



RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2008 SEMESTRAL ASSESSMENT

SCIENCE

Name : _____

Class : Primary 6/_____

Date : 8 May 2008

BOOKLET A

30 Questions

60 Marks

Duration of Paper : 1 hour 45 minutes

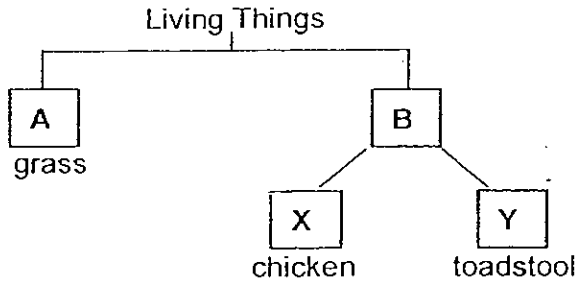
Note:

1. Do not open this Booklet until you are told to do so.
2. Questions 1 - 30 are to be done on the OAS provided.
3. Read carefully the instructions given at the beginning of each part of the Booklet.
4. Do not waste time. If a question is difficult for you, go on to the next one.
5. Check your answers thoroughly and make sure you attempt every question.

Section A: MCQ (30 Questions x 2 marks = 60 marks)

Choose the most suitable answer and shade its number in the OAS provided.

1. The chart below shows how some living things can be grouped.



Which one of the following best represents X and Y?

	X	Y
(1)	Feed on living things	Feed on decaying matter
(2)	Reproduce from seeds	Reproduce from spores
(3)	Edible	Inedible
(4)	Make their own food	Do not make their own food

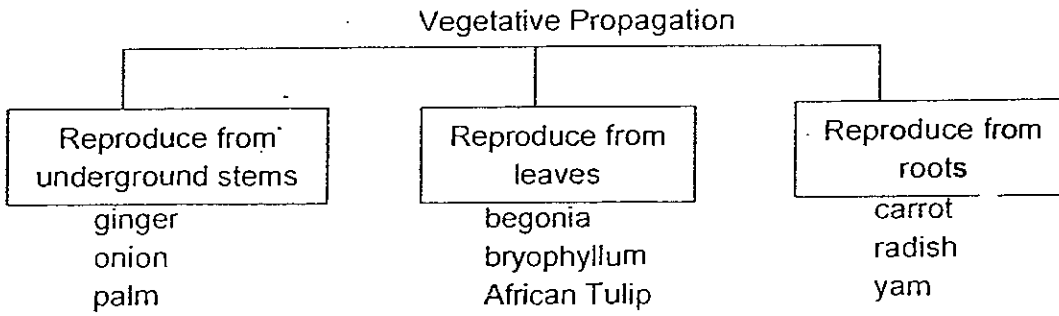
2. Some animals are classified into 4 groups as shown below.

A	B	C	D
dog	duck	shark	snail
sheep	eagle	lizard	crab

They are grouped according to their _____.

- (1) method of reproduction
- (2) movement
- (3) habitat
- (4) body covering

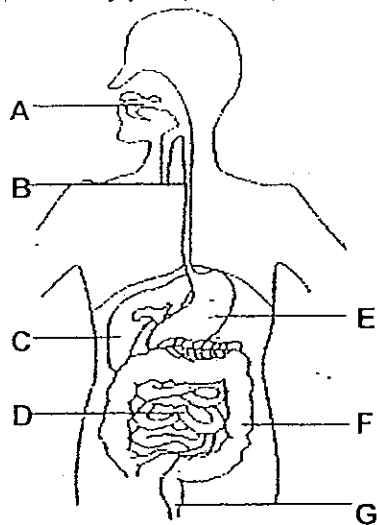
3. Study the classification table below.



Which of the following groups of plants is classified wrongly?

- (1) ginger, bryophyllum, radish
- (2) onion, begonia, carrot
- (3) palm, yam, African tulip
- (4) carrot, African tulip, radish

4. The diagram below shows our digestive system.



Which one of the following correctly identifies the parts where digestion of food and absorption of large amount of water take place?

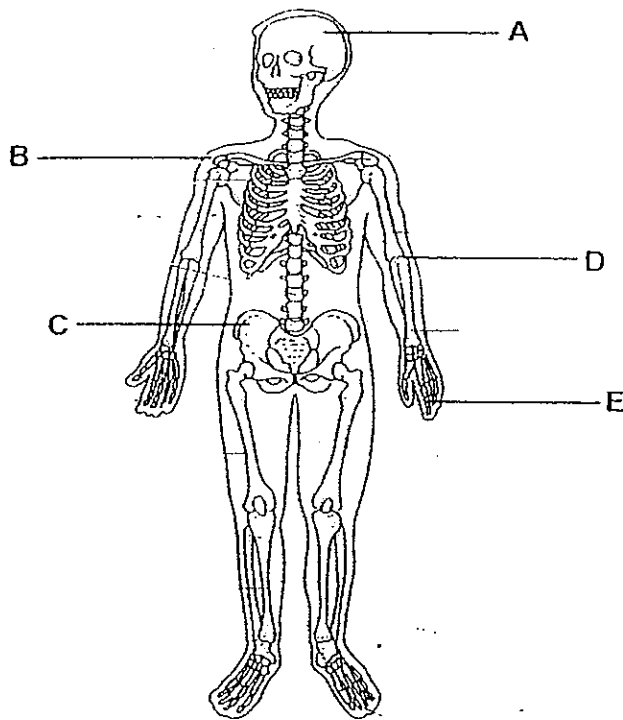
	Digestion of food	Absorption of large amount of water
(1)	A, B, C, D	F
(2)	A, D, E	F
(3)	D, E, F	G
(4)	A, C, D	G

5. Which senses can warn a blind man of food that has turned bad?

- A: sight
- B: taste
- C: smell
- D: hearing
- E: touch

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

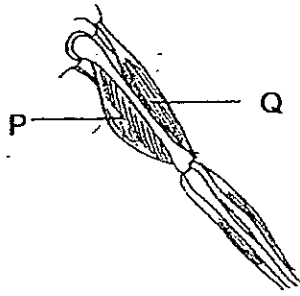
6. The diagram below shows the skeletal system of a human.



Which of the following represents the types of joints labelled A, B, C and D correctly?

	Fixed	Hinge	Ball-and-socket
(1)	A	E	B, C, D
(2)	C	B, E	A, D
(3)	B	C, D	A, E
(4)	A	D, E	B, C

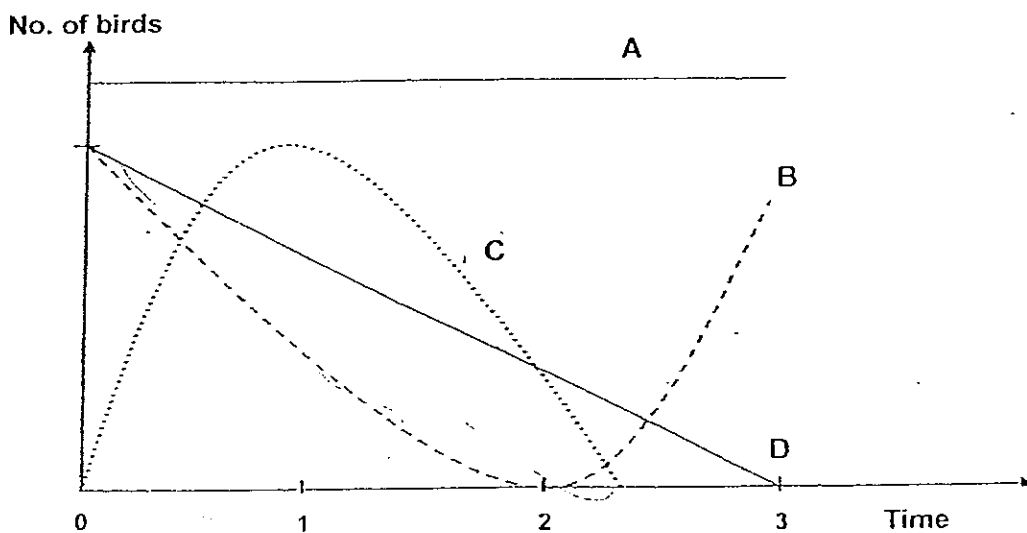
7. Muscles and bones must work together to enable us to perform our daily activities. Muscles usually work together in pairs as shown in the diagram below.



Which one of the following sets of muscle action would allow the arm to be bent?

	Muscle P	Muscle Q
(1)	relaxes	contracts
(2)	relaxes	relaxes
(3)	contracts	relaxes
(4)	contracts	contracts

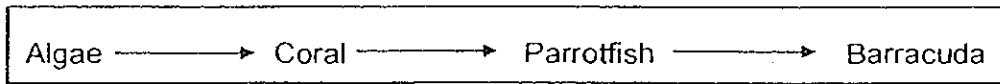
8. A mango fruit ripened and fell to the ground. It was left undisturbed for a week. Birds were seen feeding on the fruit during this period.



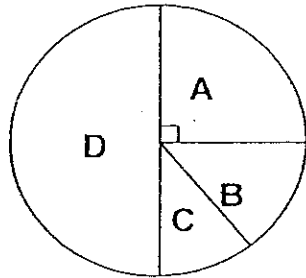
Which one of the graphs A, B, C or D shows the number of birds visiting the fruit during that week?

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

9. The food web below shows how some animals depend on one another in the ocean.



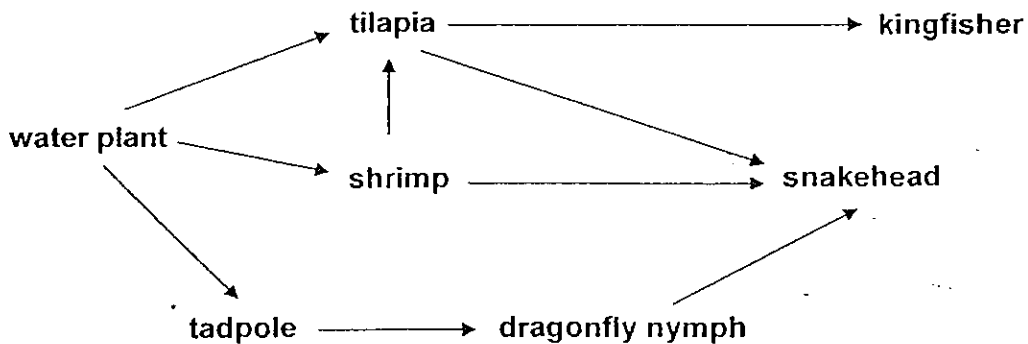
The following pie chart is used to present the number of these organisms of the above food chain.



Which of the following represents the relationship among the organisms correctly?

	A	B	C	D
(1)	coral	parrotfish	barracuda	algae
(2)	algae	coral	parrotfish	barracuda
(3)	parrotfish	algae	coral	barracuda
(4)	barracuda	parrotfish	coral	algae

10. Study the following food web below.

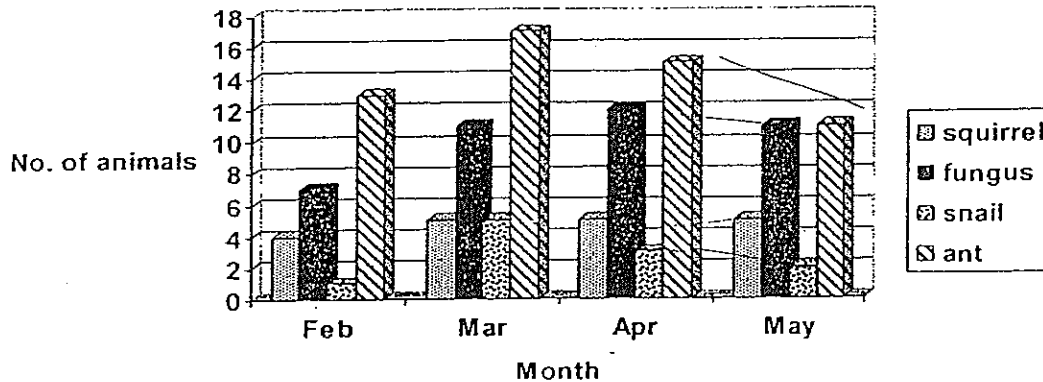


Which of the following statements about the food web are true?

