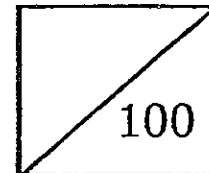




Rosyth School
First Semestral Assessment for 2008
SCIENCE
Primary 6

Name: _____

Total
Marks:



Class: Pr _____

Register No. _____

Duration: 1 h 45 min

Date: 12th May-2008

Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklets until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, Booklet A and Booklet B.
4. For questions 1 to 30 in Booklet A, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 31 to 46, give your answers in the spaces given in the Booklet B.

	Maximum	Marks Obtained
Booklet A	60 marks	
Booklet B	40 marks	
Total	100 marks	

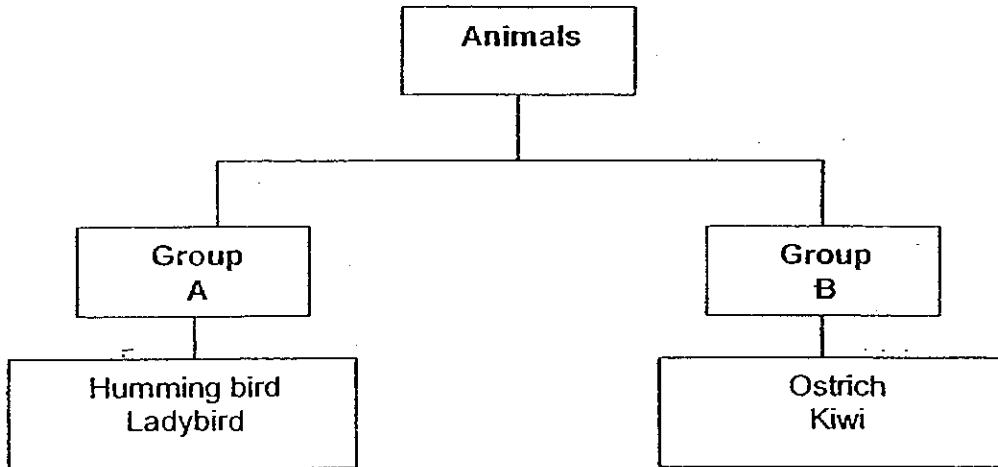
* This booklet consists of 20 pages .

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Booklet A (60 Marks)

For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.**

1. Study the classification chart below.



Which of these animals should be classified under the same group?

	Group A	Group B
(1)	Flamingo	Earthworm
(2)	Eagle	Butterfly
(3)	Kingfisher	Sparrow
(4)	Caterpillar	Crow

2. Study the classification table below.

	Characteristics	Mosquito	Housefly
A.	Does it have a 4-stage life cycle?	Yes	Yes
B.	Can it spread diseases?	Yes	No
C.	Does it lay eggs in water?	Yes	No
D.	Does it have wings at the adult stage?	No	Yes

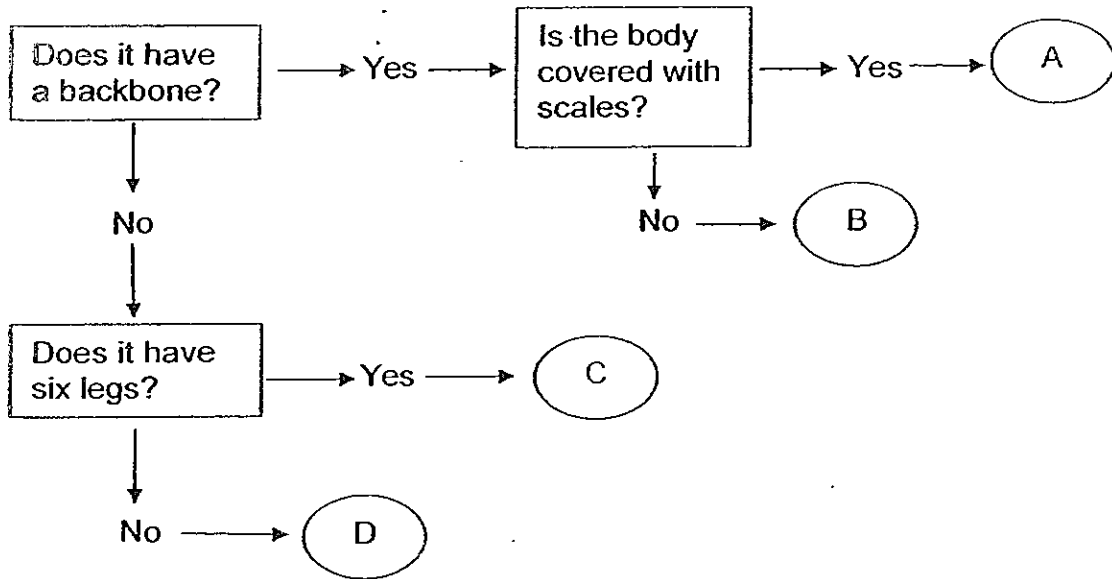
Which of the comparisons between a mosquito and a housefly are correct?

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

(Go on to the next page)

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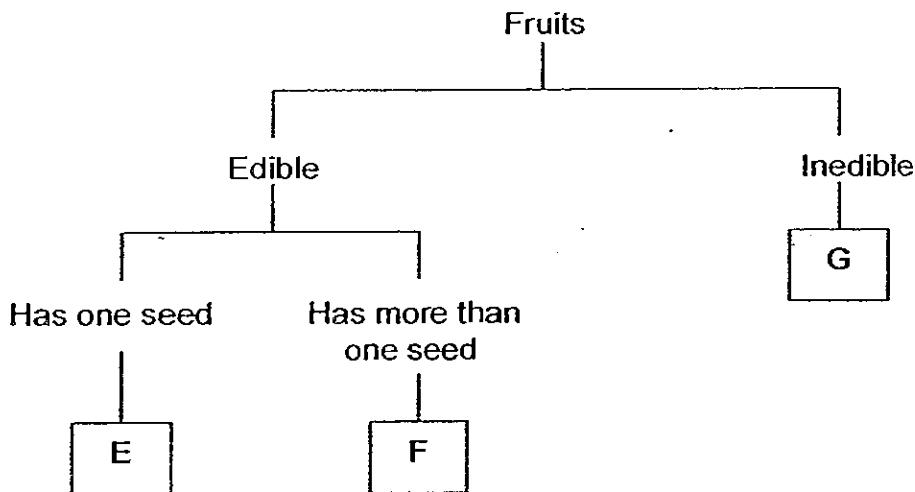
3. Study the classification below.



Which letter correctly represents a crocodile?

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

4. Study the classification table below.



Which of the following fruits are most likely to be Fruits, E, F and G respectively?

	Fruit E	Fruit F	Fruit G
(1)	rambutan	lady's finger	balsam
(2)	groundnut	shorea	angsana
(3)	kiwifruit	chilli	avocado
(4)	balsam	angsana	lotus

5. Lilian and Jody were asked to classify the following fruits into two groups.

mango	coconut	love grass	pong pong
-------	---------	------------	-----------

Lilian's classification:

Group A	Group B
mango	pong pong
Love grass	coconut

Jody's classification:

Group A	Group B
mango	love grass
coconut	pong pong

How did the girls group the fruits?

	Lilian		Jody	
	Group A	Group B	Group A	Group B
(1)	Flowering plant	Non-flowering plant	Smooth surface	Rough surface
(2)	Has many seeds	Has only one seed	Big	Small
(3)	Dispersed by animal	Dispersed by water	Edible	Inedible
(4)	Has fibrous husk	Has no fibrous husk	Grow well in sandy soil	Grow well in garden soil

6. Spectacle lenses are either made of glass or plastic. Parents usually prefer to have plastic lenses for their children's spectacles.
What are the possible reasons?

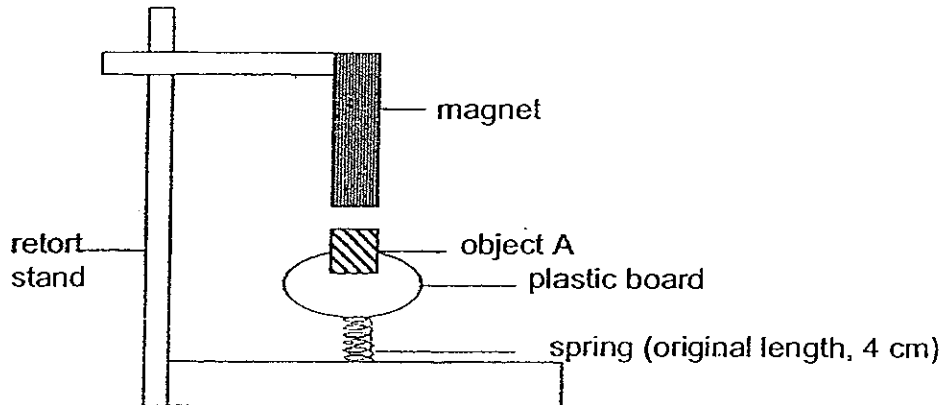
A: Plastic is lighter than glass.
B: Plastic is waterproof but not glass.
C: Plastic does not break easily, unlike glass.

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

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

(Go on to the next page)

7. Silva set up the experiment as shown below. She wanted to find out if objects A, B, C and D would interact with the magnet hanging from the retort stand. She stuck object A securely onto the plastic board and measured the length of the spring. Then, she repeated the experiment with objects B, C and D one after another.



The results of the experiment were tabulated as below.

