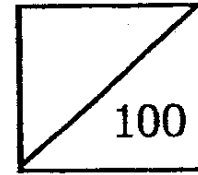




**Rosyth School**  
**First Semestral Assessment for 2006**  
**SCIENCE**  
**Primary 6 EM1/2**



Name: \_\_\_\_\_

Total  
Marks:

Class: Pr 6 \_\_\_\_\_ Register No. \_\_\_\_\_ Duration: 1 h 45 mins

Date: 10 May 06

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

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## Booklet A

Instructions to Pupils:

1. Do not open the booklets, A and B until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 booklets, A and 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 |
|------------------|------------------|----------------|
| <b>Booklet A</b> | <b>60 marks</b>  |                |
| <b>Booklet B</b> | <b>40 marks</b>  |                |
| <b>Total</b>     | <b>100 marks</b> |                |

\* This booklet consists of 19 pages .

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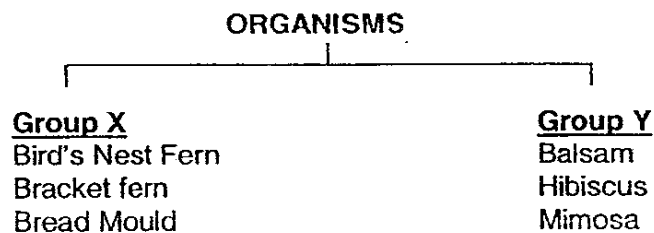
**PART I ( 60 MARKS)**

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 table below. In which group (1,2,3 or 4 ) are the organisms correctly classified?

| GROUP | Parts that are eaten |          |         |
|-------|----------------------|----------|---------|
|       | Seed                 | Fruit    | Stem    |
| 1     | Red bean             | Cucumber | Ginger  |
| 2     | Spinach              | Tomato   | Potato  |
| 3     | Groundnut            | Carrot   | Cabbage |
| 4     | Pea                  | Tapioca  | Onion   |

2. Jill classified some organisms she observed into two groups as shown below.



Which one of the following can be the headings for Groups X and Y?

|     | Group X        | Group Y        |
|-----|----------------|----------------|
| (1) | With Stem      | Without stem   |
| (2) | With Leaves    | Without leaves |
| (3) | Has Fruits     | Has no fruits  |
| (4) | Has no flowers | Has flowers    |

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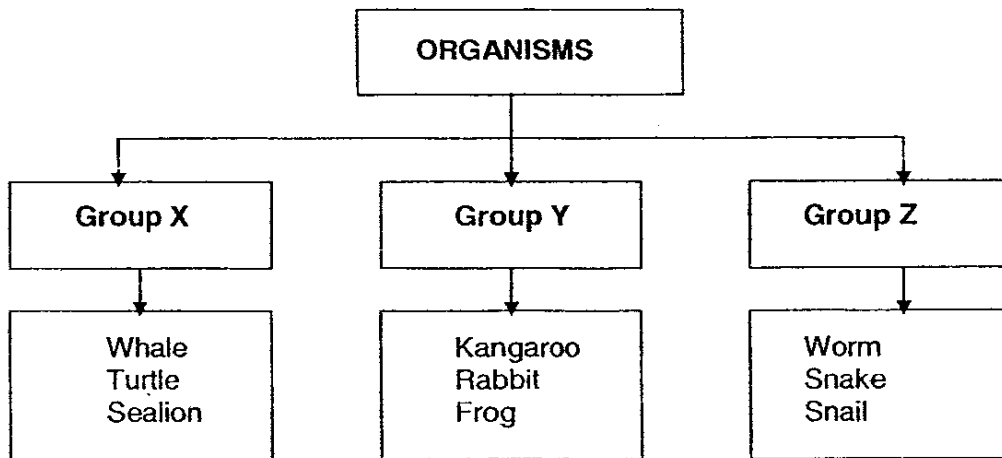
3. The table shows some animals grouped according to their habitats.

| Habitat | Animals                   |
|---------|---------------------------|
| A       | Shark, Whale, Jellyfish   |
| B       | Crab, Mudskipper, Snake   |
| C       | Lizard, Wild boar, Monkey |
| D       | Lion, Deer, Giraffe       |

In which of the habitats (A, B, C or D) are you most likely to find a crocodile?

