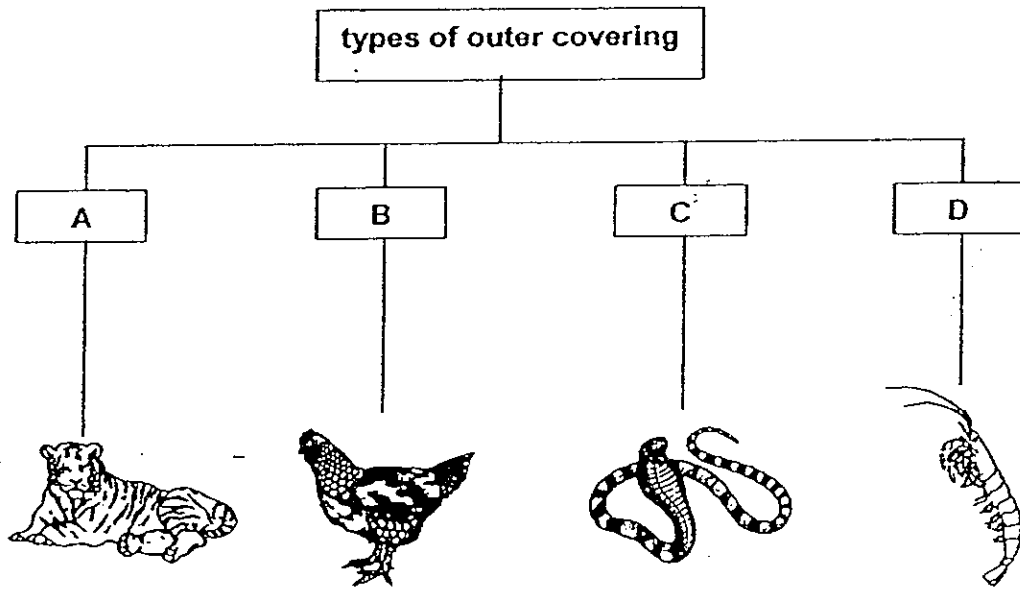


She left set-up A in a dark room and set-up B in a room with light. After a week, she observed that the seeds in both set-ups grew into seedlings.

(a) What was the aim of Hui Ching's experiment? [1]

(b) What could Hui Ching conclude from her experiment? [1]

29. The diagram below shows how some animals can be classified.



Based on the diagram above, answer the following questions:

(a) Which group, A, B, C or D, does the fish belong to?

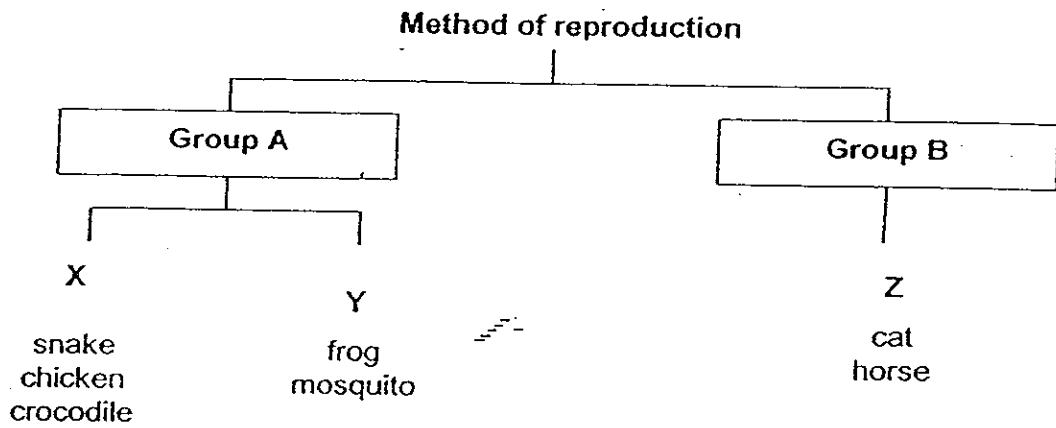
Give a reason for your answer.

[1]

(b) Why are the outer coverings important to animals?

[1]

30. The diagram below shows how a few animals can be classified according to the way they reproduce.



Based on the information above, answer the following questions:

- (a) How is the method of reproduction of the animals in Group A different from those animals in Group B? [2]

- (b) Which sub-group, X, Y or Z, does the "cockroach" belong to? [1]

31. A scientist discovered 2 unidentified animals, A and B, in the jungle. She noted down their characteristics in the table below.