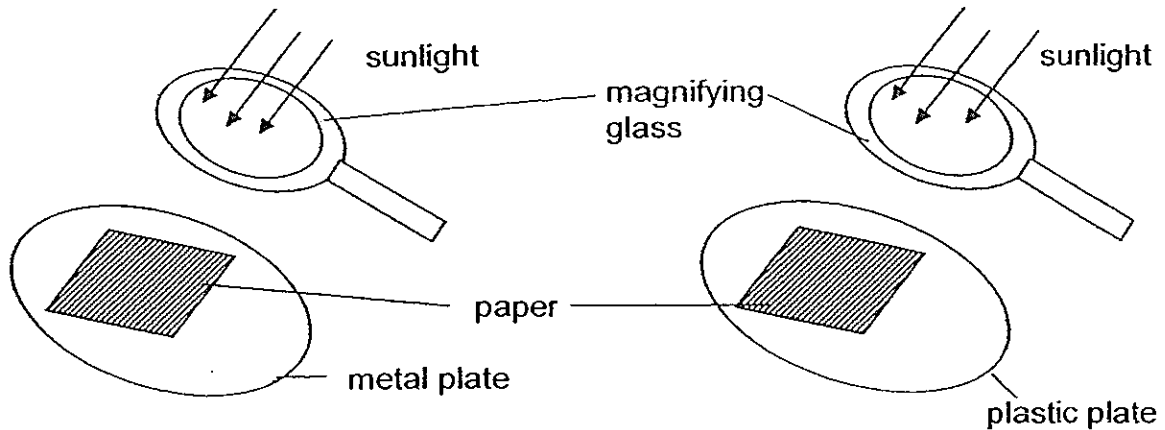
Object	Length of Spring (cm)
A	6
B	7
C	3
D	4

Based on the results above, what could objects A, B, C and D be?

	A	B	C	D
(1)	Copper bar	Magnet	Iron bar	Steel bar
(2)	Steel bar	Copper bar	Magnet	Iron bar
(3)	Iron bar	Steel bar	Copper bar	Magnet
(4)	Steel bar	Iron bar	Magnet	Copper bar

(Go on to the next page)

8. In the experiment below, two identical pieces of paper were each placed on a metal plate and a plastic plate. These plates were placed in the sun with a magnifying glass held above each paper.



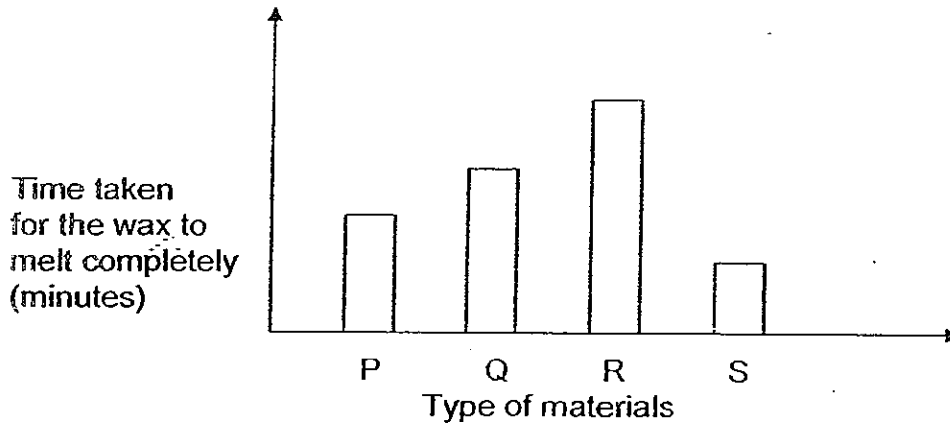
After several minutes, the paper on the plastic plate started to give off smoke and then burn but not the one on the metal plate.

Why did the paper on the plastic plate burn but not the one on the metal plate?

- (1) The plastic plate absorbed more heat than the metal plate.
- (2) The heat from the Sun only made the metal plate hot but not the plastic plate.
- (3) The metal plate conducted most of the heat away from the paper but not the plastic plate.
- (4) The metal plate took a shorter time to get hot to burn the paper as compared to the plastic plate.

(Go on to the next page)

9. Alysia coated the 4 ends of different materials (P, Q, R, and S) with some wax. Next, she heated the other ends of each rod over a candle flame. She measured the time taken for the wax to melt completely. Her results are shown in the bar graph below.



Which one of the following variables should she keep the same for a fair experiment?

- A: Size of rods
- B: Amount of wax
- C: Intensity of the flame
- D: Time taken for the wax to melt completely

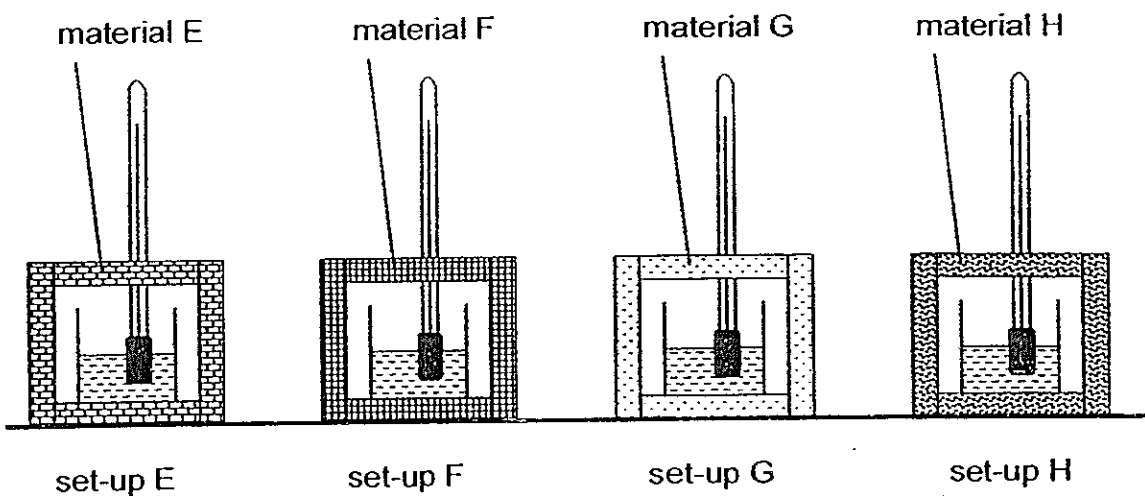
(1) A and B only

(2) C and D only

(3) A, B and C only

(4) A, B, C and D

10. Vincent set up the apparatus below using different insulation materials but of equal thickness. He used beakers of the same size containing equal amounts of water in each beaker.



He measured and recorded the temperature of water in each beaker at regular intervals using a thermometer. The table below shows the results of the experiment.

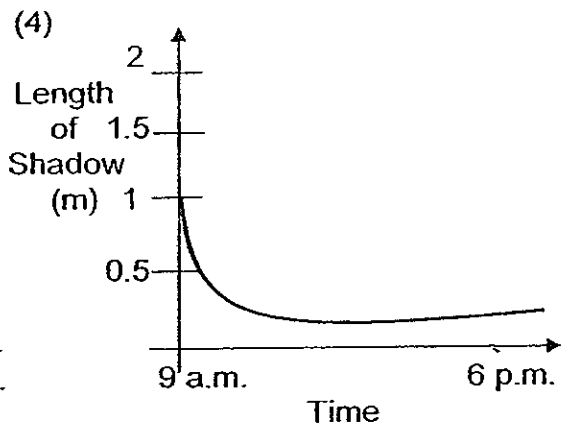
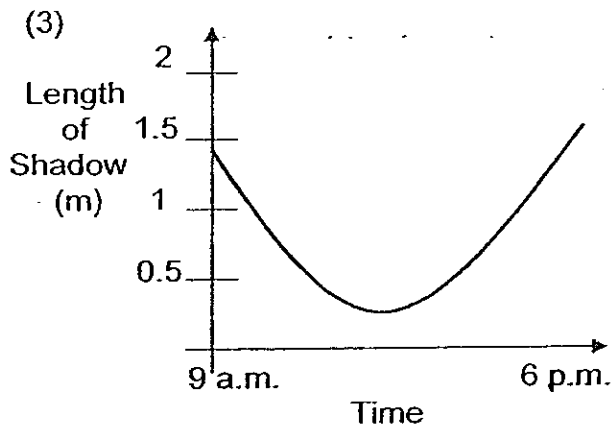
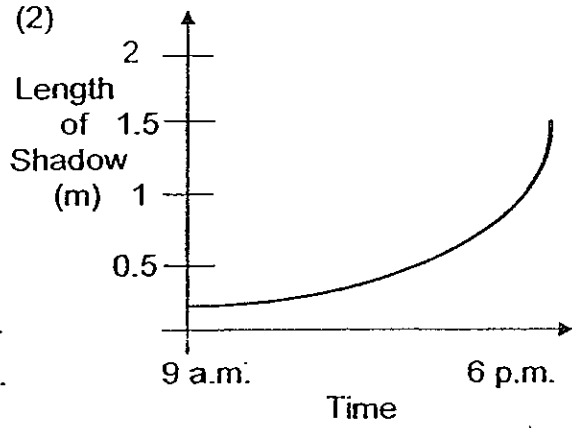
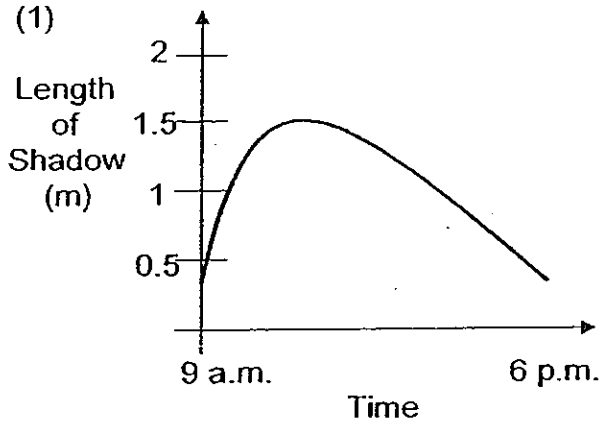
Time (min)	Temperature of water (°C)			
	Set-up E	Set-up F	Set-up G	Set-up H
0	100	100	100	100
5	77	65	90	88
10	69	42	88	76
15	56	39	83	71
20	40	37	80	69

Based on the results in the table above, which material is not ideal for making a container to store ice cream?