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

4. Study the classification chart shown below carefully.

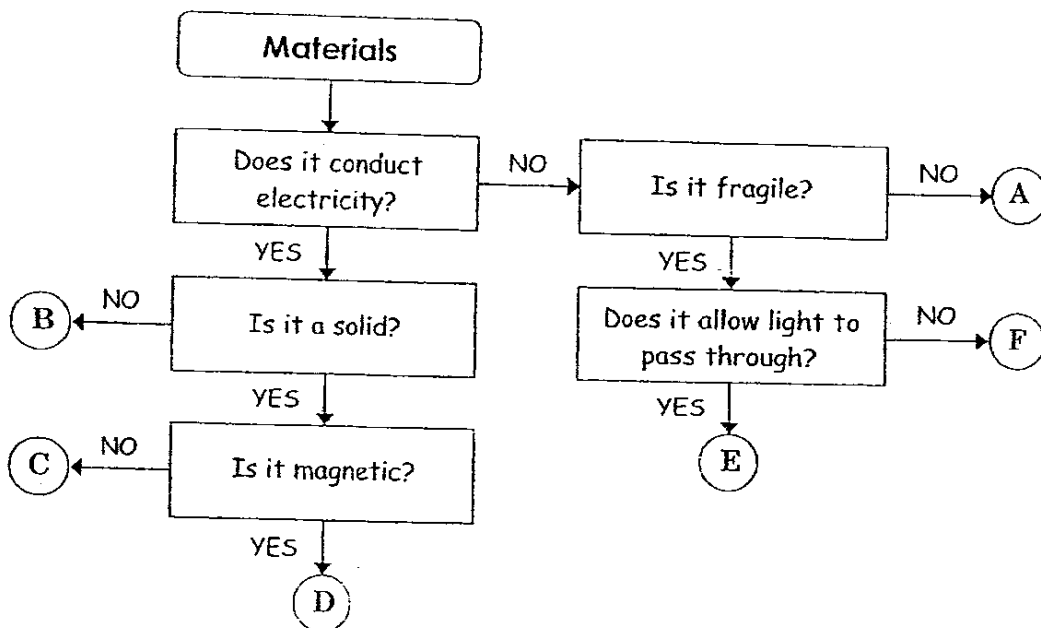


How are the animals shown above being classified?

- (1) They are classified according to their outer covering.
- (2) They are classified according to the food they eat.
- (3) They are classified according to the way they move.
- (4) They are classified according to their body form.

( Go on to the next page)

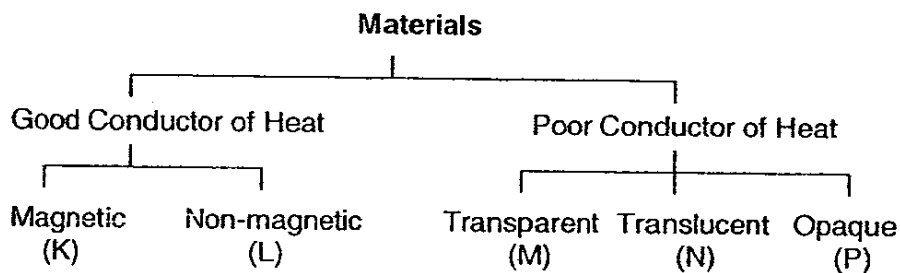
5. The flow chart below shows the properties of materials A to D.