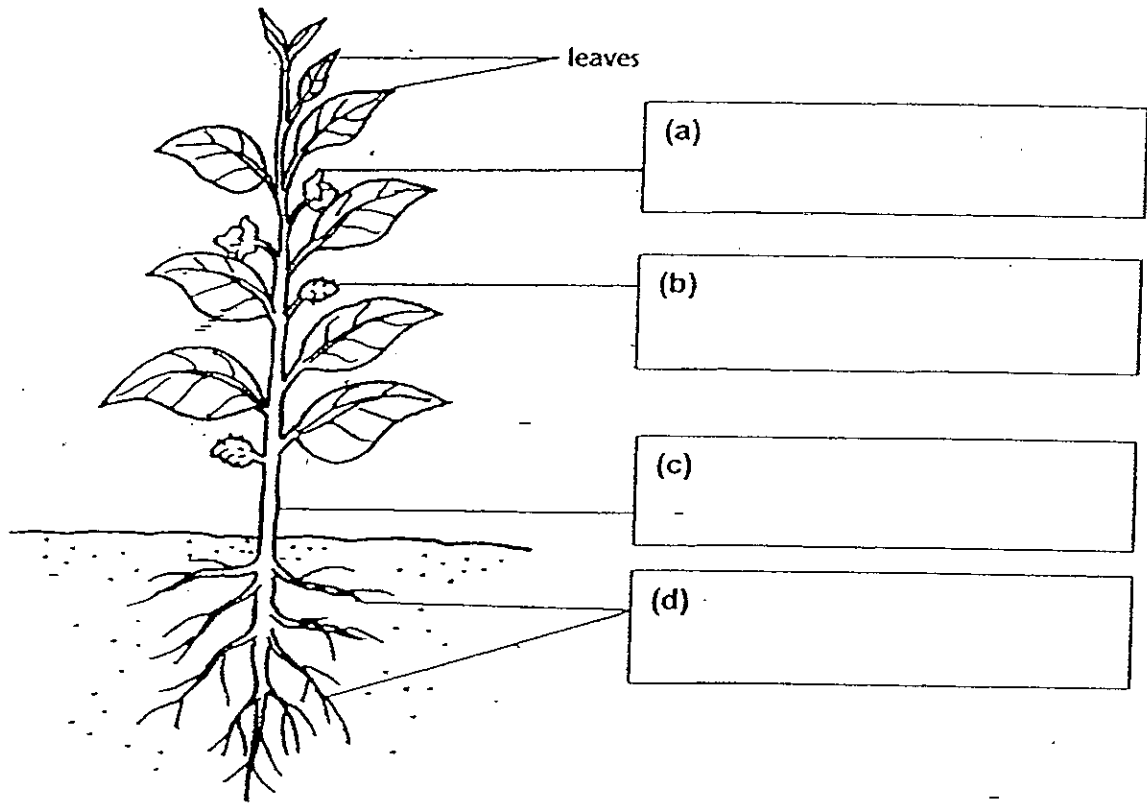
Animal	Characteristics
A	<ul style="list-style-type: none">• feed its young with its milk• has hair on its body• is warm-blooded• breathes through its lungs
B	<ul style="list-style-type: none">• lays its eggs on land• has wings• has three body parts• has six legs

Based on the information above, write down the group of animals each of the following animal, A and B, is likely to belong to. [2]

Animal	Name of group of animals it belongs to
A	
B	

32. The diagram below shows parts of a flowering plant.

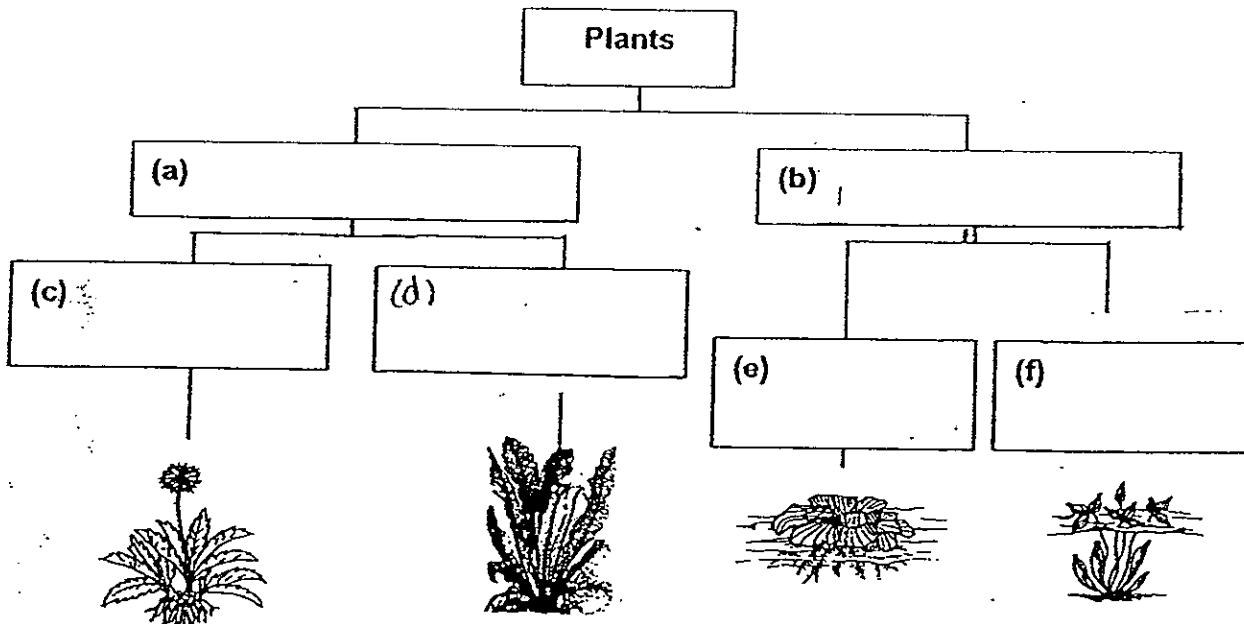
Name the parts of the plant and write them in the boxes provided below. [2]