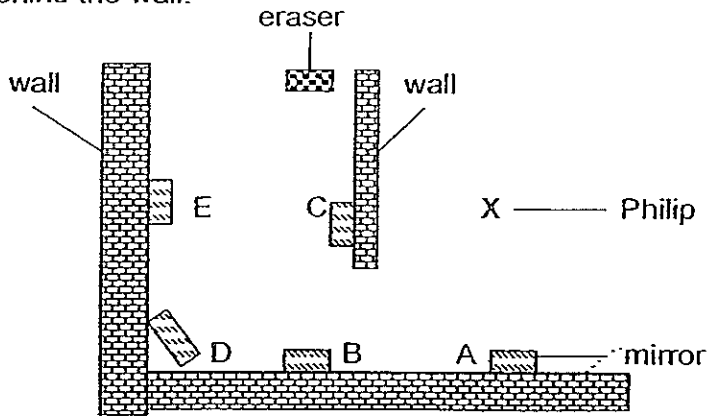
- (1) E
(2) F
(3) G
(4) H

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11. Study the four graphs below.
Which one of the following graphs shows the length of Lionel's shadow from 9 a.m. to 6 p.m. on a certain day?

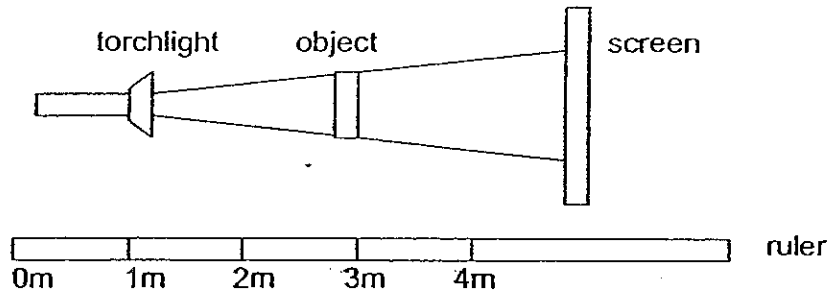


12. In the diagram below, Philip needs only two mirrors to help him see the eraser behind the wall.



Which two mirrors will help him see the eraser behind the wall?

- (1) A and C only
 (2) B and C only
 (3) B and E only
 (4) C and D only
13. A torchlight was placed at the 1m mark of a ruler. The torchlight shone at an object that was placed at the 3m mark of a ruler as shown below. A shadow was cast on the screen.



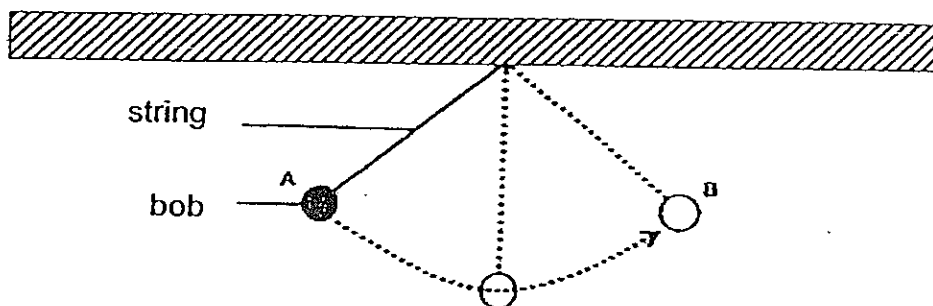
At which positions of the ruler should the torchlight and the object be placed so as to obtain a larger shadow on the screen than before?

	Position of torchlight	Position of object
A	1m	4m
B	0m	1m
C	2m	3m
D	0m	4m

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

(Go on to the next page)

14. A group of pupils carried out an activity to find out how long it would take for a pendulum to swing from A to B and back to A again. They repeated the experiment with strings of different lengths and bobs of different mass. The table below shows the results of their experiment.

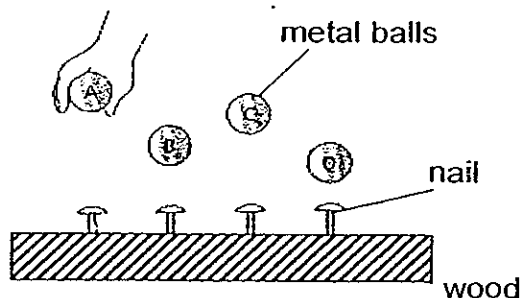


Length of String (cm)	Average time taken to complete 10 swings (seconds)		
	50g bob	200g bob	250g bob
35	12.1	12.1	12.2
65	17.2	16.2	16.2
100	20.1	20.1	19.3
145	23.7	22.5	23.7

What must be done so that the pendulum completes 10 swings in less than 12.1 seconds?

- (1) Increase the mass of the bob.
- (2) Decrease the mass of the bob.
- (3) Reduce the length of the string until it is less than 35 cm.
- (4) Increase the length of the string until it is more than 145 cm.

Refer to the diagram below and answer questions 15 and 16.
 Four metal balls, from different positions, were dropped onto nails placed directly under them as shown below.



15. Which one of the following nails would be pushed deepest into the wood when the metal balls were dropped?

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

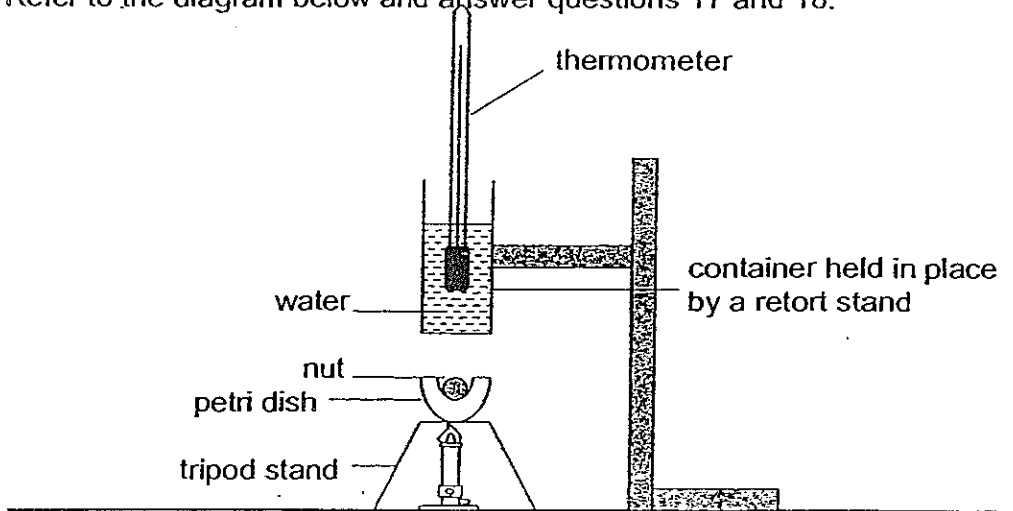
16. Which of the following is/are possible aim(s) for the above experiment?

- A: To find out which ball has the greatest mass.
- B: To find out which ball has the most potential energy.
- C: To find out if the mass of the ball affects the speed at which the ball drops.
- D: To find out if the height of the ball affects the amount of kinetic energy it has.

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

(Go on to the next page)

Refer to the diagram below and answer questions 17 and 18.



In the experiment shown above, the nut was placed in a petri dish and burned over a bunsen burner. The temperature of the water was then measured with the thermometer. The experiment was then repeated with a piece of marshmallow and a piece of dried corn.

The results were tabulated as shown below.

Type of food	Final temperature of water
Nut	45°C
marshmallow	35°C
dried corn	50°C

17. What could you infer from the results of the experiment?

- A: The three types of food are sources of energy.
- B: The three food are renewable resources of energy.
- C: Dried corn produced more heat energy than nut and marshmallow.

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

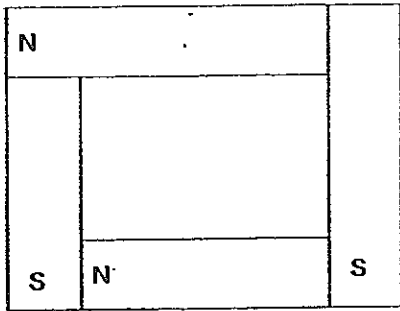
18. Which one of the following variables should be kept constant to ensure a fair experiment?

- A: Size of the food
- B: Mass of the food
- C: Intensity of the flame
- D: Amount of water in the beaker

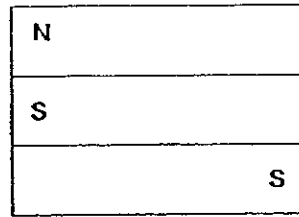
- (1) A and B only
- (2) B and C only
- (3) B, C and D only
- (4) A, B, C and D

(Go on to the next page)

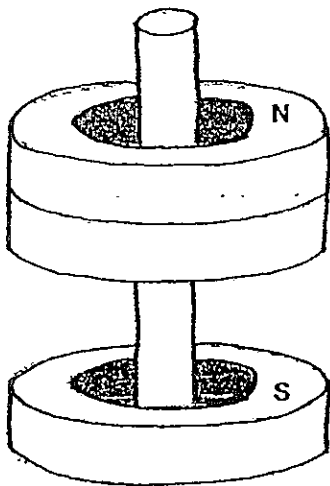
19. Study the diagrams of the four set ups, W, X, Y and Z below.