- A: Energy from the shrimp is totally passed to the kingfisher.
- B: Only the dragonfly nymph, snakehead and the kingfisher are secondary consumers.
- C: Tilapia is the only food source for the kingfisher.
- D: The shrimp, dragonfly nymph and tilapia are both a prey and a predator.

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

11. The bar graph shows the number of some organisms in a single plant community from February to May.



Which of the following statements on the organisms are **incorrect**?

- A: There are only four types of animals in the community.
- B: The population sizes of fungus and ant increased throughout the four months.
- C: The population sizes of squirrels remained constant from March to May.
- D: Two populations of organisms showed a decrease in number from April to May.

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

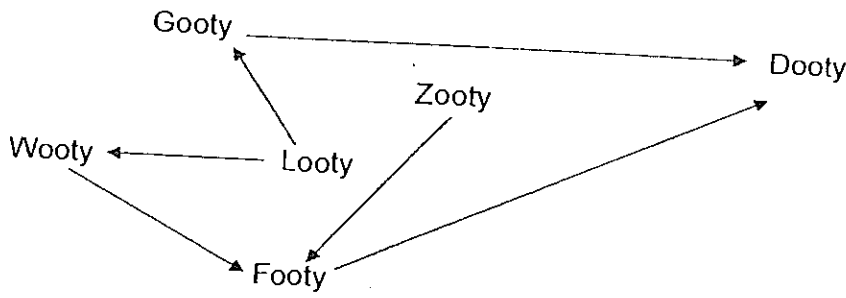
12. Birds have different types of beaks to help them survive in the environment. Their beaks act like tools and objects, with specific designs and functions. Study the table carefully.

Type	Objects representing the types of beaks	Example of bird
A	Sieve	Pelican
B	Nutcracker	Eagle
C	Chopsticks	Heron
D	Drinking straw	Humming bird
E	Satay stick	Parrot

Which items best represent the respective birds?

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

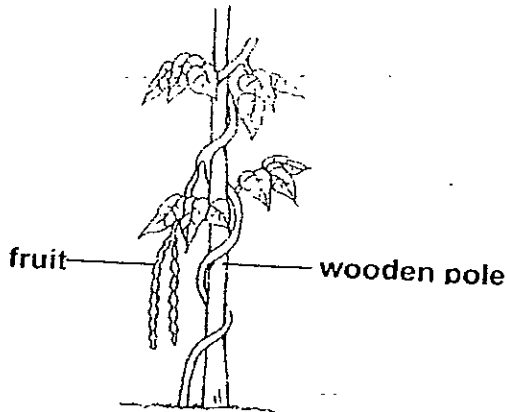
13 Study the food web below.



What is the common source of energy for Looty and Dooty?

- (1) Gooty
- (2) Wooty
- (3) Footy
- (4) Sun

14. The diagram below shows a plant growing in the garden.

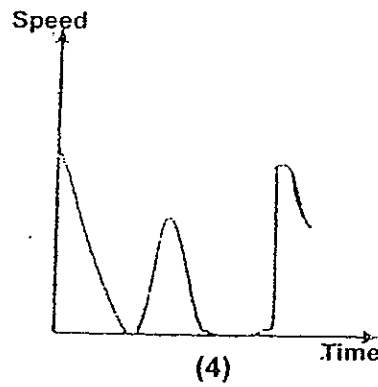
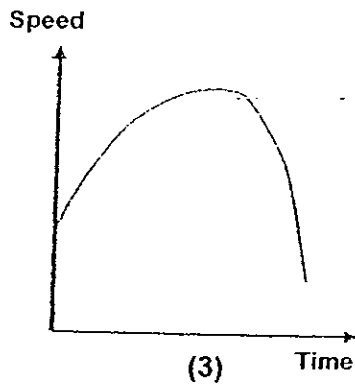
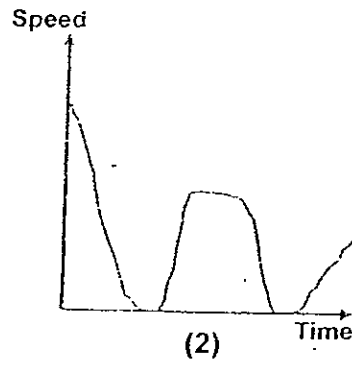
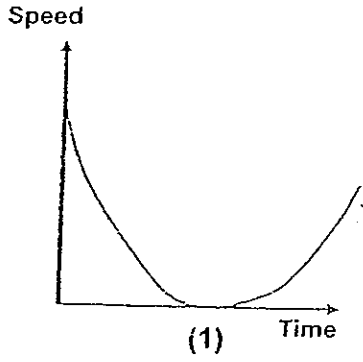


Which of the following is true about a process involved by the plant?

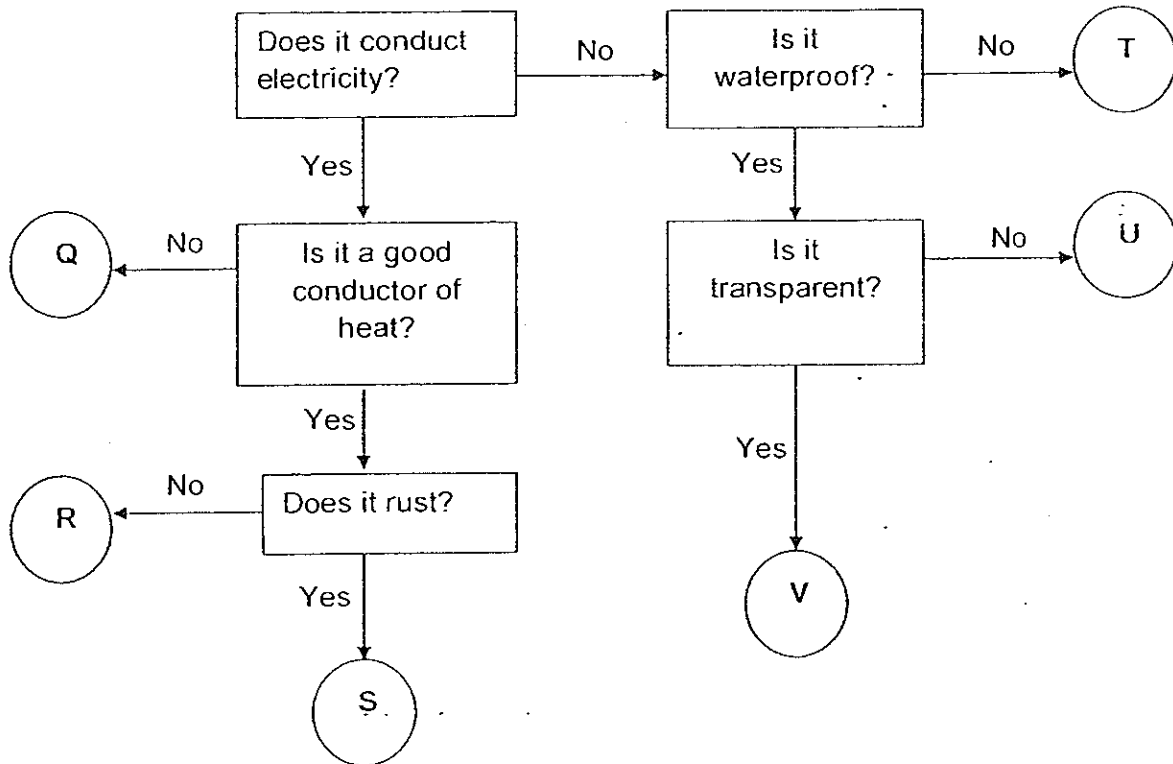
	Process	Product	Factors needed for the process
(1)	evaporation	water	light, carbon dioxide
(2)	respiration	water, carbon dioxide, energy	oxygen, glucose
(3)	decomposition	carbon dioxide	light, oxygen
(4)	photosynthesis	water, sugar	oxygen, chlorophyll

15. An eagle slows down as it nears a fish in the water, grabs it and then it flies up onto a branch to eat it. Some moments passed. It flies off the branch and returns to its speed before it slows down again when it spots its prey.

Which graph below best represents the speed of the eagle as it changes with time?



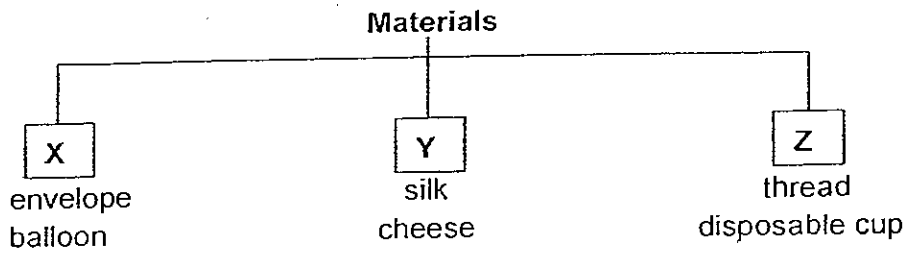
16. Study the flow chart about materials carefully.



Which of the following corresponds correctly with the materials above?

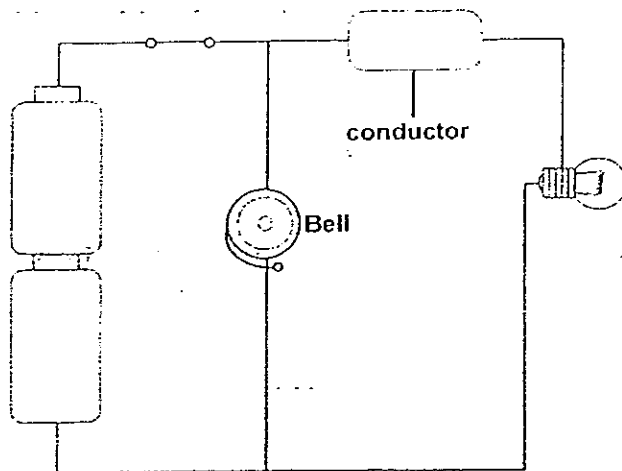
	R	T	V
(1)	hair clip	drinking straw	umbrella
(2)	gold ring	brick	windscreen
(3)	paper clip	boot	raincoat
(4)	screw	sock	spectacle lenses

17. The table below shows some materials classified under three different groups X, Y and Z.



Which of the following items is grouped incorrectly?

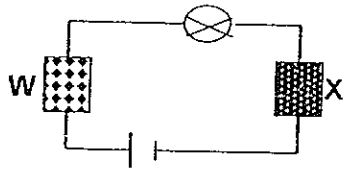
- (1) envelope
 - (2) cheese
 - (3) disposable cup
 - (4) thread
18. Geeta sets up the following circuit. She wants to find out if the different types of conductors would affect the loudness of the bell.