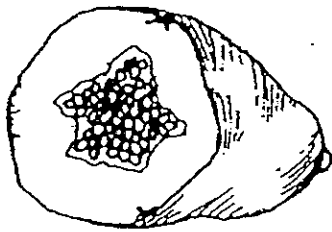
33. Some plants are classified using the diagram below.

Complete the diagram with suitable sub-headings.

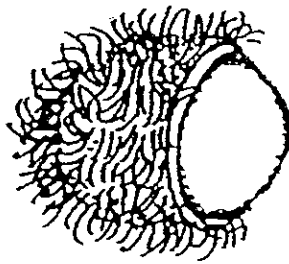
[3]



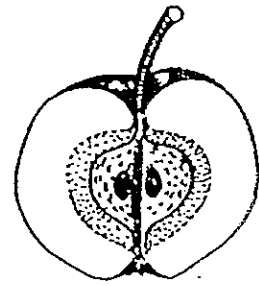
34. The pictures below show three different types of fruits, X, Y and Z.



fruit X



fruit Y



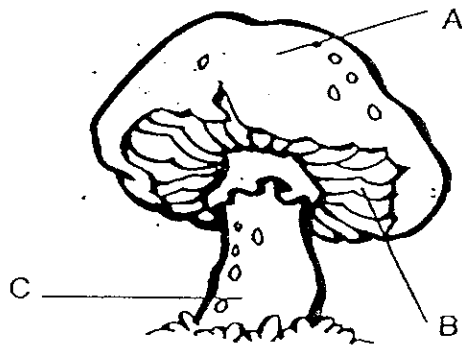
fruit Z

Based on your observations of the fruits above, answer the following questions:

- (a) State two differences between Fruit X and Fruit Y. [2]
(Do NOT compare size, shape and colour.)

- (b) How are both fruits X and Z similar? [1]

35. The diagram below shows a mushroom.

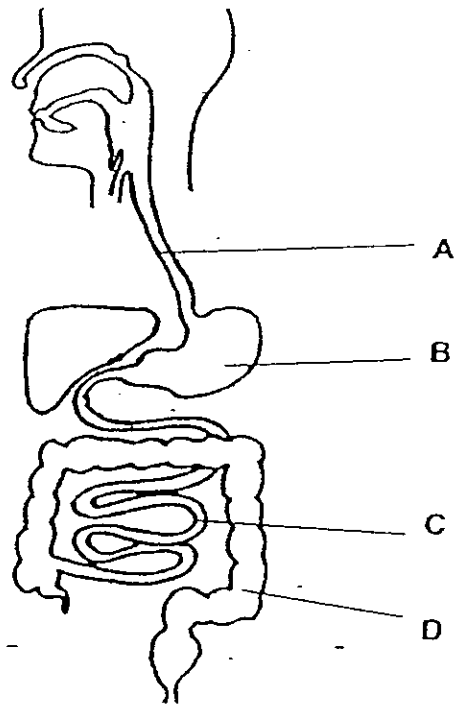


(a) Based on the diagram above, where are the spores of the mushroom found? Write letter A, B or C only. [1]

(b) State how bacteria are considered to be both useful and harmful to Man. [1]

USEFUL	
HARMFUL	

36. The diagram below shows parts of the digestive system of the human body (NOT drawn to scale).



- (a) Name the parts of the digestive system shown above.