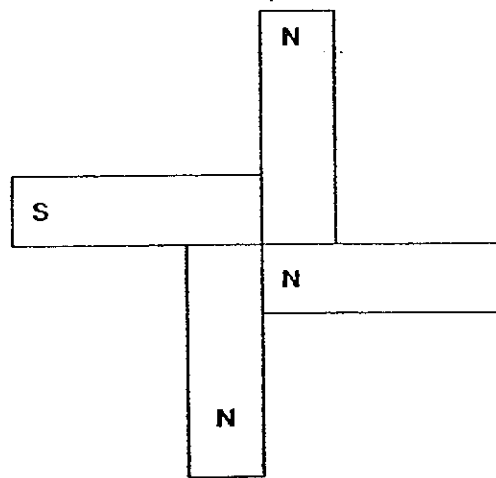
(W)



(X)



(Y)



(Z)

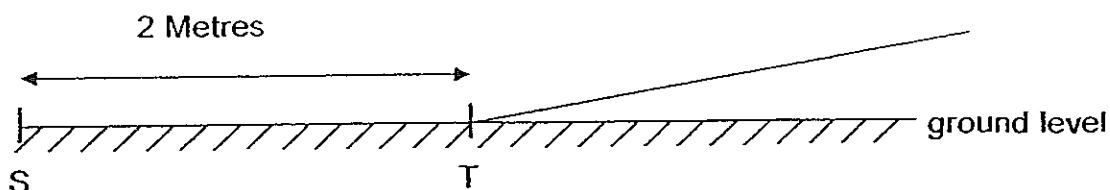
If the ring magnets are used in set-up Y and bar magnets are used in set-ups W, X and Z, which of the above arrangements is/are not possible?

- (1) W only
- (3) X and Y only

- (2) W and Y only
- (4) W, Y and Z only

(Go on to the next page)

20. An experiment was carried out to find out the number of times the key to a toy car is turned and the distance it travelled. The car was placed at the same starting point, S each time. The car followed a horizontal track for 2 metres followed by a gentle slope starting at point T.



The results of the test were recorded in the table below.

Number of turns of the key	2	4	6	8	10
Average distance traveled (cm)	50	100	150	200	180

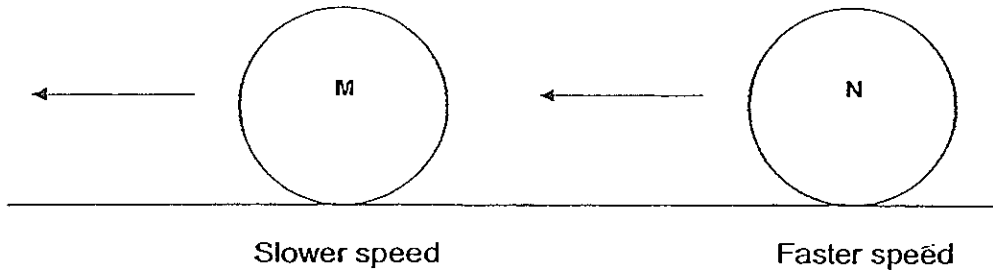
Which of the following types of forces cause the car to move backward when the key was turned 10 times?

- A: frictional
- B: elastic spring
- C: gravitational
- D: magnetic

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

- (2) C only
- (4) B, C and D only

21. Two identical tennis balls, M and N, are moving over a marble floor at different speeds as shown below.

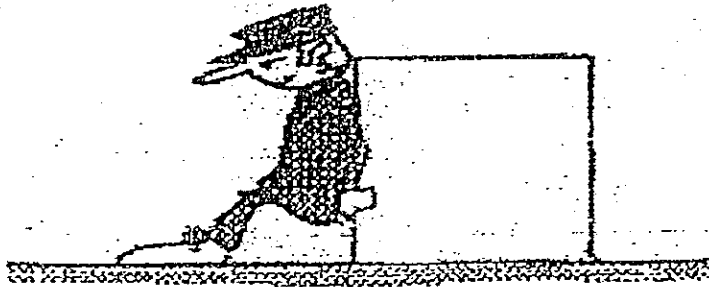


What would happen to tennis ball M and N after sometime?

- A: N will hit M and then move on in the same direction.
- B: N will hit M and then move in the opposite direction.
- C: After being hit by N, M will move faster than before in the same direction.
- D: After being hit by N, M will slow down and move in the opposite direction.

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

22. The picture shows a man trying to slide a heavy box along the floor.



Which of the following forces would help the man to move the heavy box along the floor?

- A: The mass of the heavy box.
- B: The push the man exerted against the box.
- C: The friction between the box and the floor.
- D: The friction between the man's feet and the floor.

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

(Go on to the next page)

23. There are two Ponds, R and S in a village. Both ponds have plants and animals living in them. There are many plants growing at the bottom of Pond R but only a few plants growing at the bottom of Pond S.

Which of the following could be the possible reason(s) for this?

- A: Pond R has fewer predators.
- B: Pond R has fewer floating plants.
- C: The water in Pond R is less muddy.

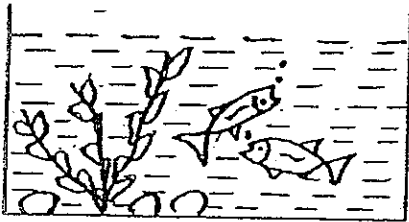
(1) C only

(3) B and C only

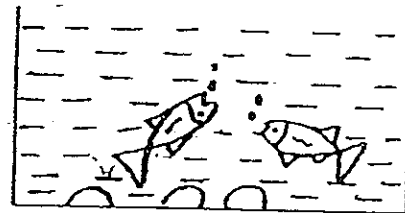
(2) A and C only

(4) A, B and C

24. Ahmad and a few of his classmates wanted to find out the importance of submerged plants to animals. They set up two aquariums, X and Y, and observed them for a week.



Aquarium X
With Submerged Plants



Aquarium Y
Without Submerged Plants

After two weeks, they concluded that submerged plants are important to animals.

Which of the following observations would have helped them to arrive at that conclusion?

- A: One of the fish in aquarium X was dead.
- B: The fish in aquarium X laid eggs under the plants.
- C: The fish in aquarium Y was dead.
- D: The fish in aquarium Y swam near the surface of the tank.

(1) A and B only

(3) B, C and D only

(2) C and D only

(4) A, B, C and D

(Go on to the next page)

25. Gary was taking a walk in his garden and spotted some organisms. He then classified them into two groups, plants and animals.

Plants	Animals
3 Rose plants	4 Caterpillars
2 Mango trees	3 Squirrels
5 Bird's nest ferns	2 Sparrows
	6 Butterflies
	3 Moths

How many populations had he spotted altogether?

- (1) 7
 (2) 8
 (3) 23
 (4) 27
26. Shawn found an animal and made the following observations about the animal.

The animal has a brown body.
 The animal has a moist skin.
 The animal will move away from light.

Which one of the following habitats is this animal most likely to be found?

- (1) In a leaf litter
 (2) In a fruit tree
 (3) At the seashore
 (4) Near the pond surface

(Go on to the next page)

27. May wanted to find out if overcrowding is a factor which would affect the animals living in an aquarium. The fish were placed in 4 similar tanks P, Q, R and S.

Tank	Amount of water (cm ³)	Number of fish	Type of fish
P	500	20	Swordtail
Q	5000	10	Goldfish
R	5000	20	Goldfish
S	10 000	20	Swordtail

- A: P and R
- B: P and S
- C: Q and R
- D: Q and S

Which of the following tanks, P, Q, R and S are possible combinations that she should use to carry out a fair experiment?

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

28. The Tasmanian tigers have become extinct due to various environmental factors. Which of the following are most likely the factors to cause the extinction of this animal?

- A: The Tasmanian tigers were predators of many animals.
- B: The Tasmanian tigers were once widely hunted and poached.
- C: The Tasmanian tigers were wiped out by outbreak of epidemic.
- D: The Tasmanian tigers were not able to adapt to climatic changes.

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

29. Tommy conducted an experiment using some similar seedlings over a period of two weeks. He then tabulated the variables into a table as shown below.

Pot	Type of soil	Amount of water used daily (cm ³)	Number of seedlings planted in each pot	Average height of the seedlings in each pot after two weeks (cm)
W	Clayey soil	100	10	5.0
X	Loamy soil	200	20	9.5
Y	Clayey soil	100	20	7.5
Z	Loamy soil	100	10	6.0

Which of the following are possible aims of Tommy's experiment?