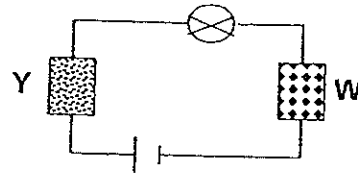
In order to get the correct results, which variables should she keep the same?

- A: Number of batteries
 - B: Type of bell
 - C: Type of conductors
 - D: Number of switches
 - E: Voltage of bulb
- (1) A and C only
 - (2) B and D only
 - (3) A, B, D and E only
 - (4) A, B, C, D and E

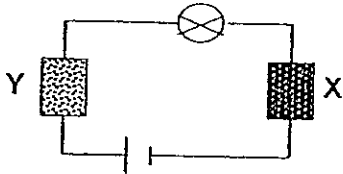
19 Clive used different materials W, X, Y and Z to set up four circuits as shown.



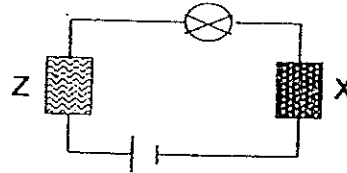
Set-up A



Set-up B



Set-up C



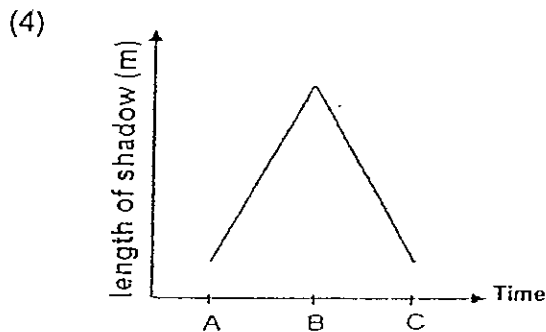
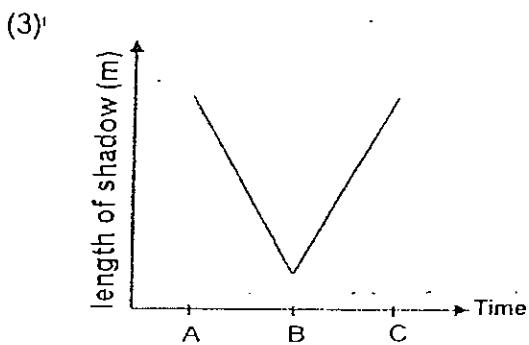
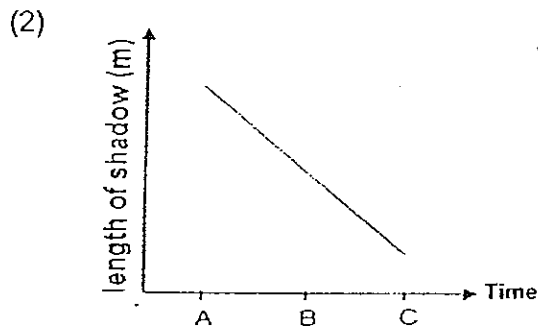
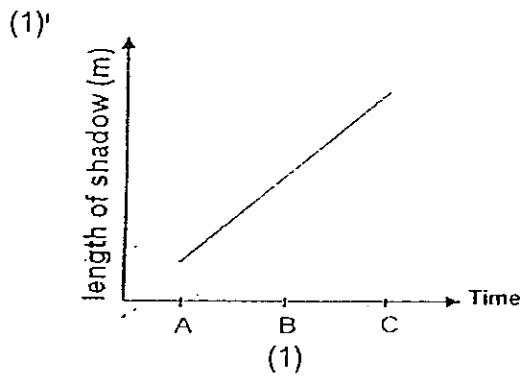
Set-up D

He tested the four circuits. The results of his experiment were shown in the table below.

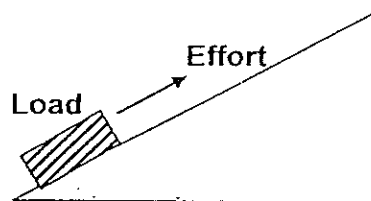
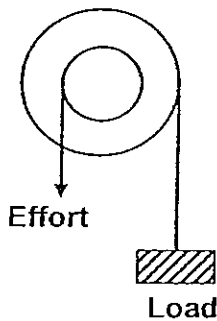
Setup	Does the bulb light up?	
	Yes	No
A		✓
B		✓
C	✓	
D	✓	

- What can Clive conclude from the experiment.*
- (1) Material Y is a non-conductor of electricity.
 - (2) Material W and Y are conductors of electricity.
 - (3) Material X and Y are non-conductors of electricity.
 - (4) Material X, Y and Z are conductors of electricity.

20. The sun rises from the east to the west every day. The length of shadow of a tree changes as the sun changes its position in the sky. Which one of the graphs shows the length of the shadow of a tree throughout the day?



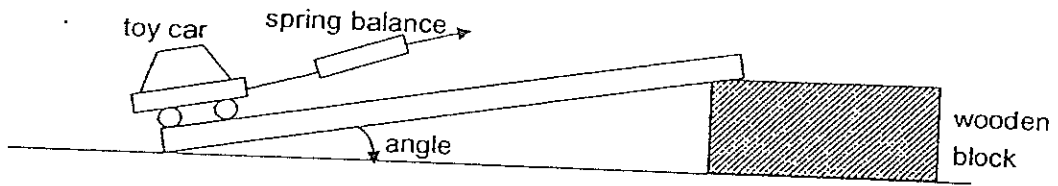
21. The diagram below shows two simple machines.



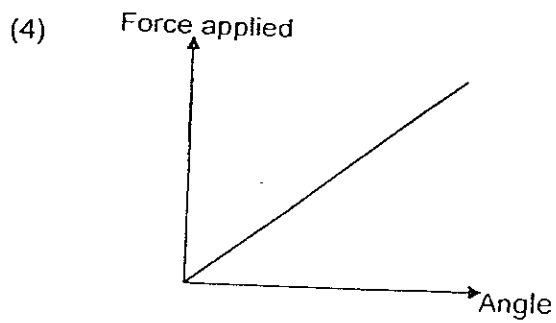
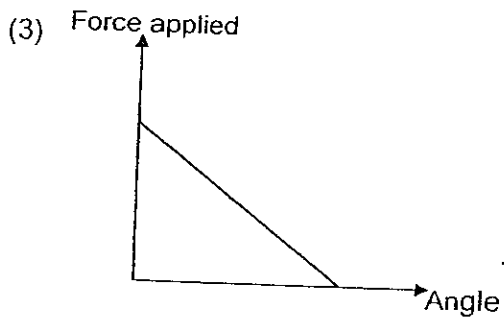
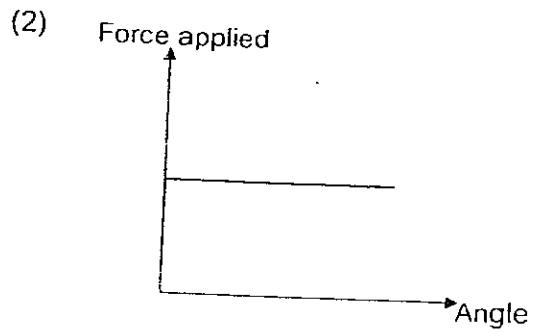
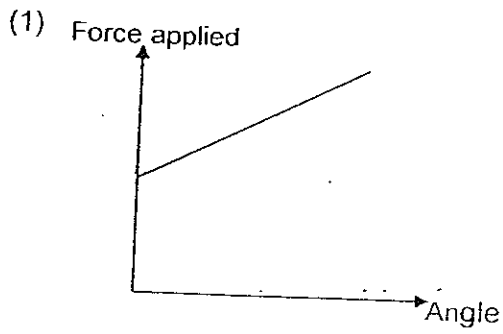
After a lesson on simple machines, some pupils commented on Machines P and Q. Which pupil made an incorrect statement?

- (1) Pupil A: P changes the direction of the force.
- (2) Pupil B: Q makes the effort moves a shorter distance than the load.
- (3) Pupil C: A greater effort is needed to overcome the load when using P.
- (4) Pupil D: Q allows a smaller effort to overcome a heavy load.

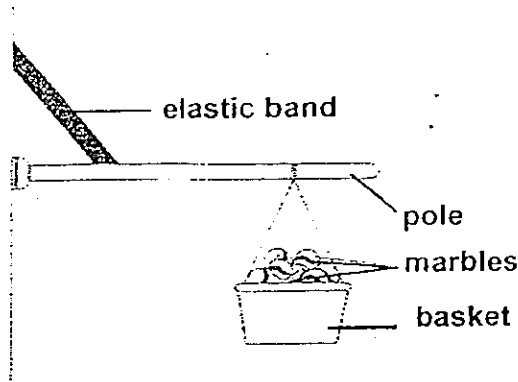
22. Dan and Don carried out an experiment to find out how the force applied to pull a toy car up a ramp varied with the angle of the ramp as shown in the diagram. They varied the angle of the ramp by changing the number of wooden blocks.



Which of the following graphs shows their results?



23. Peter attached a thick elastic band to the wall at one end and a pole holding a basket of marbles at the other end.



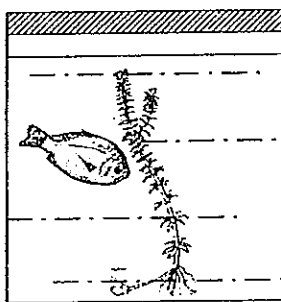
Fearing that the elastic band would snap, what could Peter do?

- A: Make the string of the basket longer.
- B: Remove some marbles from the basket.
- C: Add more marbles to the basket.
- D: Move the basket of marbles nearer to the wall.

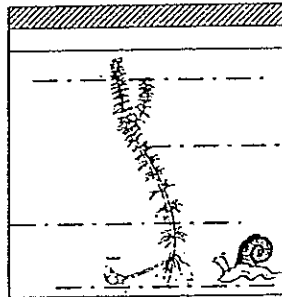
- (1) B only
- (2) B and D only
- (3) A and C only
- (4) A, C and D only

24. The drawings show experiments some pupils set up in their class. The jars were sealed so no air could enter or leave.

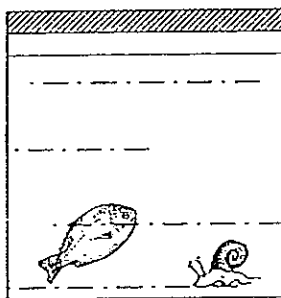
In which set-up would the organisms most likely die first?