[2]

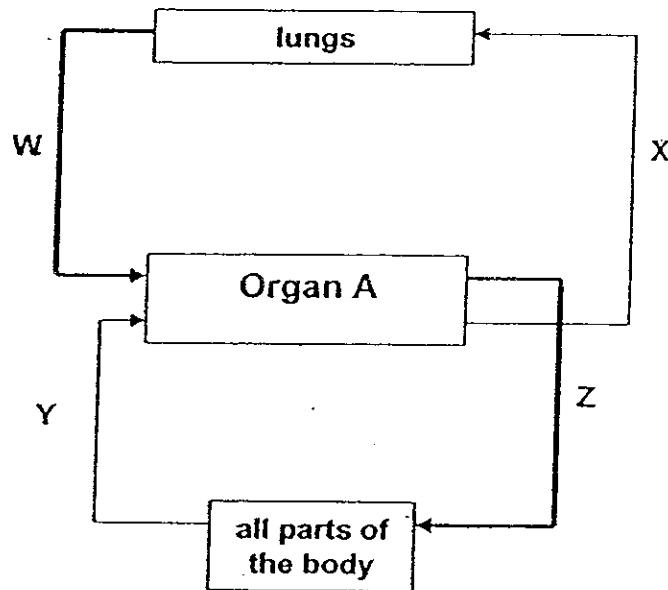
A	
B	
C	
D	

- (b) Name the part of the digestive system where digestion of food is completed.

Write the letter A, B, C or D only.

[1]

37. The diagram below shows how blood circulates around the body via Organ A. Arrows W, X, Y and Z represent the movement of blood.



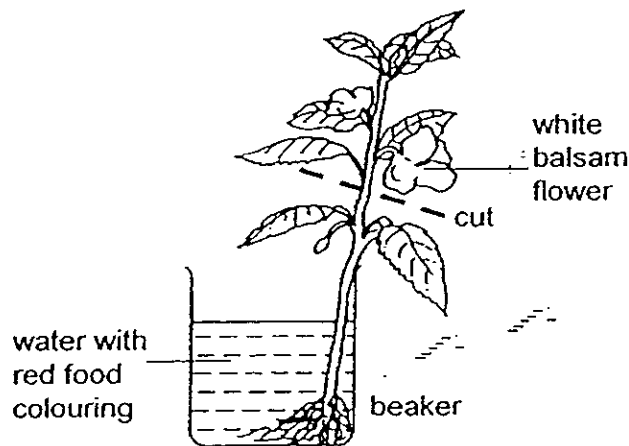
Based on the diagram above, answer the following questions:

- (a) What is Organ A? [1]

- (b) Which two arrows represent the movement of blood rich in oxygen? [1]

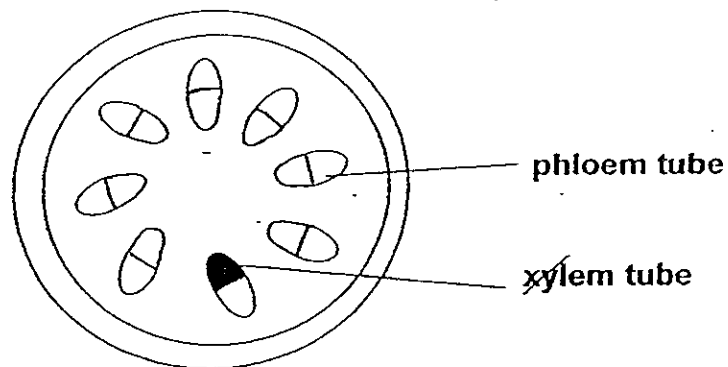
- (c) Explain why it is necessary for the blood to be circulated to the lungs. [1]

38. Peter placed a young plant with white flowers into a beaker of water with some red food colouring.



Peter left the set-up standing on a table overnight.

The next day, he cut a cross section of the stem of the plant as shown below.



Peter saw some red structures in the cross section of the stem.

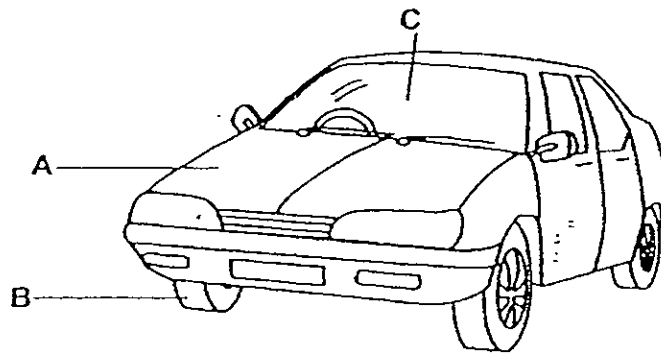
Peter remembered reading from an encyclopaedia about the tubes in the stem:

- The xylem tube transports water and minerals to all parts of the plant.
- The phloem tube carries food from the leaves to all parts of the plant.

- (a) What was the colour of the white flowers the next day? [1]

- (b) On the diagram of the cross section of the stem above, **SHADE** the structures that would be stained red. [2]

39. The diagram below shows a vehicle seen on the road.



Based on the diagram above, complete the table below.
An example is given below.