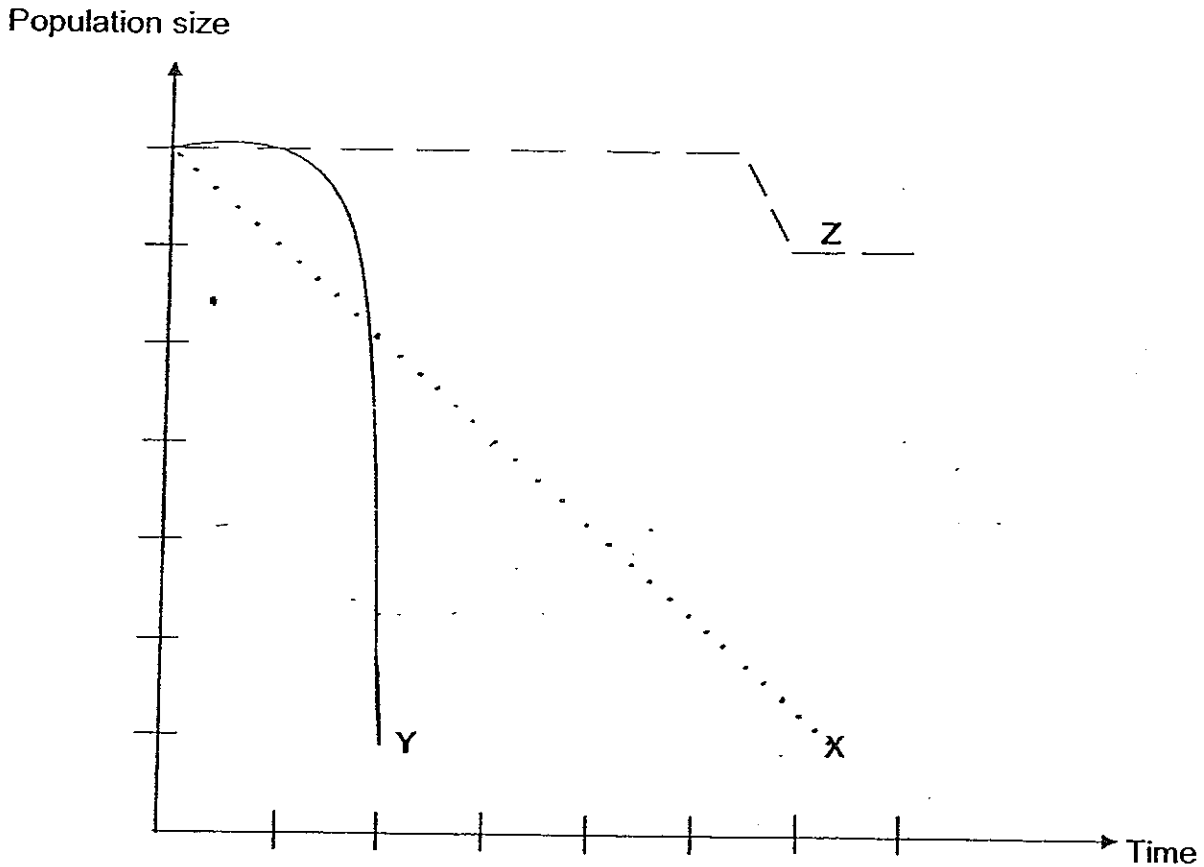
- A: To find out if overcrowding affects the average height of seedlings.
- B: To find out if different types of soil used affect the average height of seedlings
- C: To find out if different amounts of water used daily affect the average height of seedlings

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

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

(Go on to the next page)

30. Study the graph below

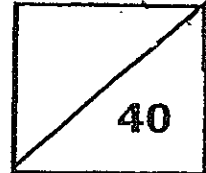


Three populations of organisms, X, Y and Z were introduced to a community. The graph above shows their populations over a period of time. Which one of the following statements cannot be interpreted from the graph?

- (1) The population of organism X decreased at a constant rate.
- (2) The population of organism Y reproduced at a slower rate than organism Z.
- (3) The population of the three organisms were the same at the beginning of the observation.
- (4) The population of organism Z remained the largest at the end of the observation period.



Rosyth School
First Semestral Assessment for 2008
SCIENCE
Primary 6



Name: _____

Total
Marks:

Class: Pr _____

Register No. _____

Duration: 1 1/4 h 45 min

Date: 12th May 2008

Parent's Signature: _____

Booklet B

Instructions to Pupils:

1. For questions 31 to 46, give your answers in the spaces given in this Booklet B.

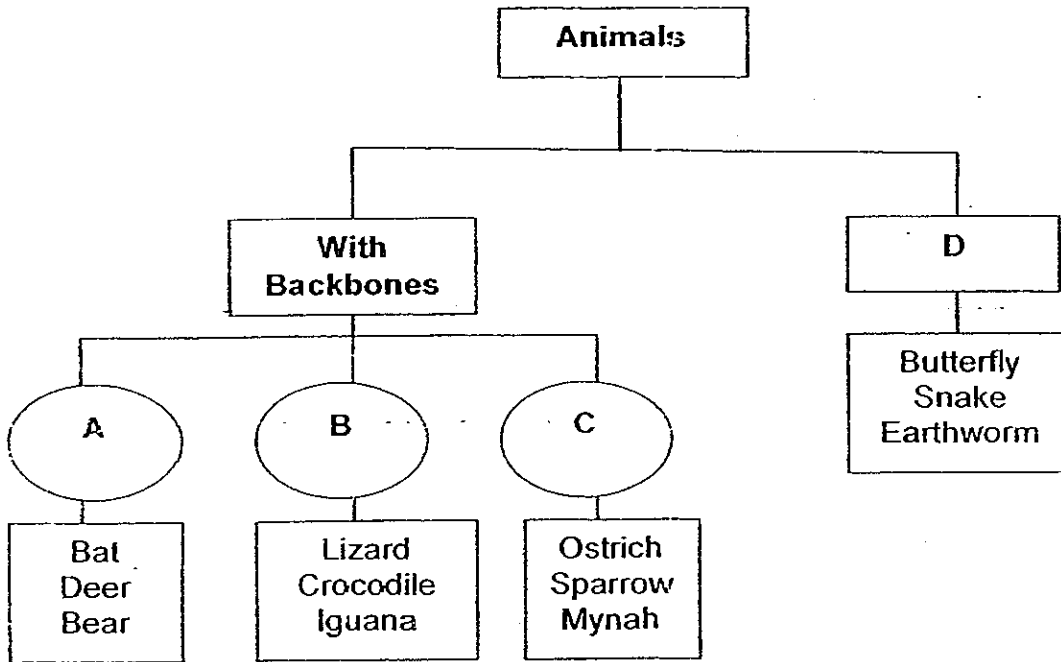
* This booklet consists of 17 pages.

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Booklet B (40 Marks)

For questions 31 to 46, write your answers in this booklet.

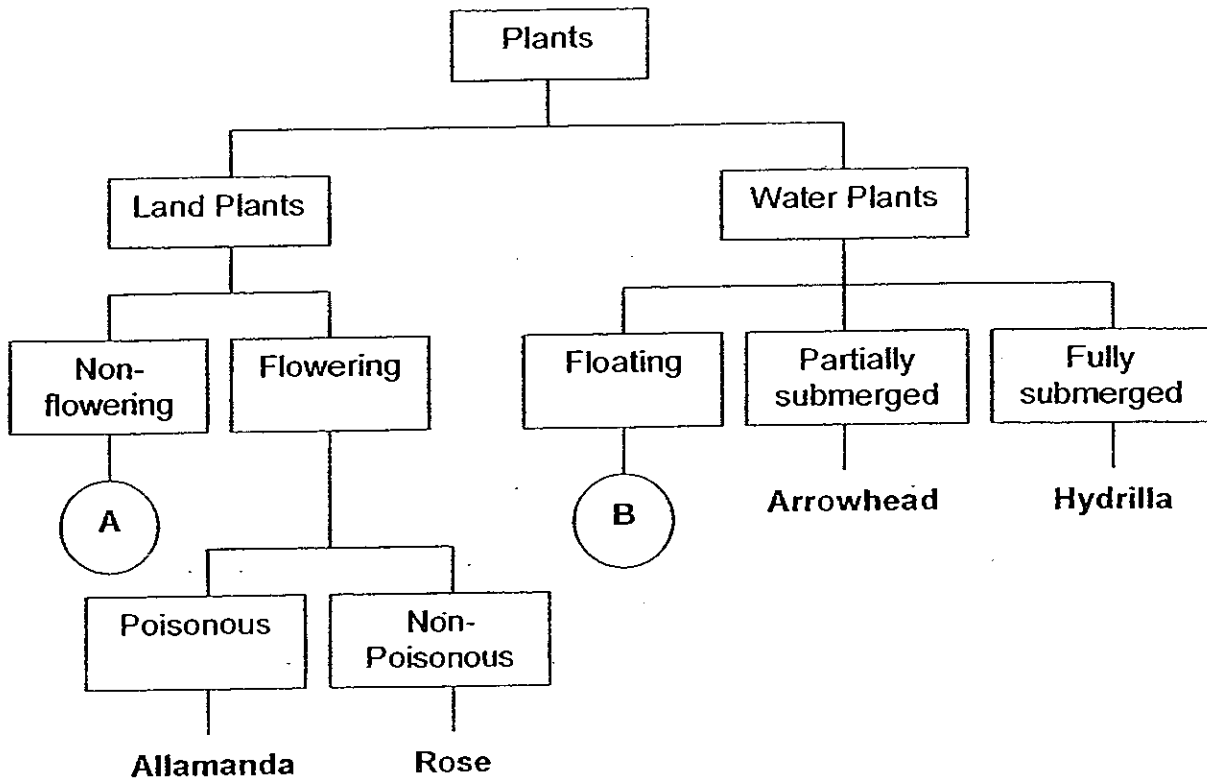
31. Study the classification of some animals below.