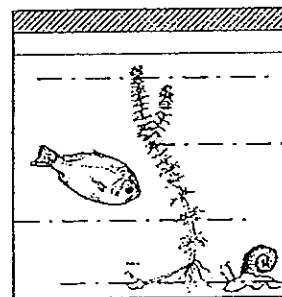
(1)



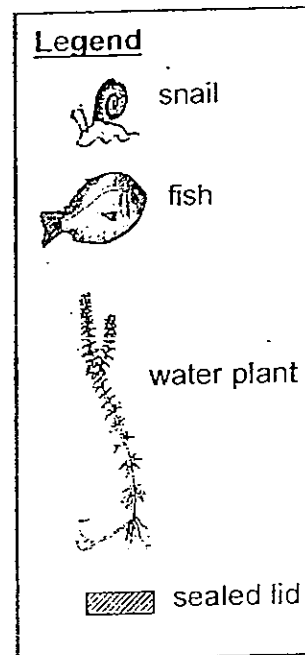
(2)



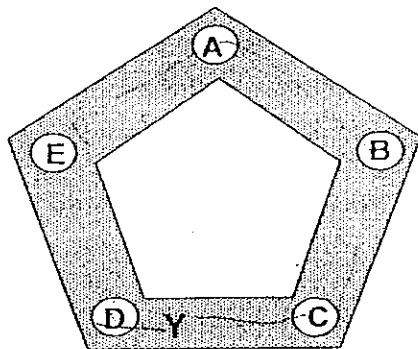
(3)



(4)



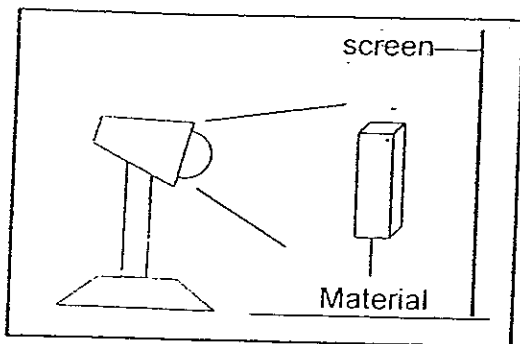
- 25 Paul placed five drops of wax at the corners of a pentagon metal frame as shown in the diagram.



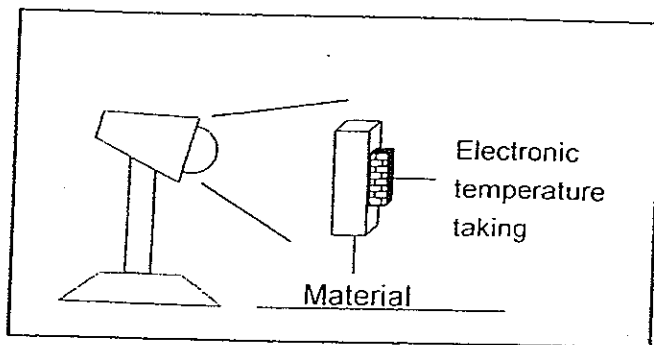
Paul heated the frame with a Bunsen burner at position Y. The drops of wax melted completely at different points of time. Which of the following shows the correct order of the melting wax, starting from the one which melted first?

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

26. Farhan conducted two experiments with materials W, X, Y and Z as shown below.



Set-up A



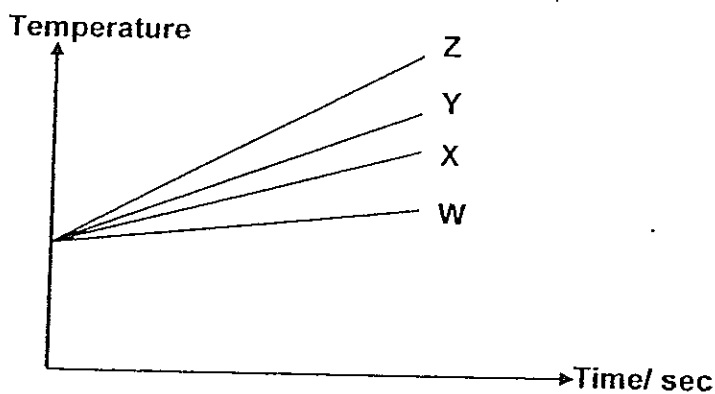
Set-up B

He recorded his findings in the table and graph for set-ups A and B respectively.

Results from Set-up A

Material	Image seen on the screen
W	Very bright patch of light
X	Bright patch of light
Y	Vague patch of light
Z	Dark patch

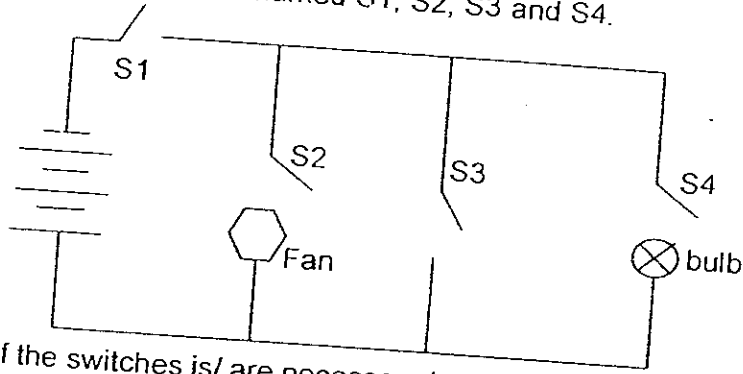
Results from Set-up B



What conclusion can he draw from the above data?

- (1) All the materials are good conductors of heat.
- (2) The darker the image, the more heat the material retains.
- (3) Materials that are transparent are usually good conductors of heat.
- (4) There is no relationship between the two sets of data.

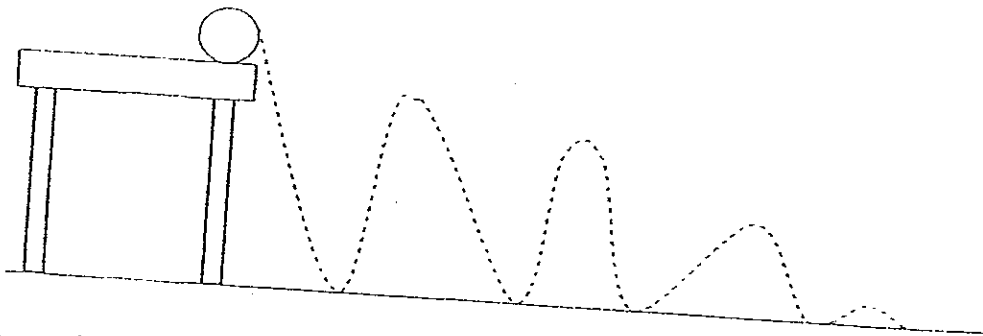
27. Study the circuit diagram as shown below.
There are four switches marked S1, S2, S3 and S4.



Which of the switches is/ are necessary to be closed for the following energy conversion to take place?

chemical energy \longrightarrow electrical energy \longrightarrow kinetic energy + sound energy

- (1) S2 only
 - (2) S1 and S4 only
 - (3) S1 and S2 only
 - (4) S1, S2 and S3 only
28. Shawn pushed a ball from a table onto the ground as shown below.



He observed that the height of the ball decreased with each bounce. He checked with his friends and was given the following explanations.

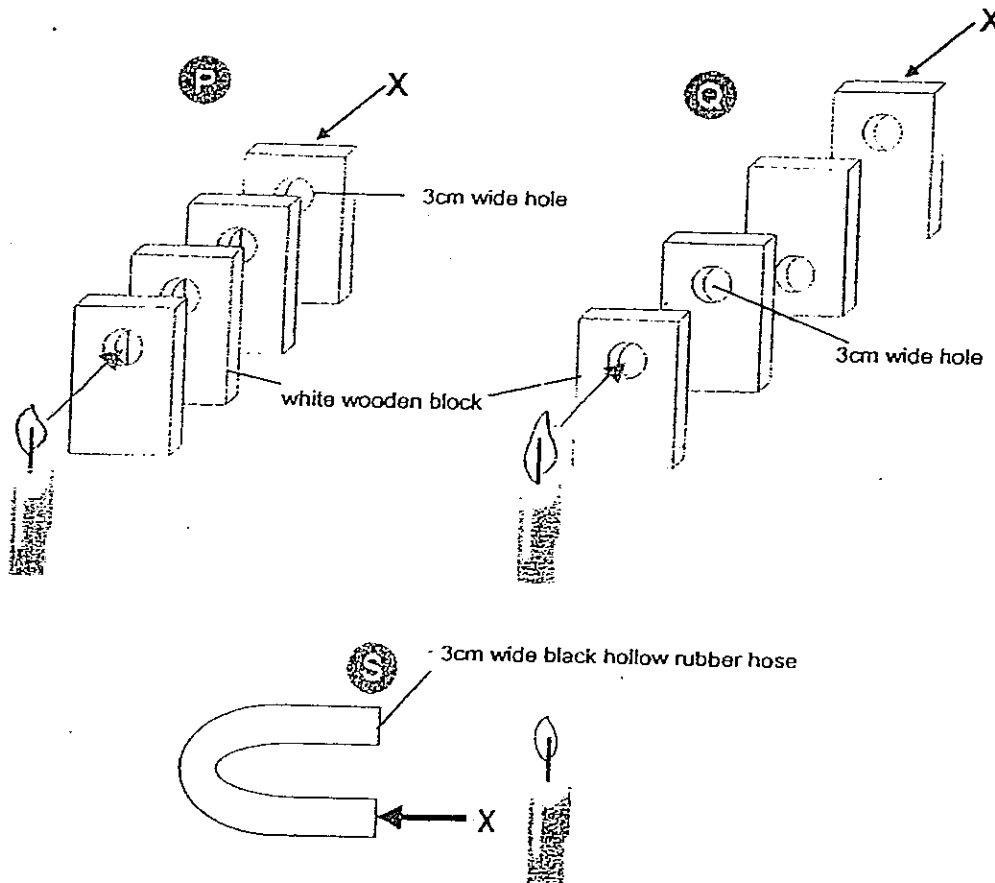
- Friend A: Some of its kinetic energy was converted to sound and heat energy.
- Friend B: Shawn did not use enough force to push the ball.
- Friend C: Gravity was pulling the ball down and hence lost its energy.
- Friend D: The energy in the ball was used up.

Which of his friend(s) gave him the correct explanation(s)?

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

For Questions 29 and 30, use the information below.

Devi found out that light travels only in a straight line. She set up 3 sets of equipment P, Q and S as shown below to test out her findings. She looked through the holes from X as shown by the arrows.



29. Which of the set-ups would she **not** be able to see the light from the candle?

- (1) P only
- (2) Q only
- (3) Q and S only
- (4) P and S only

30. Devi also learnt that reflection bends light and white surfaces reflect light best. In which set-up(s) would she most likely to see only **reflected light** from the candle?

- (1) P only
- (2) S only
- (3) Q and S only
- (4) P and Q only



RED SWASTIKA SCHOOL

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2008 SEMESTRAL ASSESSMENT 1

SCIENCE

Name _____

Class : Primary 6/ _____

Date : 8 May 2008

BOOKLET B

16 Questions

40 Marks

MARKS

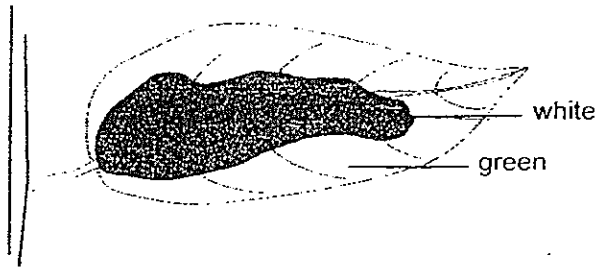
	OBTAINED	POSSIBLE
BOOKLET A		60
BOOKLET B		40
TOTAL		100

Parent's Signature :

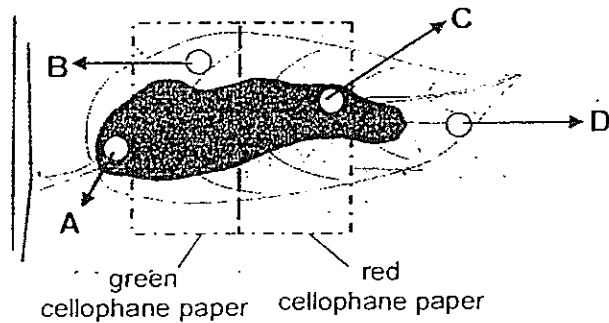
Section B: (16 Questions : 40 Marks)

Answer all the questions in the space provided.