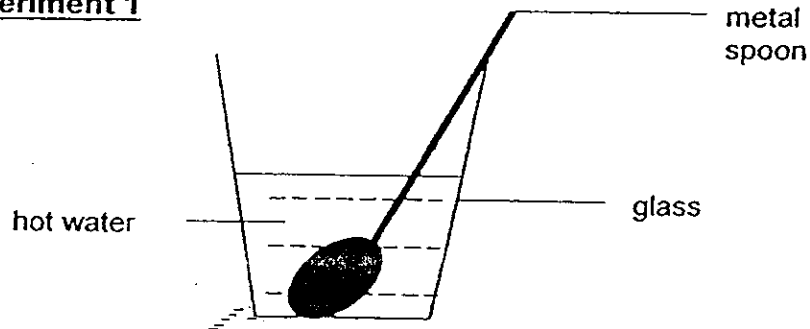
[4]

part of the car	material	Give a reason why the material is used.
Example: car seat covering	leather	It is waterproof.
A		
B		It is flexible.
C	glass	

40. Tom set up two experiments as shown below.

In Experiment 1, Tom placed a metal spoon in a glass of hot water.

Experiment 1



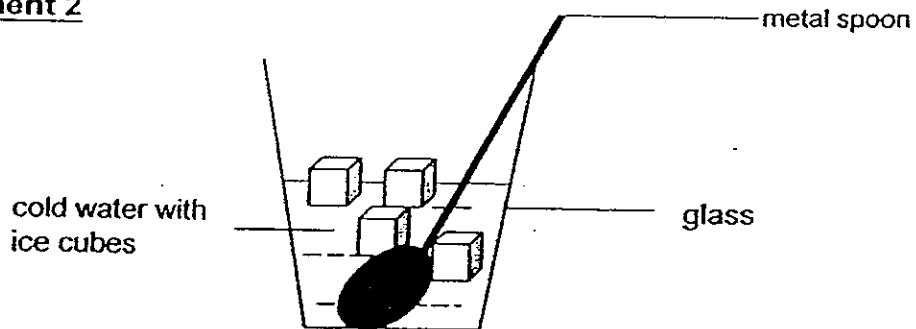
(a) When Tom touched the metal spoon with his hand, it felt hot to him.

Explain why the spoon felt hot to Tom.

[1]

In Experiment 2, Tom placed a metal spoon in a glass of cold water with some ice cubes in it.

Experiment 2

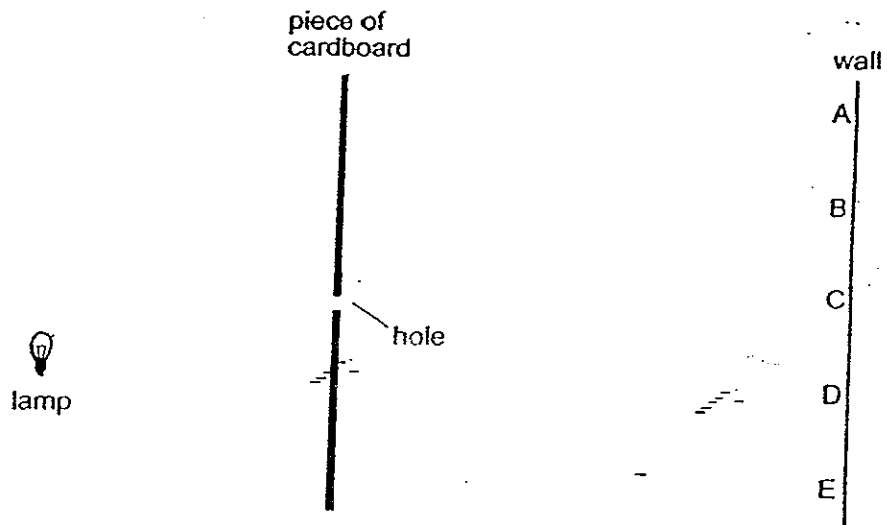


(b) When Tom touched the metal spoon with his hand, it felt cold to him.

Explain why the spoon felt cold to Tom.

[1]

41. Kelvin set up an experiment as shown below.



Light from the lamp passes through the hole in the cardboard and forms a bright spot on the wall.