(a) Which one of the animals has been classified wrongly and in which groups, A, B, C or D would you classify this animal? (1m)

(b) Give one characteristic of the animals in group A which can distinguish them from the other animals in groups B and C. (1m)

32. Study the classification table shown below.



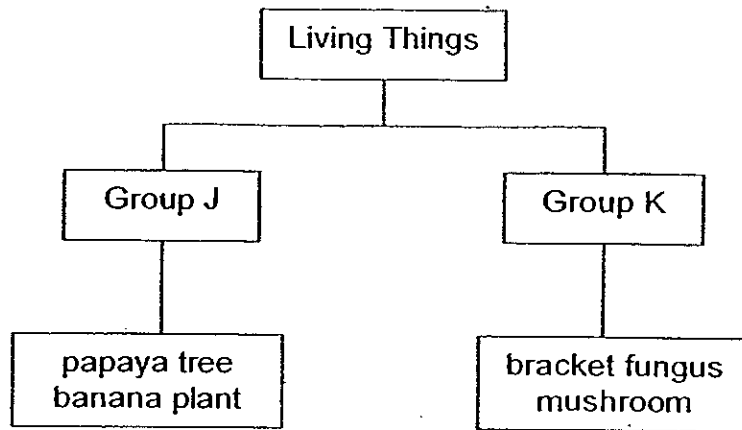
(a) Name one example of A and B. (1m)

(i) A: _____ (ii) B: _____

(b) Based on the classification table shown above, list the characteristics of B. (1m)

(c) Based on the classification table shown above, state one difference between the two plants, Rose and Arrowhead. (1m)

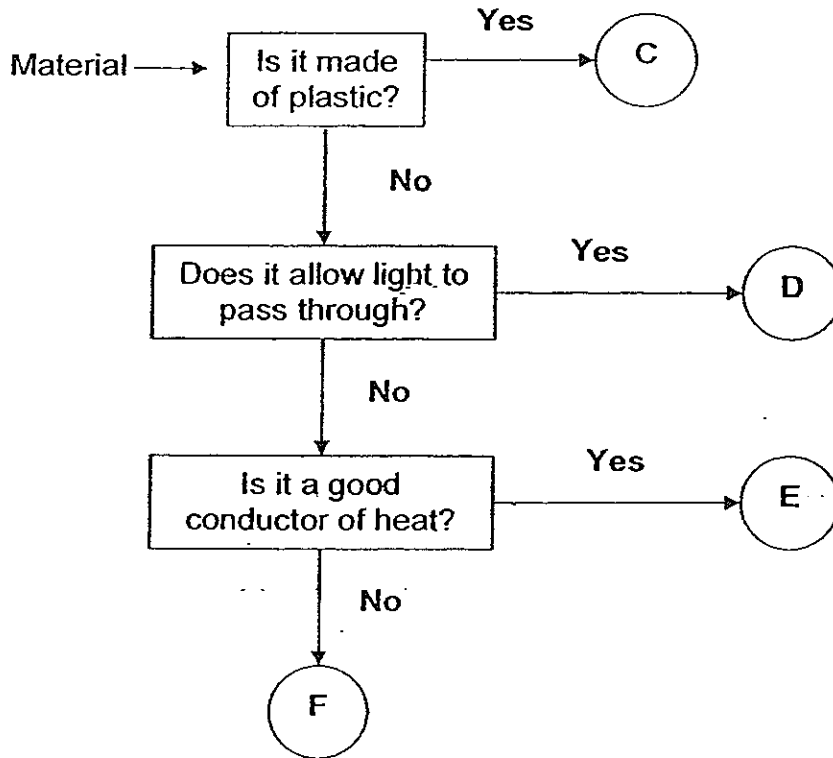
33. The classification table below shows 2 groups of living things, J and K.



(a) Based on the above classification table, which group of living things make their own food? (1m)

(b) How do the living things in Group K reproduce? (1m)

34. Study the flow chart below carefully.



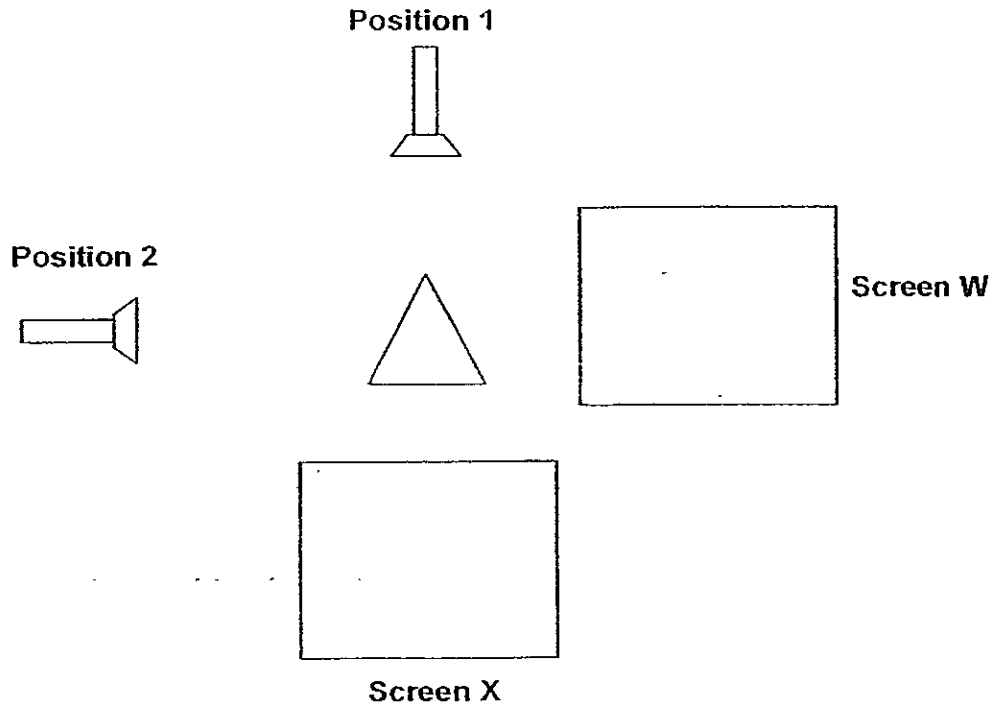
(a) Which of the following materials, C, D, E and F can be used to make a bath towel and an aluminium sheet? (1m)

(i) Bath towel: _____

(ii) Aluminium sheet: _____

(b) Explain why material 'D' is used to make the stem of a laboratory thermometer? (2m)

35. Suzy shone a torchlight on a cone at two positions and its shadow was cast on the two screens, W and X.



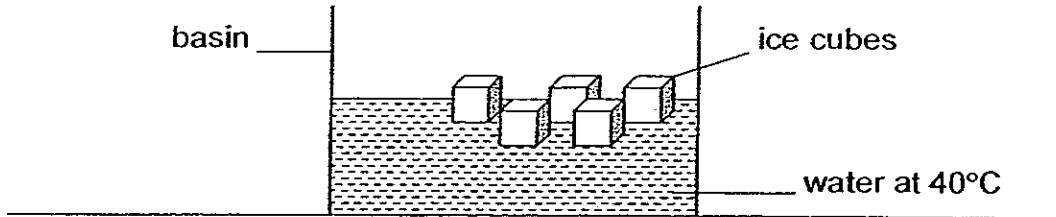
- (a) Draw the shape of the shadows formed on the two screens, W and X, in the boxes provided above, when the torch is shone at position 1 and then at position 2. (2m)
- (b) Suzy noticed that the shadows formed on both the screens were not sharp. Describe how Suzy could make the shadows sharper. (1m)

36. Mrs Sum carried out the experiment as mentioned below.

Step 1: She poured some water that was heated to 40°C into a basin.

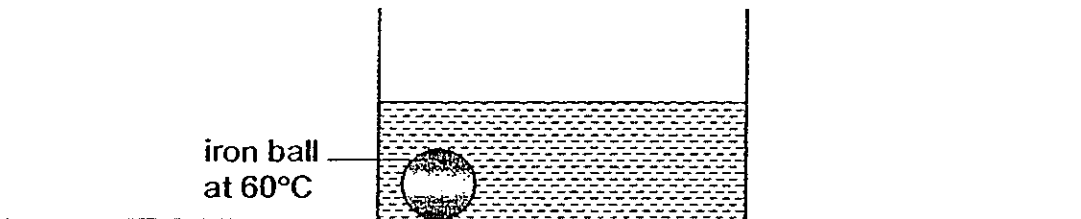
Step 2: She placed a few ice cubes into the basin of water.

Step 3: She then made an observation.



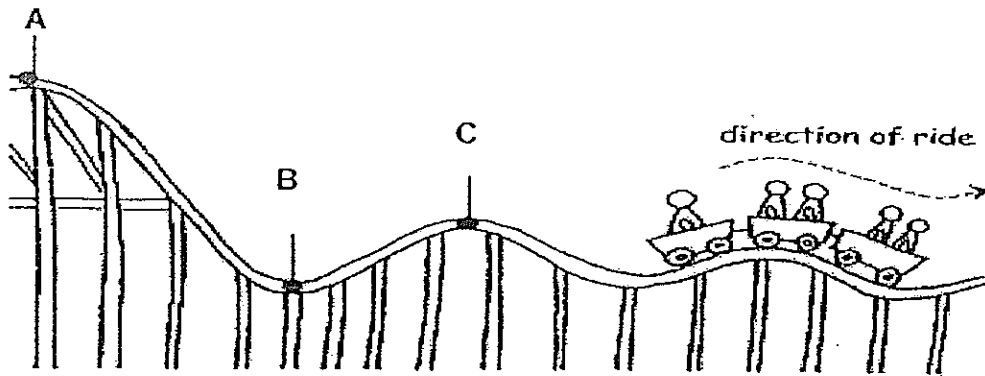
(a) What would happen to the temperature of the water after the ice cubes were added? Explain why. (2m)

Step 4: After all the ice cubes had melted, she immersed an iron ball at 60°C into the basin of water and made another observation.

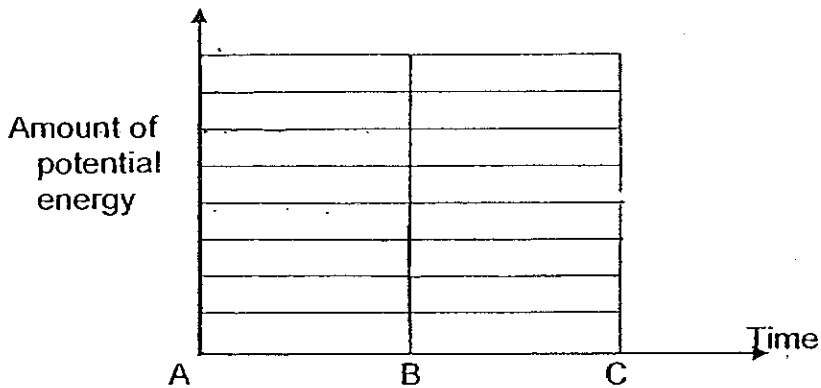


(b) What would the final temperature of the iron ball be after 2 hours? (1m)

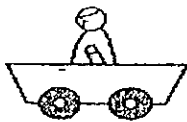
37. The diagram below shows a side view of a roller coaster car ride.