31. The diagram below shows a leaf on a plant that has been kept in the dark for two days.



At the start of the experiment, it was tested for starch. The result showed that there was no starch in the leaf. Next, the leaf was covered by two different coloured cellophane papers, as shown in the diagram below.

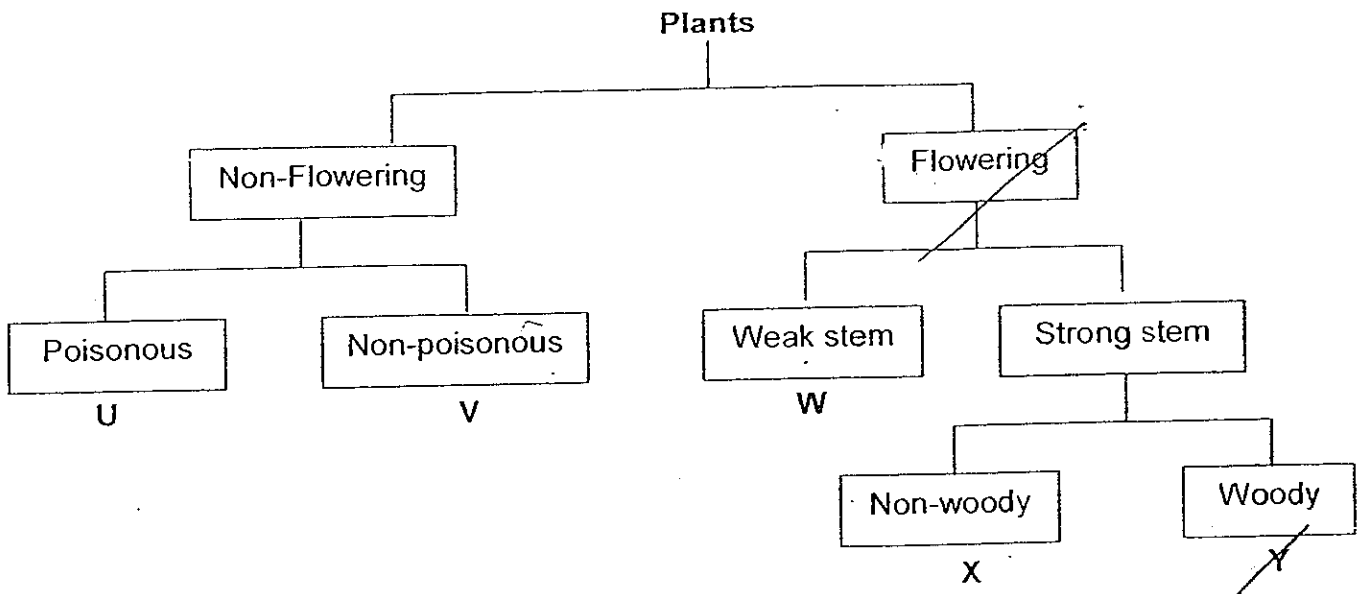


Then, the plant was then placed in the sun. After 12 hours, the leaf was plucked off from the plant and the cellophane papers were removed. The leaf was tested for starch again.

(a) In which of the areas labelled A, B, C or D was starch found?
Explain your answer. (1m)

(b) What was the aim of the experiment? (1m)

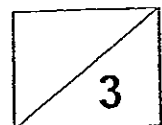
32. Study the classification chart below carefully and answer the questions that follow.



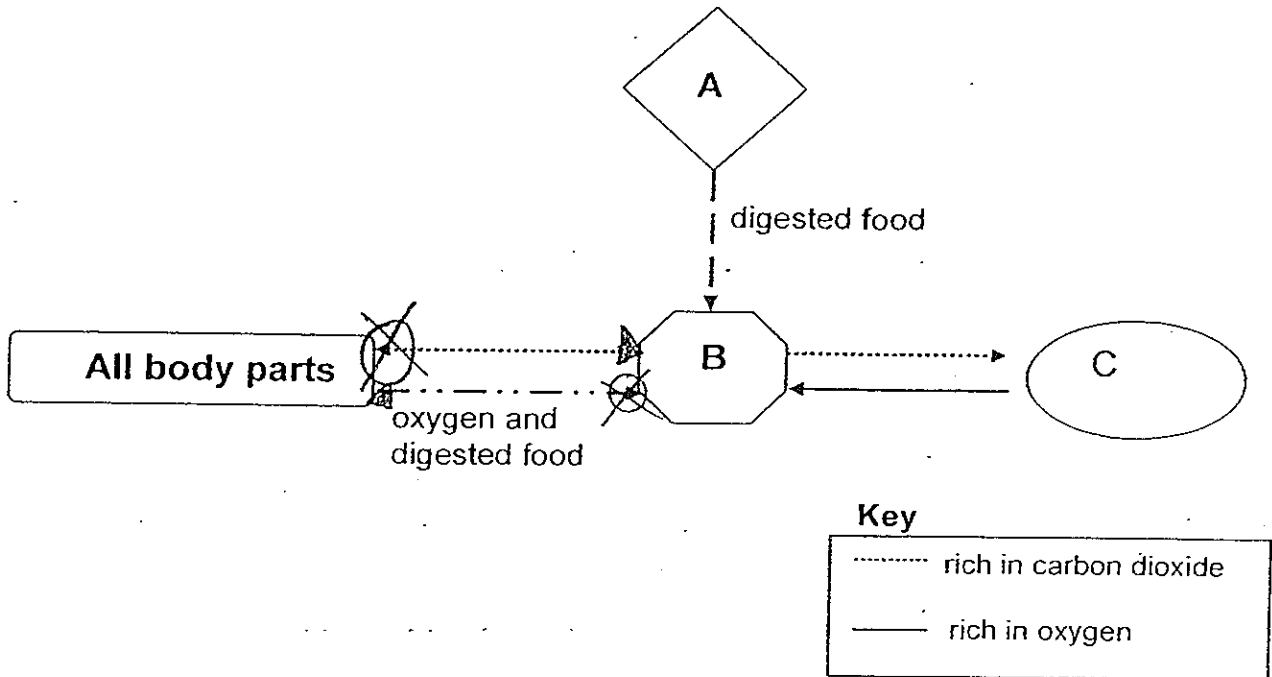
(a) Based on the classification chart, describe plant Y. (1m)

(b) In the above chart, which letter best represents 'palm'? (1m)

(c) What feature does plant W have to ensure itself in getting enough sunlight?
Explain your answer. (1m)



33. The human body is made up of different systems to carry out important functions of the body. The systems are represented as shown below. The arrows symbolise different substances moving within the body.



Study the diagram above.

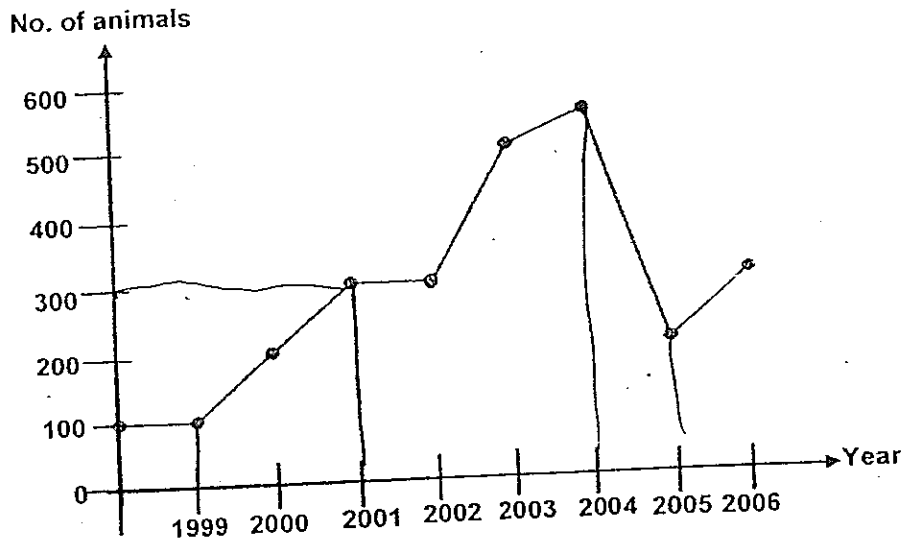
(a) What are systems B and C? (1m)

System B: _____

System C: _____

(b) What is the function of system A? (2m)

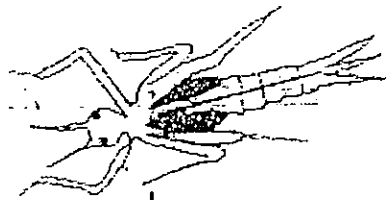
34. Studies were carried out on some animals living in a forest. The results were shown in the graph below.



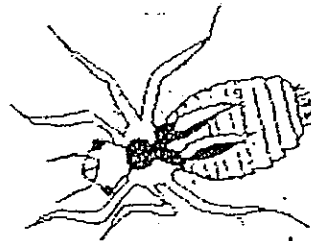
(a) How much did the population increase between 1999 and 2001? (1m)

(b) Name one possible factor that led to the decline between 2004 and 2005. (1m)

35. Study the pictures of the nymph of the damselfly and dragonfly below.



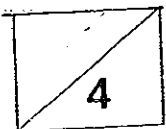
Damselfly nymph



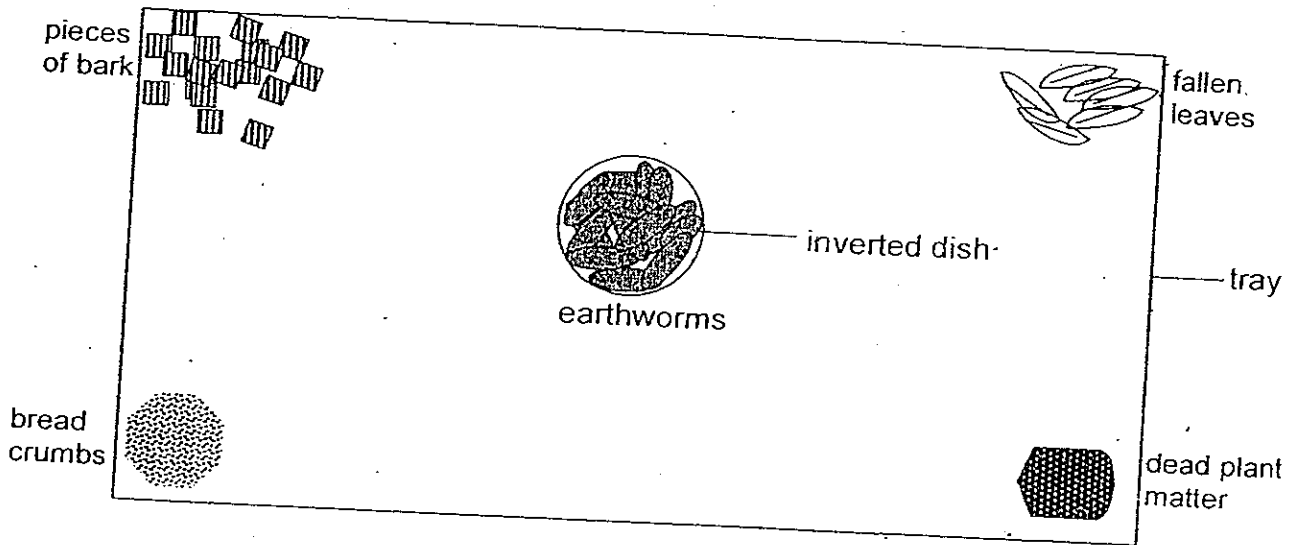
Dragonfly nymph

(a) Which nymph can move through water more easily? (1m)

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



36. Josh performed an experiment with 15 earthworms. They were placed on a tray under an inverted dish as shown in the diagram. A different type of food was placed at each corner of the tray.