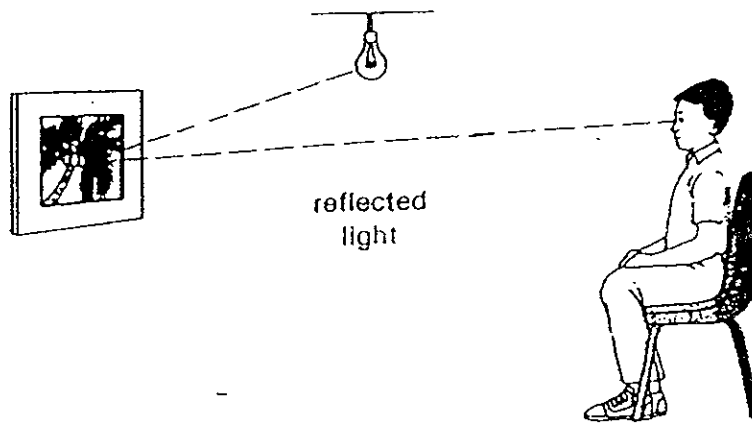
(a) Which point on the wall, A, B, C, D or E, is lit up by the lamp? [1]

(b) Give 2 reasons why the other points on the wall are NOT lit up by the lamp. [2]

REASON 1	
REASON 2	

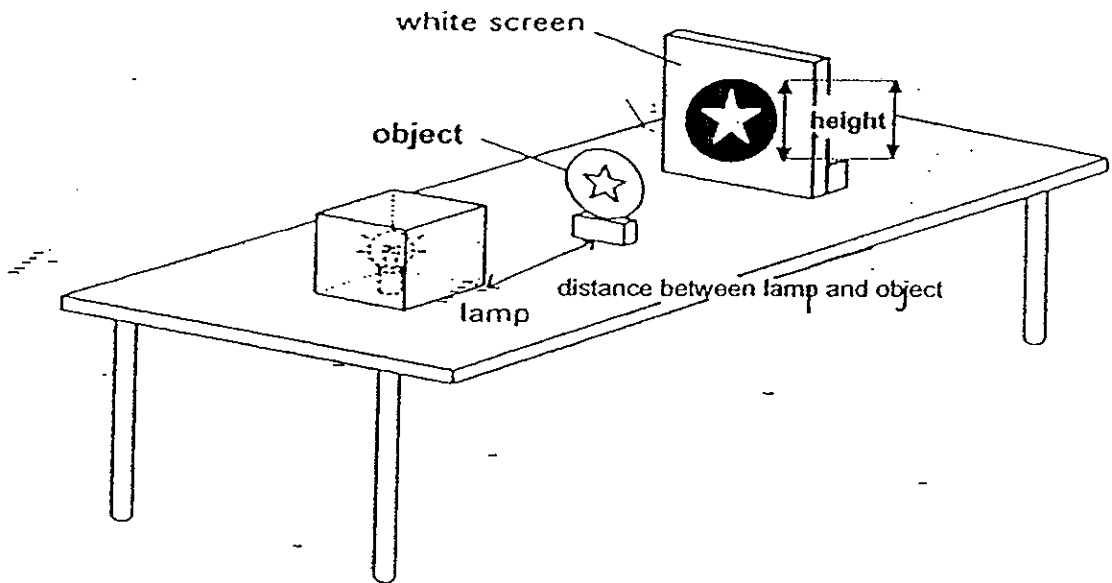
Kelvin wondered why he could see the picture hanging on the wall.

- (c) **DRAW 2** arrows on the light rays in the diagram below to show how Kelvin was able to see the picture. [1]



42. Andy wanted to find out if the distance between the lamp and the object affects the height of the shadow formed on the white screen.

He set up the experiment below and measured the height of the shadow formed on the white screen.



Andy recorded his readings in the table below.

distance between the lamp and object (cm)	height of the shadow formed on the white screen (cm)
25	5
20	7
15	9

Based on the information above, answer the following questions:

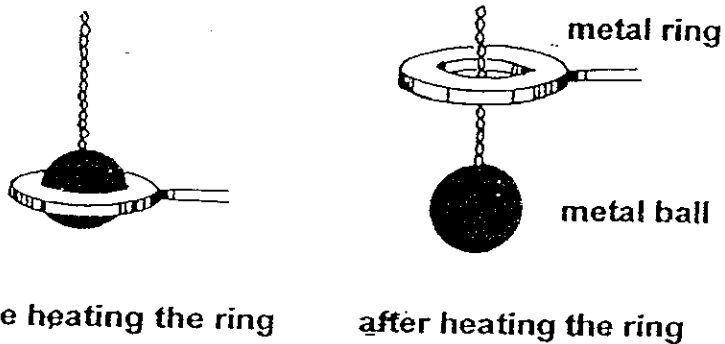
- (a) What could Andy conclude? [1]

- (b) Andy kept the distance between the lamp and the object at 25 cm. However, he moved the screen further away from the object and the lamp.

Predict what would happen to the height of the shadow of the object.