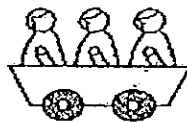
(a) Using the axes given below, draw the graph to show the change in the amount of gravitational potential energy of the roller coaster as it moves from point A to point C. (1m)



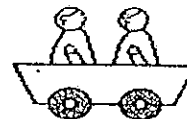
Below are the different roller-coaster cars moving on the tracks.



Car S



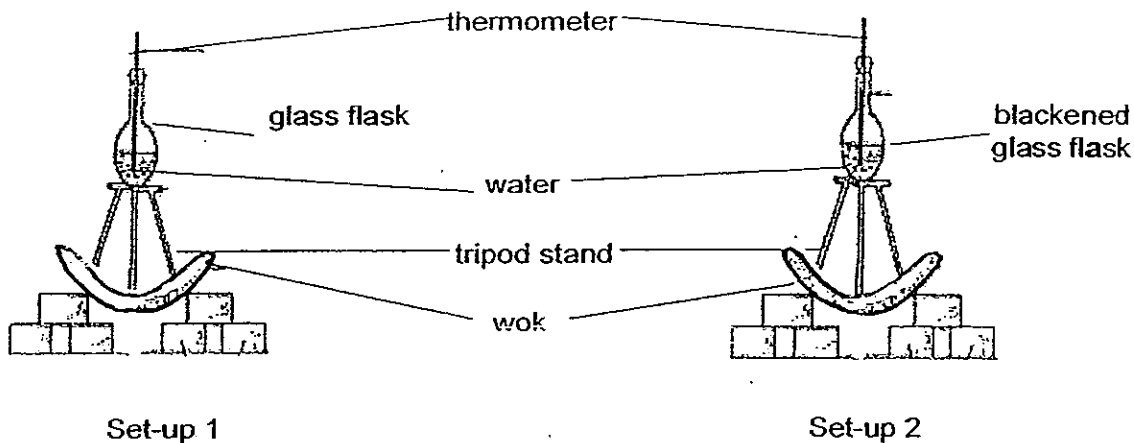
Car R



Car T

(b) If all the above roller-coaster cars are moving equally fast, which one has the most kinetic energy? Why? (1m)

38. Simon prepared two experimental set-ups as shown below. He used a shiny wok in both set-ups to make a solar cooker. In set-up 1, he used a glass flask, filled with water and sealed it using a rubber bung with a thermometer. In set-up 2, he painted the glass flask black.



The initial temperatures of the water in both flasks were taken. The set-ups were then left in the Sun for an hour. The temperature of the water was taken again and recorded in the table as shown below.

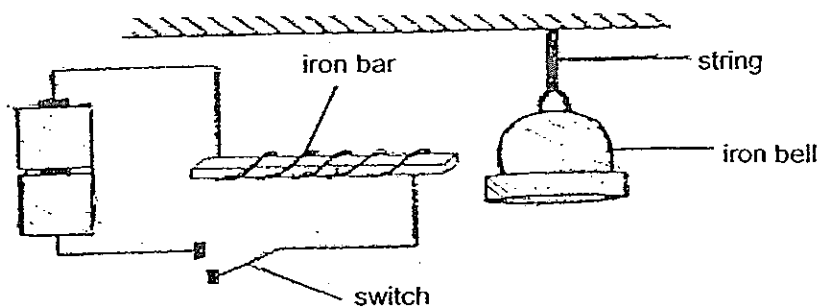
	Initial Temperature (°C)	Final Temperature (°C)
Set-up 1	30	55
Set-up 2	30	80

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

- (b) Why was there a difference in the final temperature of the water? (1m)

- (c) If the amount of water in the flask in set-up 1 was increased, what difference would he observe in the final temperature of the water? (1m)

39. Study the set up as shown below.



An iron bell was hung near an iron bar in the circuit above. When the switch in the circuit was closed and opened continuously, the bell would ring.

- (a) State the energy conversion in the above situation. (1m)
Write your answer in the boxes provided below.

	→		→		→	
--	---	--	---	--	---	--

- (b) Explain why the circuit was closed and opened continuously for the bell to ring. (2m)

- (c) If the iron bar was replaced with a magnet bar, would the bell continue to ring when the switch was opened and closed continuously? Give a reason for your answer. (1m)

40. Mrs Tan conducted an experiment by applying four different types of lubricants on her hand one at a time. She then recorded the time taken for the glass to slip through her hands in the table below.

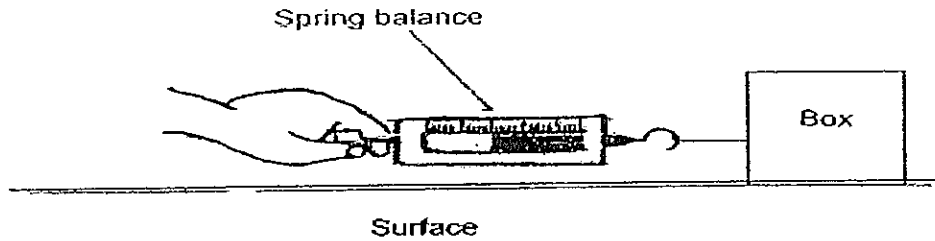
Type of lubricant applied on hands	Time taken for the glass to slip through her hands (s)
Water	25
Powder	21
Cream	32
Oil	16

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

- (b) Explain why the glass was able to slip through her hands when the lubricant is being applied. (1m)

41. Study diagram below.

- (a) Devi pulled a box using a spring balance over the same distance across 3 different surfaces, K, L and M.



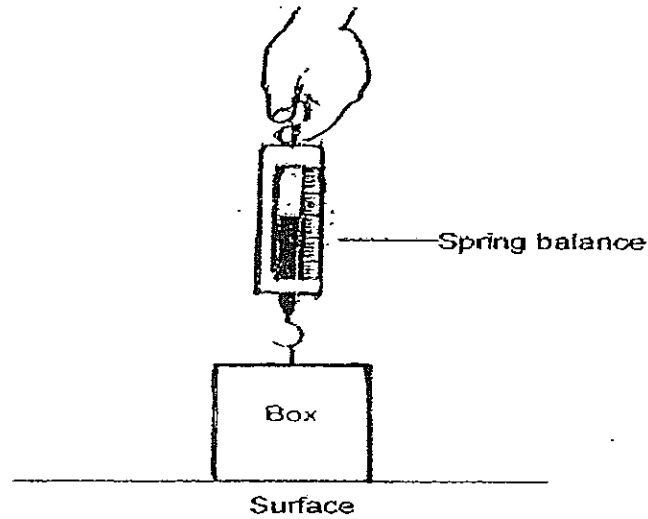
She then recorded the amount of force needed for each occasion in the table below.

Surface	Force (N)
K	670
L	815
M	364

If L is a carpeted surface, which of the letters K and M can represent the two surfaces. (1m)

- (i) Glass surface: _____
- (ii) Wooden surface: _____

Study diagram below.



(b) State the force that the spring balance measured in the above situation. (1m)

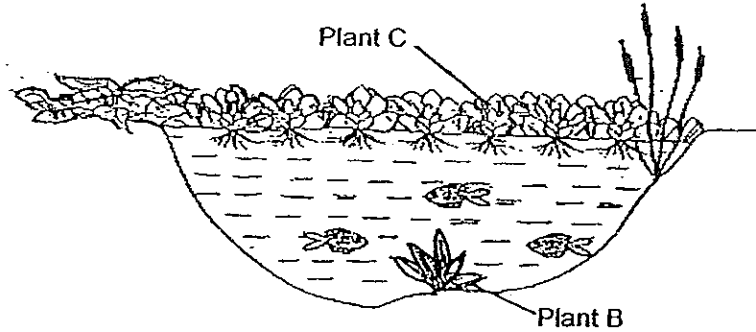
42. The table below shows how some animals depend on the different parts of a wild fruit tree for food. The (✓) tick represents the part of the wild fruit tree the organisms depend on for food.

Part of tree Animals	Leaves	Flowers	Fruits	Bark
Caterpillar	✓			
Butterfly		✓		
Beetle			✓	✓
Bat			✓	
Mealy bug	✓			
Squirrel			✓	

- (a) If the pollination of flowers does not take place, some animals would be affected. Which animal(s) would not be able to obtain any food from the wild fruit tree? (1m)

- (b) Explain the reason for your answer in (a). (1m)

43. Study the conditions in a pond community below carefully.



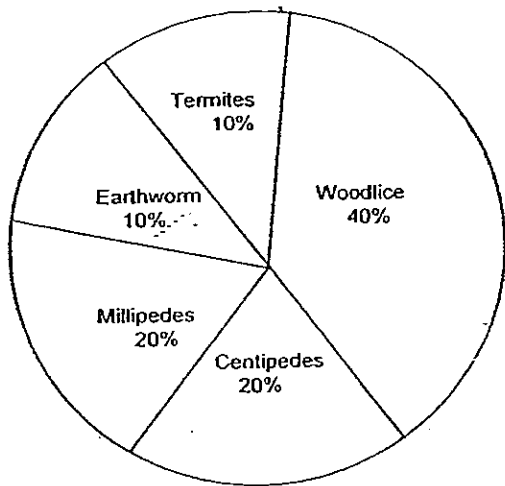
(a) State one way in which Plant C is useful to the pond community. (1m)

(b) What do you think would happen to Plant B after a few months? (1m)

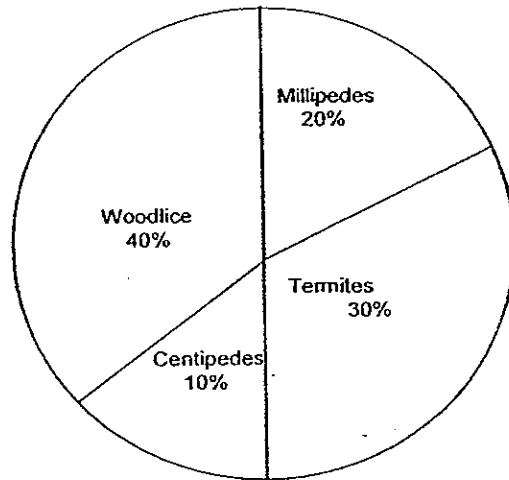
(c) Explain your answer in (b). (1m)

44. The diagrams below show the pie charts of two communities A and B.

The percentages in the pie charts represent the number of organisms in each of the community.