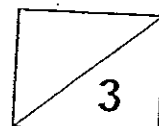


After the inverted dish was removed, the earthworms were left alone. After an hour, the number of earthworms at each corner was counted. The results were recorded in the table below.

Type of food	Number of earthworm
Pieces of bark	3
Fallen leaves	4
Dead plant matter	6
Bread crumbs	2

- (a) What was the aim of the experiment?(1m)

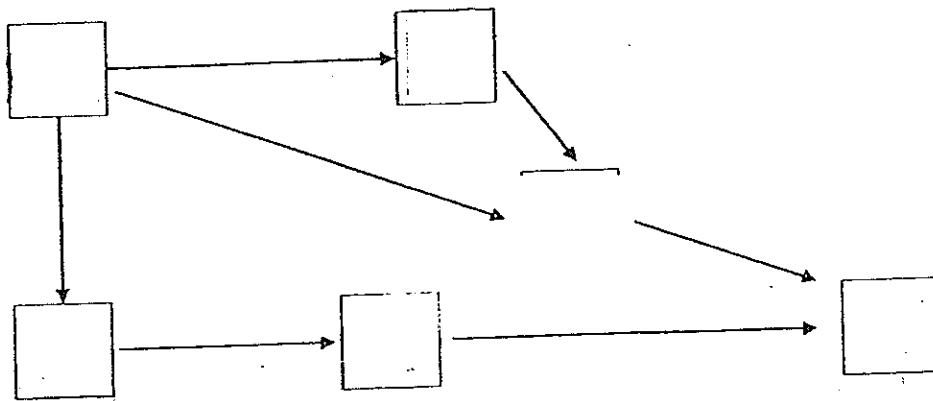
- (b) Josh made two mistakes in this experiment and ended with an unfair test. What should he do to make his test a fair one? (2m)



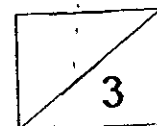
37. Study the information given below carefully.

- S preys on Q
- S and R are both a prey and a predator
- Q and R depend on P only for food
- V and T are carnivores

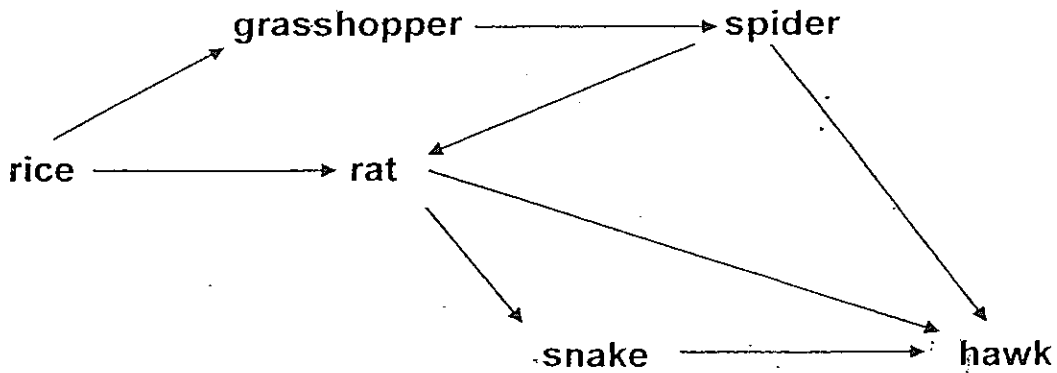
(a) Complete the food web below using the above criteria. (2m)



(b) What do the arrows in the food web indicate? (1m)



38. The diagram below shows a food web in a rice field.



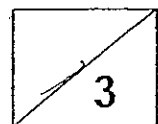
After a population of Animal Y was released into the field, the number of rats decreased and the number of grasshoppers increased.

- (a) Which organism did Animal Y feed on? (assuming Y did not feed on the rats)
Explain your answer. (1m)

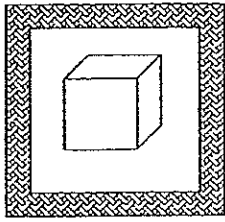
- (b) If the farmer wanted to reduce the population of snakes in the shortest period of time, how would he change the population sizes of 2 other organisms in the above food web? Give an explanation to each of the changes. (2m)

Change 1: _____

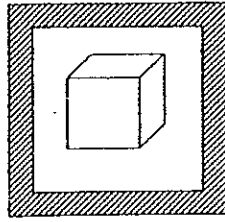
Change 2: _____



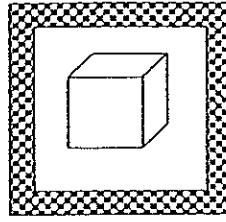
39. Four pieces of similar sizes of butter were placed and sealed in four containers made of different materials as shown below.



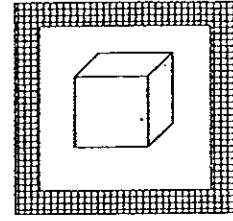
Material P



Material Q

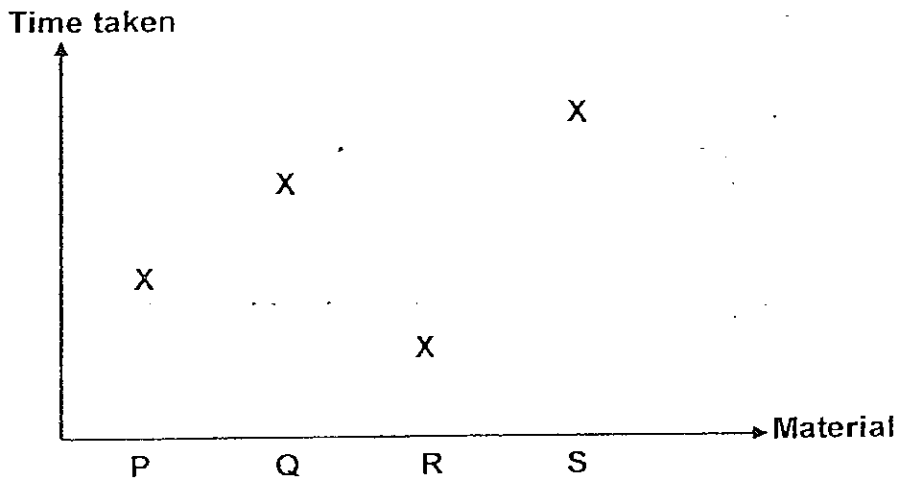


Material R



Material S

The graph below shows the time taken for the butter in each container to melt completely.



- (a) Based on the information given, which material is the most suitable for making a thermal flask? Explain your answer. (1m)

- (b) How does the property mentioned in (a) help to keep the content warm? (1m)

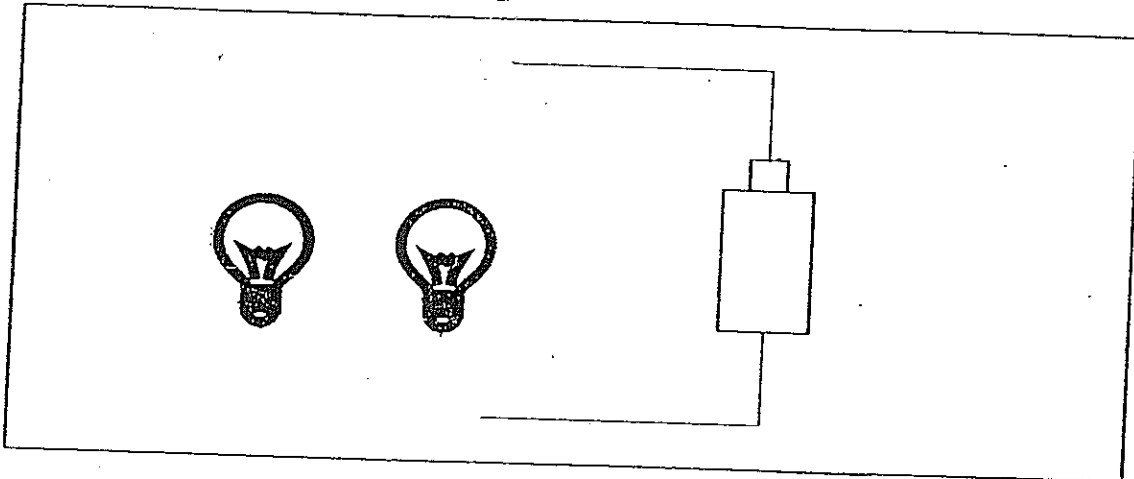
40. The diagram below shows a battery, two bulbs and two pieces of wires.

Using not more than 4 wires each, connect the battery to the bulbs such that

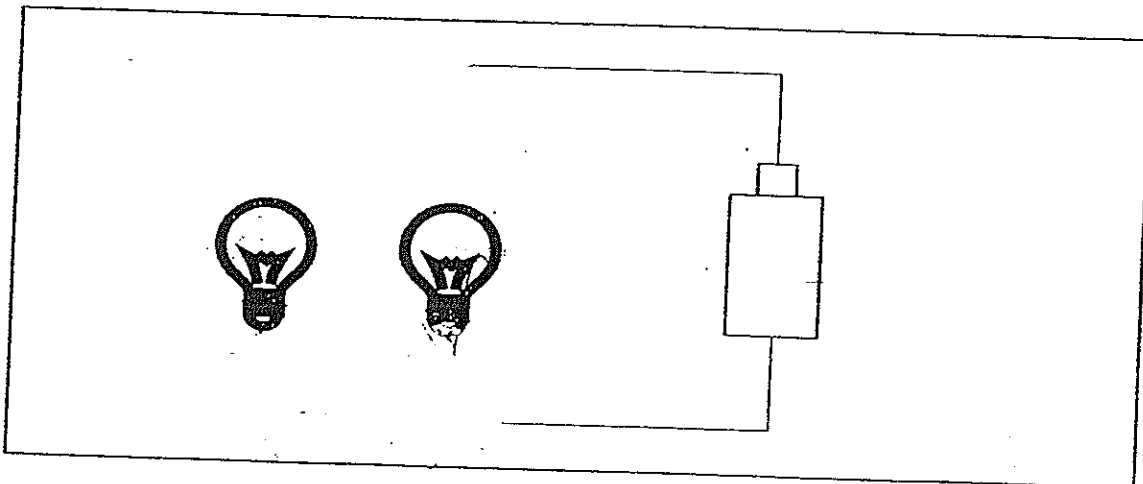
- in arrangement A, even if one bulb blows, the other bulb will still light up.
- the bulbs in arrangement in B are brighter than those in arrangement A.