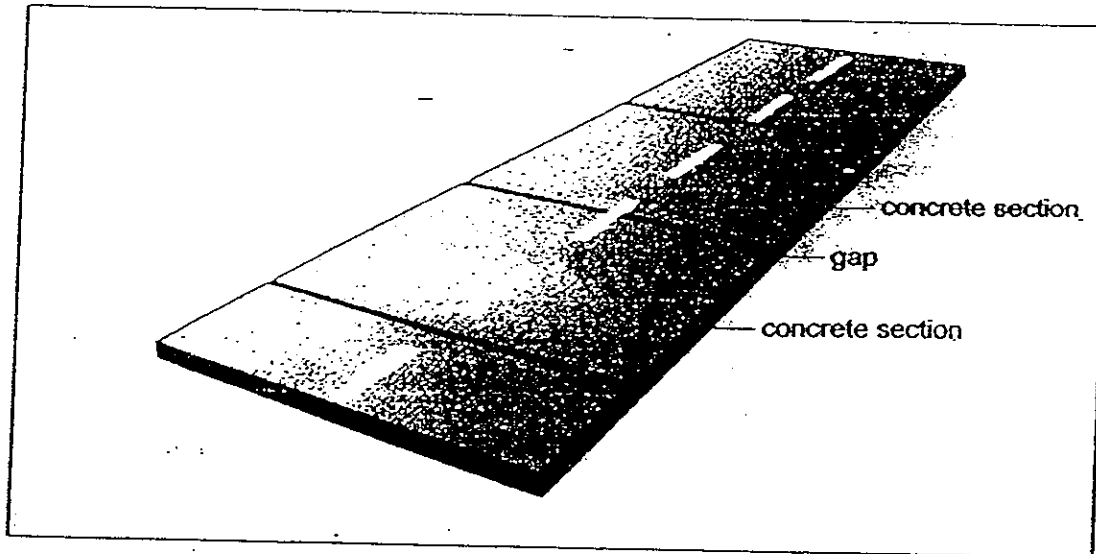
[1]

43. Sally's metal ball could **NOT** go through the ring. After she had heated up the metal ring, the ball was able to pass through it.



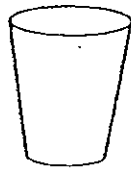
(a) Based on her observation, what could Sally conclude? [1]

The diagram below shows a path made of concrete. There are gaps between the sections of concrete.



(b) Using the answer to (a), give a reason why there are gaps between the concrete sections. [1]

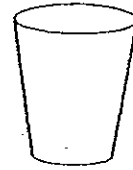
44. Siti wanted to find out which cup, A, B or C, would keep a drink the hottest. The cups are made of different materials. She filled three cups with the same amount of water of the same temperature.



Cup A



Cup B

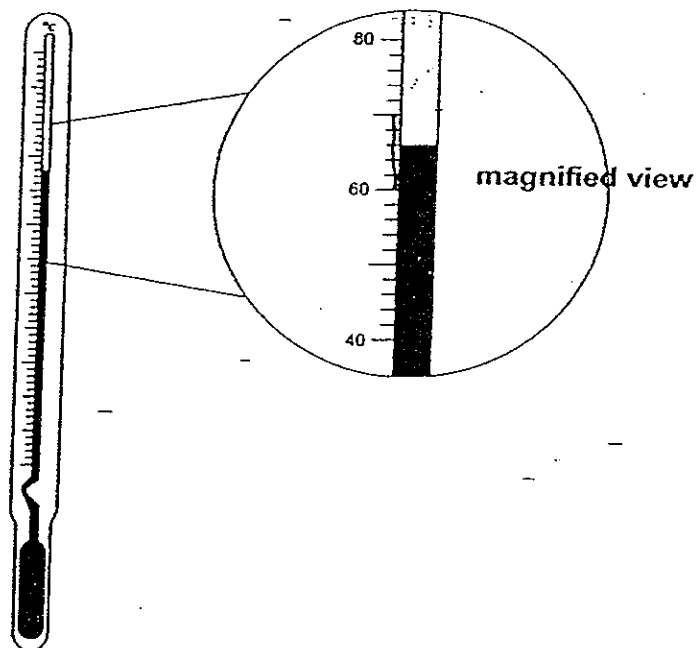


Cup C

of the same size

She measured the temperature of the water.

The diagram below shows the initial temperature of the water in the three cups.