Community A



Community B

Based on the information from the pie charts, study the statements about the organisms in the communities carefully and state whether they are true, false or not possible to tell. (2m)

Use the Letters 'T' for true, 'F' for false and 'N' for not possible to tell to fill in the boxes provided.

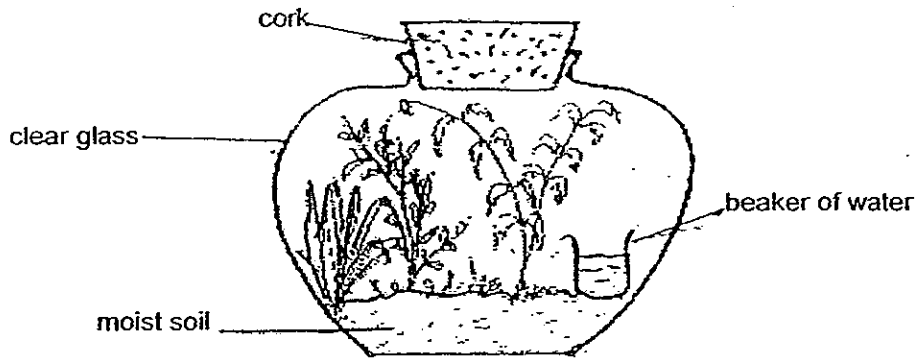
(a) Community B has more populations of organisms than Community A.

(b) Community A has the same number of woodlice as Community B.

(c) The environmental conditions in habitat A are similar to habitat B.

(d) The number of woodlice is less than the combined total number of the other group of organisms in Community A.

45. Ming Teck created a bottle garden as shown below.

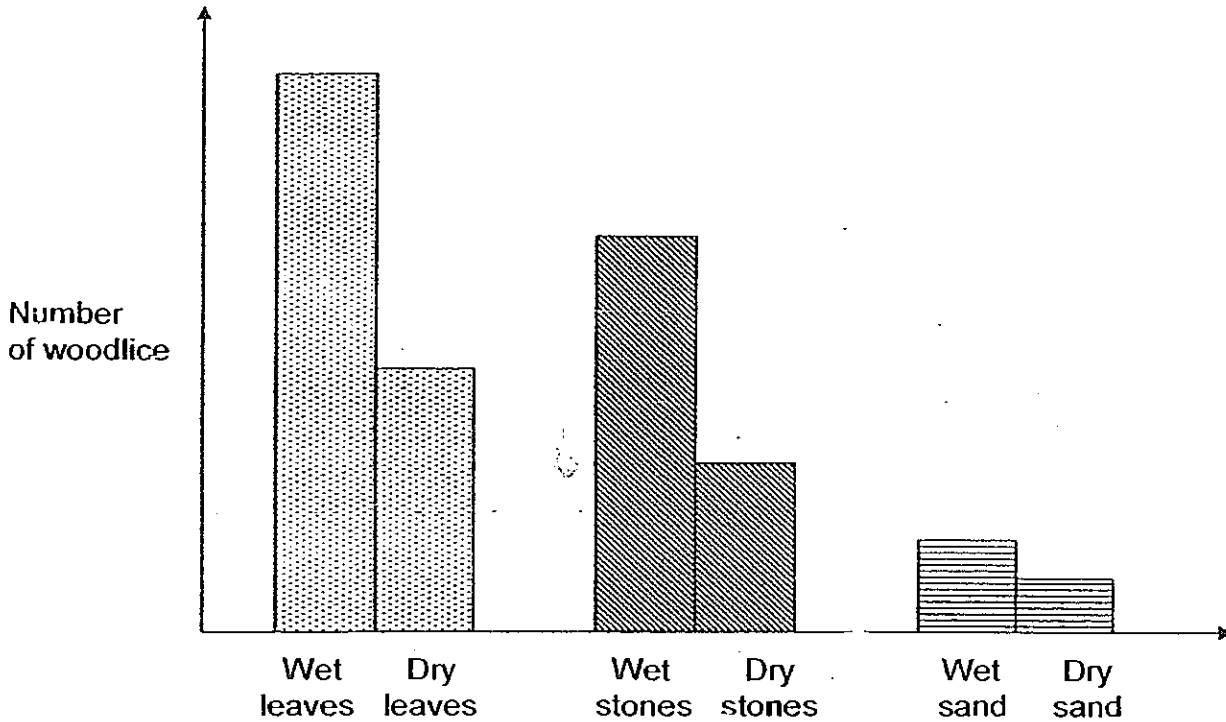


He sealed his bottle garden tightly with a cork stopper. He then left the bottle garden near a window and did not water the garden for two months.

(a) Explain how the plants in the bottle garden could still get their continuous supply of water and survived after two months. (1m)

(b) State two ways the sun is useful to the bottle garden. (1m)

46. Jenny conducted an experiment to find out the living conditions which woodlice prefer. A number of woodlice were released into a darkened enclosure subjected to under different conditions. After 5 hours, she counted the number of woodlice in each part of the enclosure. She then presented the bar chart below to show her results.



(a) What conclusions could Jenny make from the results of her experiment? (1m)

(b) In this experiment, what 2 variables did Jenny have to keep constant so as to ensure that this was a fair test? (1m)

(i) _____

(ii) _____

End of Paper

Rosyth Primary School
Primary 6 Science SA1 (2008)

Answers Key

Qn no.	Ans
1	1
2	2
3	1
4	1
5	3
6	2
7	4
8	3
9	3
10	2

Qn no.	Ans
11	3
12	3
13	2
14	3
15	1
16	3
17	2
18	3
19	1
20	2

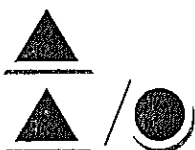

Qn no.	Ans
21	1
22	3
23	3
24	3
25	1
26	1
27	3
28	4
29	2
30	2

- 31a. The snake has been classified wrongly, I would classify the snake in Group B.
31b. The animals in Group A give birth to young alive.

- 32a.i) A: Bird nest fern
32a.ii) B: Duckweed
32b. It is water plant that floats on water.
32c. The rose is a land plant while the arrowhead is a water plant.

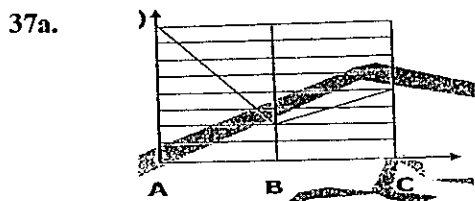
- 33a. Group J make their own food.
33b. The living things in Group K reproduce by spores, they grow on other organisms like plants and trees and get nutrients and food from the other organisms.

- 34a.i) F
ii) E
34b. Material D allows light to pass through, thus making the thermometer scales easier to read.

- 35a. Screen W 
Screen X 

- 35b. Position the cone nearer to both screens.

- 36a. Temperature decrease, Water loses heat to the ice cubes ice cubes gain heat from water.
36b. It would be at room temperature, about 28°C



- 37b. Car K. It has most mass thus when it is a point A, it has most gravitational potential energy, and when it starts to move, most gravitational potential energy will be converted to most kinetic energy.
- 38a. It was to find out if the colour of the glass flask would affect temperature of the water in the glass flask when it is being boiled by heat energy from the sun.
- 38b. The colour black absorbs most heat than shiny or white colour. As the glass flask is blackened, it absorbs more heat which heated up the water more than in set-up 1.
- 38c. The temperature of the water in set-up 1 would be even lower than before.
- 39a. Chemical potential energy- electrical energy- kinetic energy- heat sound energy.
- 39b. When the circuit was closed, the iron bar was magnetized and iron bell was attracted to it and make a sound, However, when the circuit was opened the iron bar lost its magnetism and the bell was attracted.
- 39c. No, the iron bell would still attract to the magnet despite opening and closing the switch.
- 40a. She wanted to find out if different types of lubricant would affect the time taken for the glass to slip through her hands.
- 40b. The lubricant reduces the friction between her hand and the glass, thus it is able to slip through her hand.
- 41a. i) M
ii) K
- 41b. Gravitational force.
- 42a. Bat and squirrel.
- 42b. They feed only on the fruits of the tree. When pollination does not take place, only the production of the fruits is affected.
- 43a. It provides shelter for the organisms.
- 43b. Plants B would soon die.
- 43c. All the plant C are occupying the surface of the pond's water, receiving all the sunlight, thus, plant B is unable to photosynthesis without sunlight and die.
- 44a. F
- 44b. N
- 44c. N
- 44d. T
- 45a. The water in the breaker evaporated and condensed on the glass.
- 45b. The sunlight allows them to photosynthesis and it evaporated the water which condenses on the glass.
- 46a. The woodlice prefer the wet leaves best and the dry sand least.
- 46b. The distant between the parts of the enclosure and woodlice.