(2m)

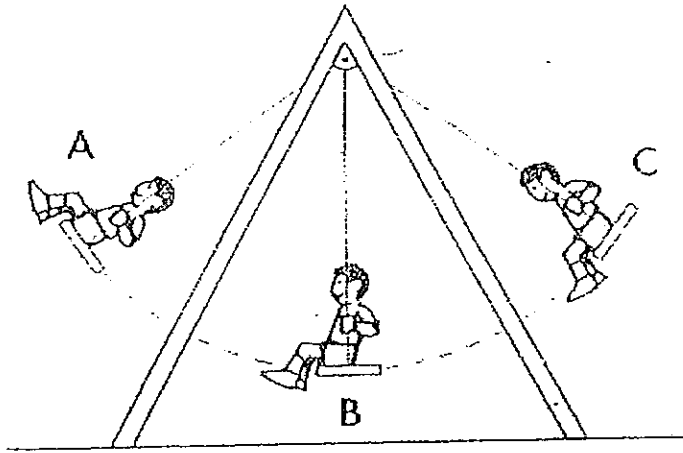
Arrangement A



Arrangement B

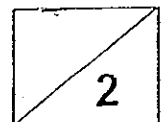
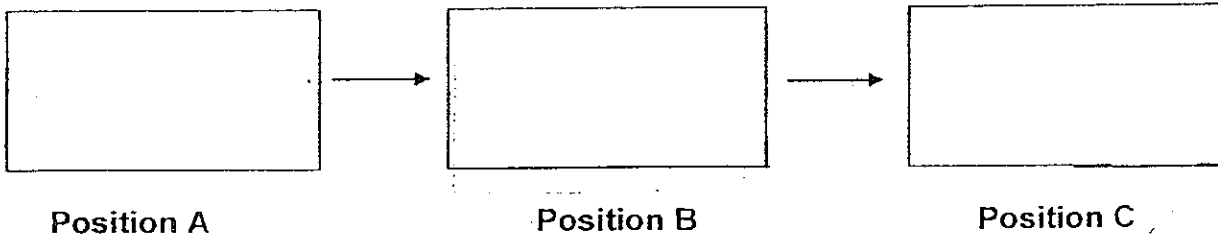


41 Study the diagram shown below.

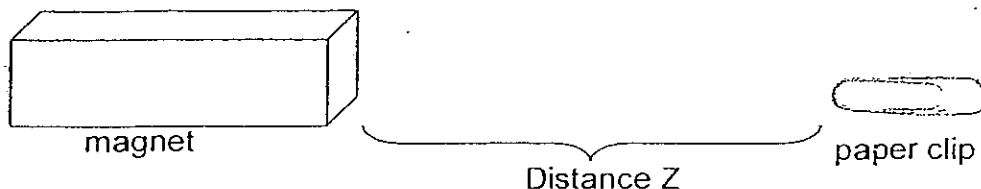


(a) How can you tell that along the path of the swing, a force is acting on it? (1m)

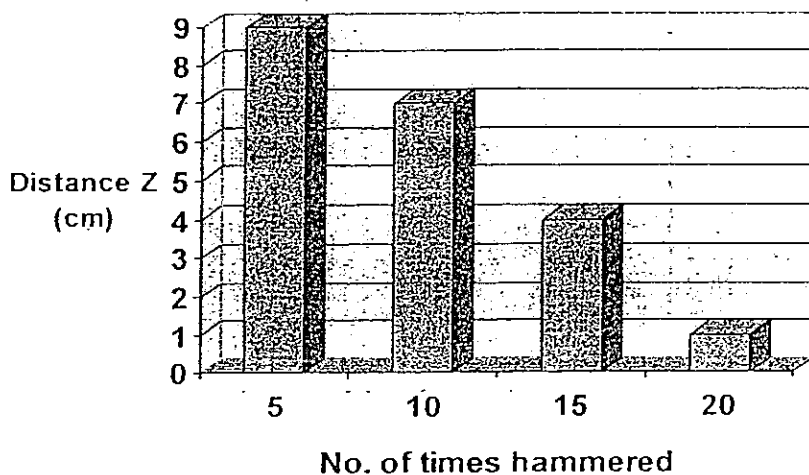
(b) State the energy change of the swing from Position A to C. (1m)



42. James conducted an experiment to find out how the strength of a magnet would be affected after being hit by an iron hammer. He recorded the number of times the magnet was hammered and then measured the distance the magnet must be placed from a paper clip in order to attract it.



The graph below shows the results of his experiment.

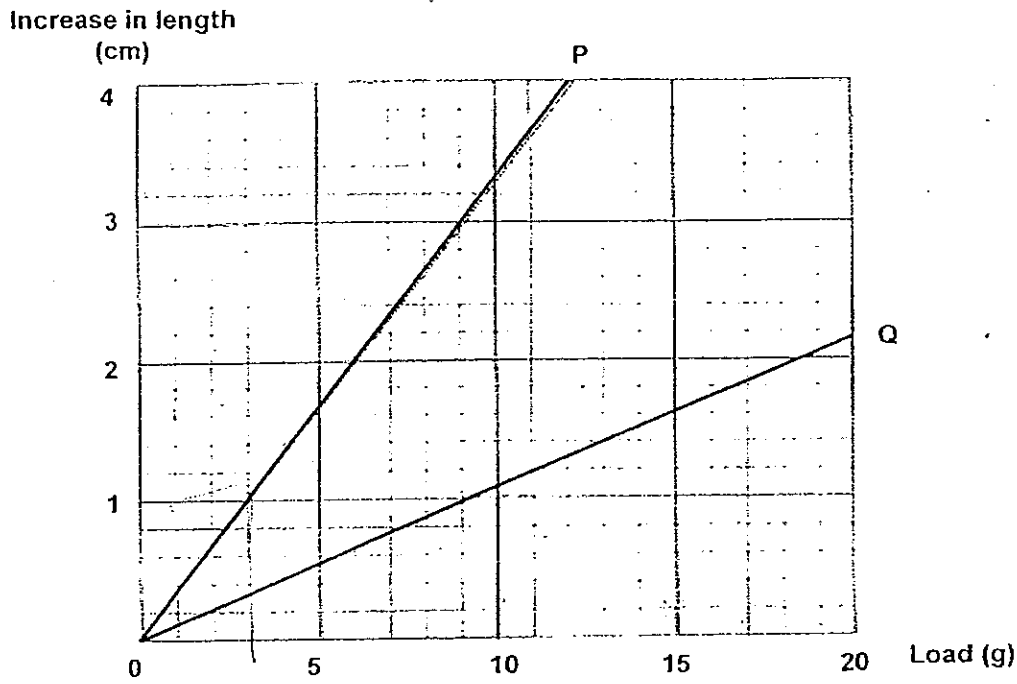


- (a) Read the statements in the following table and decide whether they are true, false or not possible to tell. Put a tick (✓) in the correct column against each statement. (2m)

	Statement	True	False	Not possible to tell
1.	After 25 times of hammering, the magnet could no longer attract a paper clip.			
2.	Before being hammered, the magnet could attract a paper clip from a distance of 8cm.			
3.	After 15 times of hammering, the magnet could not attract a paper clip from a distance of 1cm.			
4.	After hammering, the magnet could attract only 9 paper clips.			

- (b) Name one common use of magnet. (1m)

43. The graph shows the increase in the lengths of two springs, P and Q, when loads are hung on them.

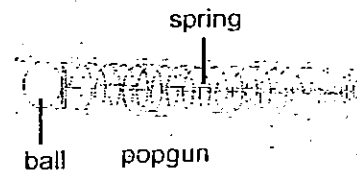
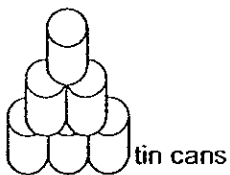


- (a) Study the graph carefully and complete the table. (2m)

Spring	Initial length (cm)	Load (g)	Final length (cm)
P	5		6
Q	5	15	

- (b) In his coming shooting session, Peter needs to shoot down as many tin cans as possible, in order to be selected to represent his club in the finals.

The diagram below shows a popgun that works using a spring. When the trigger is pulled back and released, the ball will pop out of the gun.



Which spring, P or Q, should he use in his pop gun? Explain your answer. (1m)

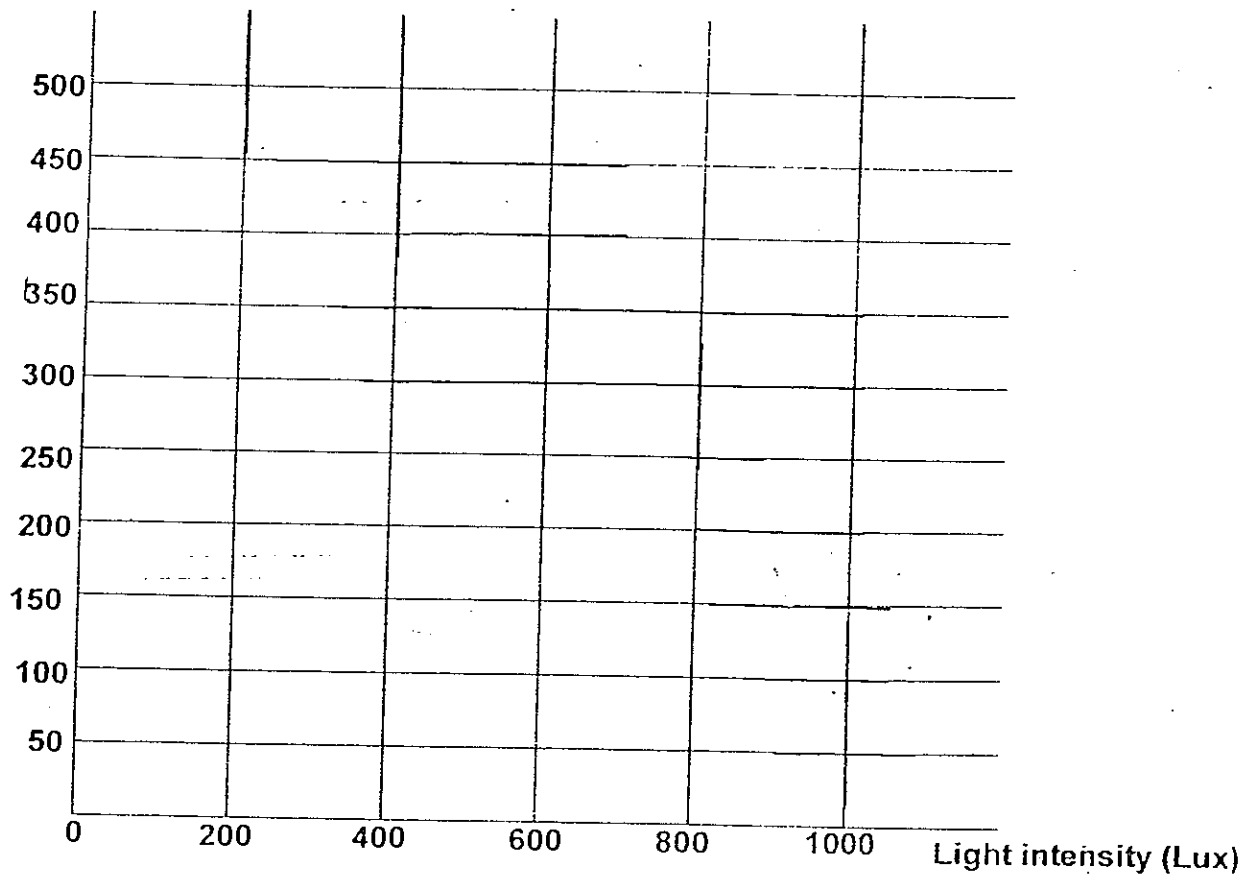
44. A group of pupils carried out an investigation on evaporation. They filled a container with 500ml of water and placed it under a tree.

They checked the amount of water left in the container every two hours and recorded their results in the table as shown below.