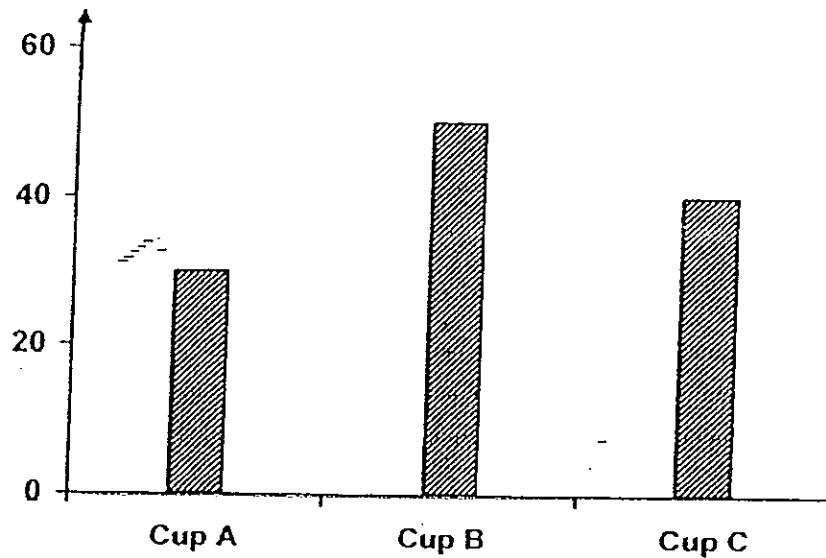


- (a) What is the reading shown on the thermometer?

[1]


After 20 minutes, Siti measured the temperature of the water in the three cups again. She drew the following graph based on her results.

Temperature of water ($^{\circ}\text{C}$)



Based on the information above, answer the following questions:

- (b) Arrange the cups, A, B and C, according to how well each could conduct heat. [1]


best conductor of heat

- (c) Which cup should Siti use to keep her drink hot for the longest time? [1]

- (d) What **OTHER** variable must Siti keep the same for the test to be fair? [1]

- END OF PAPER -

Setters: Mr Christopher Ho, Ms Ho Win Nie, Mdm Jane Woon

ANSWER SHEET

EXAM PAPER 2008

SCHOOL : RAFFLES GIRLS' PRIMARY SCHOOL
SUBJECT : PRIMARY 4 SCIENCE

FORM : SA 1

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

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
1	2	1	3	3	2	2	4

26) living: plants, birds

Non-living: table, chair

27) Bala should give the bird air, food and water to keep it alive.

28) a) The aim of the experiment is whether a seed needs light to germinate.

b) She could conclude that seeds do not need light to germinate.

29) a) C. It is because the animal in group C has scales, therefore the fish belongs to group C.

b) It protects the animal and keeps it warm.

30) a) Animals in group A reproduce by laying eggs but animals in Group B reproduce by giving birth to young alive.

b) X.

31) A: Mammals B: Insects

32)a)flower b)fruit c)stem d)roots

33)a)land plants b)water plants c)flowering
d)non-flowering e)floating f)partially submerged

34)a)Fruit X has a thin skin but Fruit Y has a thick skin.
b)Fruit X and Z have more than one seed.

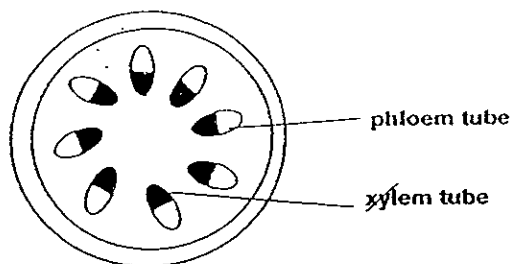
35)a)B
b)USEFUL: Yeast makes the bread rise and become puffy.
HARMFUL: Some bacteria can make us feel sick.

36)a)A: gullet B: stomach C: small intestine D: large intestine
b)C.

37)a)Organ A is the heart.
b)W and Z.
c)The lungs remove carbon-dioxide from the blood and in exchange for oxygen.

38)a)The white flowers were red the next day.

b)



39)A)Metal = It is strong and durable.
B) Rubber = It is flexible.
C)Glass = It is transparent.

40)a)Heat is transferred from the hot water to the spoon and than to Tom's hand.

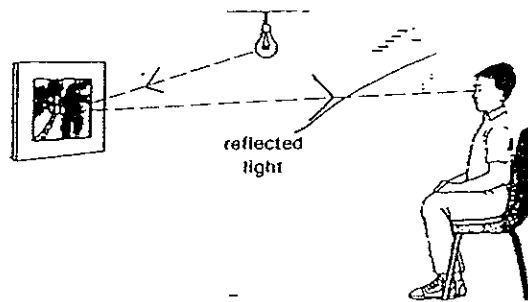
b)Heat from Tom's hand travelled to the cold spoon and than the ice cubes.

41)a)C.

b)1)It is because light cannot pass through the piece of cardboard.

2)Light travels in a straight line.

c)



42)a)Andy can conclude that the closer the object is nearer to the source of light, more light is being blocked, therefore the shadow on the screen is bigger.

b)The height of the shadow will become longer.

43)a)Sally can conclude that when metal is heated, it expands.

b)It is because during a hot day the concrete will expand, the small gaps are to prevent the concrete from curving upwards when expanding.

44)a)66°C

b)B, C, A

c)B

d)She must put the cups of water at the same place.