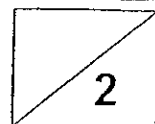
Light intensity(Lux)	Amount of water left (ml)
200	475
400	450
600	350
800	275
1000	50

- (a) Based on the data given in the table, draw a line graph. (1m)

Amount of water left (ml)

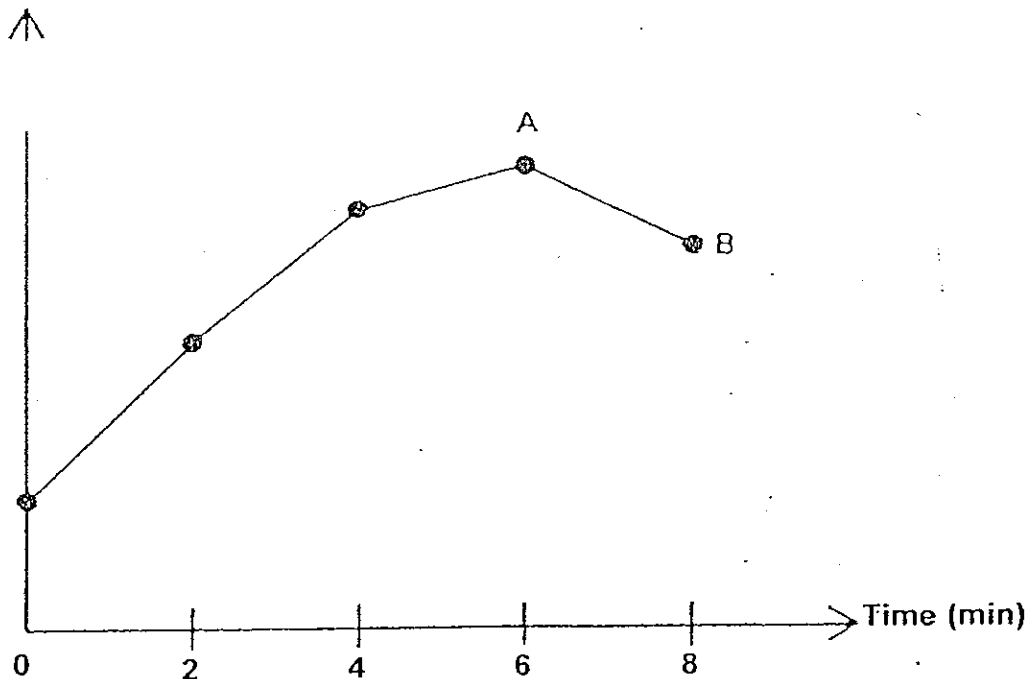


- (b) What is the relationship between the amount of water left in the container and the light intensity? (1m)

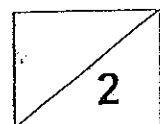


45. Sam heated some Liquid Z at room temperature for 8 minutes. He measured temperature of the liquid every 2 minutes. The results were presented below.

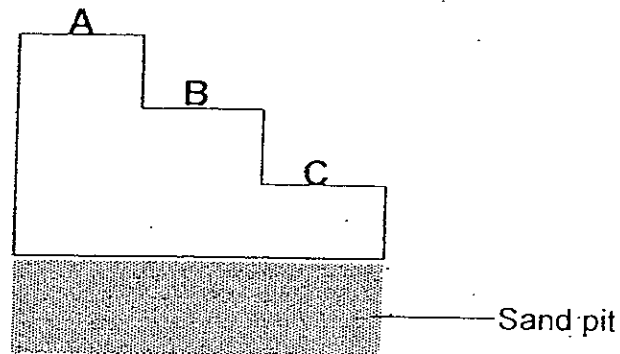
Temperature ($^{\circ}\text{C}$)



- (a) If the room temperature was 20°C and the boiling point of Liquid Z was 80°C , mark and label the two temperatures in the graph above. (1m)
- (b) If Sam continued to heat Liquid Z throughout the experiment, suggest a possible reason for the change in temperature between 6th and 8th minute. (1m)



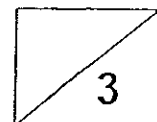
46. Prakash wanted to find out if the weight of the ball determines the depth of the dent made on the sand pit. He carried out his experiment at the designated positions to drop the various balls onto the sand pit as shown in the table.



Set-up	Type of ball	Weight of ball (kg)	Position of ball
1	Iron	1	A
2	Wooden	0.8	A
3	Plastic	1	B
4	Iron	1	C
5	Steel	0.6	B

- (a) Which two set-ups should he use to achieve his aim? (1m)
-
- (b) If Prakash used set-ups 1, 3 and 4, what conclusion would he arrive at, in relation to the depth of dent on the sand pit? (1m)
-
-
- (c) Which set-up would cause the deepest dent on the sand pit? Explain your answer. (1m)
-
-

*** End of Paper ***



Red Swastika Primary School
Primary 6 Science SA1 Exams (2008)

Answer Keys

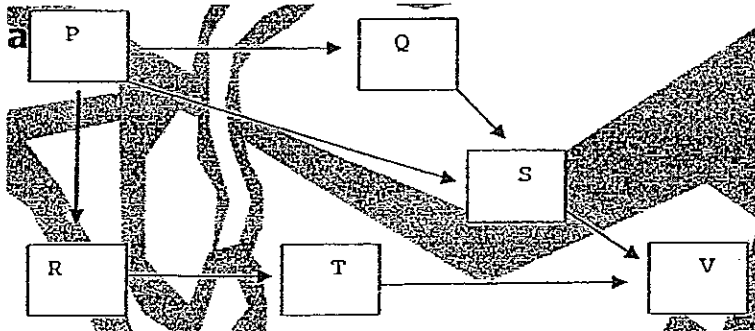
Qo.	Ans
1	1
2	4
3	3
4	2
5	1
6	4
7	1
8	3
9	1
10	2

Qn no.	Ans
11	4
12	4
13	4
14	2
15	4
16	2
17	2
18	3
19	4
20	3

Qn no	Ans
21	2
22	1
23	2
24	3
25	1
26	2
27	3
28	1
29	3
30	2

- 31a. B and D. Sunlight can pass through coloured cellophane papers. The green part of the leaf contains chlorophyll which can trap light energy to make food. The white part has no chlorophyll, so it cannot make food and no starch.
- 31b. The aim was to find out if different coloured cellophane paper affects photosynthesis.
- 32a. It is a flowering plant with a strong and woody stem.
- 32b. Y
- 32c. Its weak stem can twine round a support and some have clasping roots to cling onto a support to get enough sunlight.
- 33a. System B : circulatory system
C : respiratory system
- 33b. It breaks down food into simpler substances so that it can be absorbed into the blood stream.
- 34a. 200
- 34b. There was a disease which spread among the animals.
- 35a. Damselfly nymph
- 35b. It has a streamlined body which lowers water resistance but the dragonfly nymph does not.
- 36a. The aim was to test which kind of food earthworms are most attracted to.
- 36b. He should put the same amount of food at each corner of the tray and put the food at an equal distance away from the earthworms.

37a.



37b. The arrows indicate energy transferred from one animal to the other.

38a. It feeds on the spiders. If Y feeds on the spiders there would be fewer spiders to feed on the grasshoppers and the grasshopper population will increase, however there would be fewer spiders for the rats to feed on so the rat population will decrease.

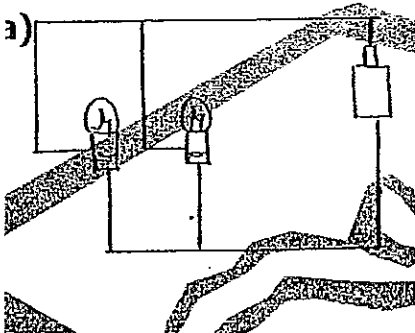
38b. (1) Remove some rats from the rice field so the snake would have less food to eat and its population would soon decrease.

(2) Add in more hawks to the rice field so that there would be more hawks to prey on the snakes and its population would decrease

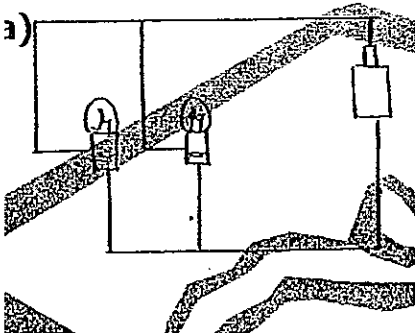
39a. Material S. It is the best insulator of heat compared with the other materials as the butter takes the longest time to melt.

39b. It will take the longest time to conduct heat; hence it helps to keep the content warm.

40a.



40b.

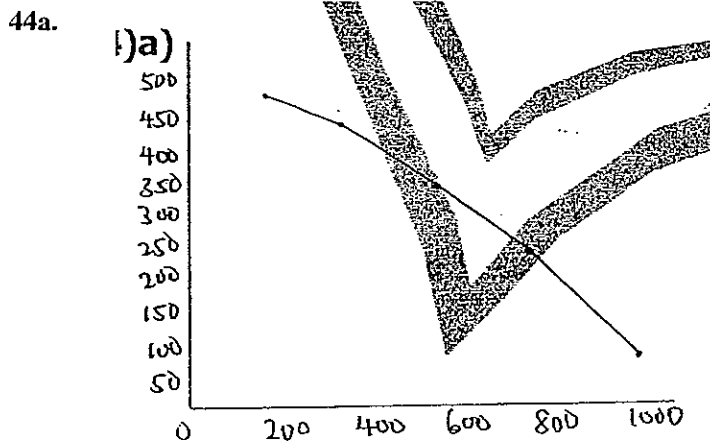


41a. The swing tends to travel faster at point B.

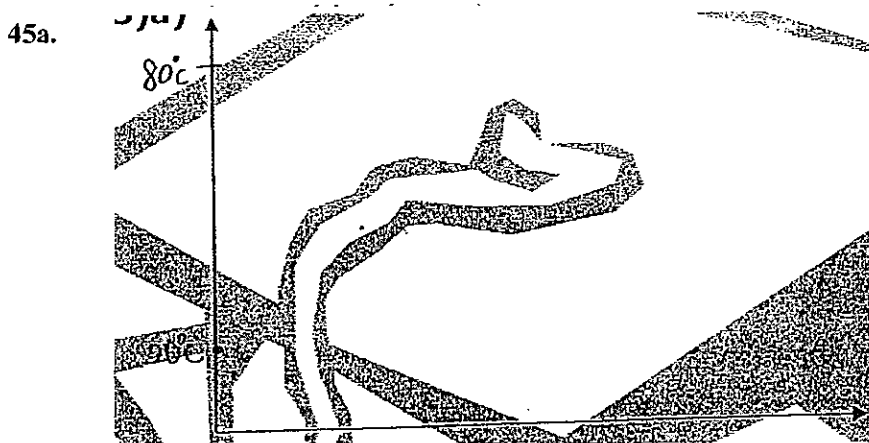
41b. Potential energy \longrightarrow kinetic energy \longrightarrow potential energy

- 42a. (1) Not (2) T (3) False (4) Not
 42b. It is used to separate magnetic objects from non-magnetic object.

- 43a. $P = 3$ $Q = 6.5$
 43b. P. P has more elastic spring force than Q.



- 44b. As the light intensity increases, the amount of water left decreases.



- 45b. More liquid Z is added

- 46a. Set up 3 and 5
 46b. The higher the ball is dropped, the greatest is the depth of dent on the sand pit.
 46c. Set-up 1 would cause the deepest dent on the sand pit because it has the greatest potential energy.