Which of the materials could most likely represent A, B, C and D?

|                | A         | B       | C         | D       |
|----------------|-----------|---------|-----------|---------|
| <del>(X)</del> | Aluminium | Steel   | Glass     | Wool    |
| <del>(X)</del> | Glass     | Mercury | Steel     | Rubber  |
| <del>(X)</del> | Aluminium | Steel   | Rubber    | Ceramic |
| <del>(X)</del> | Rubber    | Mercury | Aluminium | Steel   |

6. Study the classification chart below carefully.

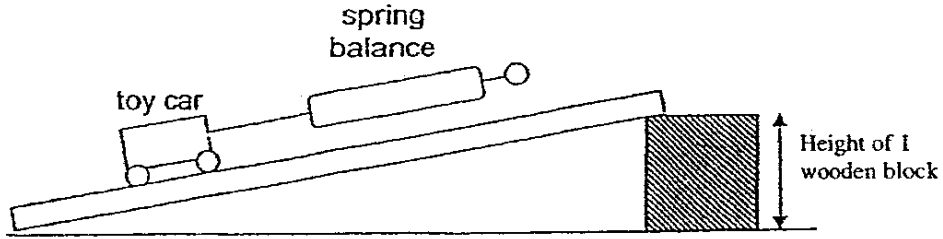


Which of the following correctly shows the materials that are represented by the letters K, L, M, N and P?

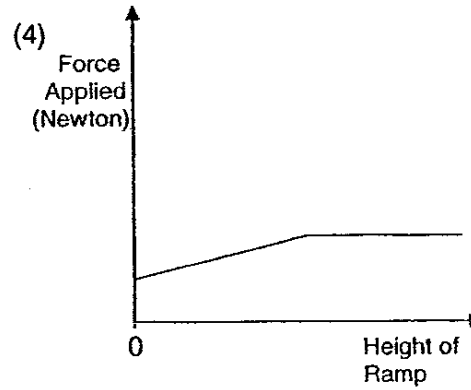
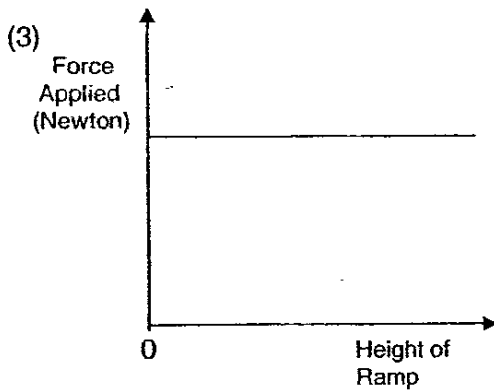
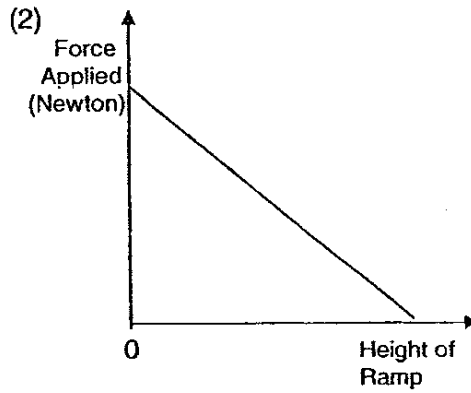
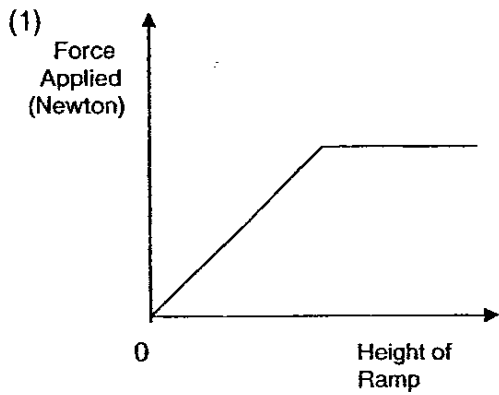
|                | K      | L         | M             | N             | P             |
|----------------|--------|-----------|---------------|---------------|---------------|
| <del>(X)</del> | Silver | Aluminium | Clear Glass   | Tissue Paper  | Wood          |
| <del>(X)</del> | Steel  | Nickel    | Clear Plastic | Frosted Glass | Clear Plastic |
| <del>(X)</del> | Iron   | Copper    | Clear Glass   | Frosted Glass | Leather       |
| <del>(X)</del> | Steel  | Gold      | Clear Plastic | Styrofoam     | Cloth         |

( Go on to the next page)

7. Miss Lee carried out an experiment with her class to find out how the force applied to pull a toy car up a ramp varied with the height of the ramp as shown in the diagram below. They varied the height by changing the number of wooden blocks.

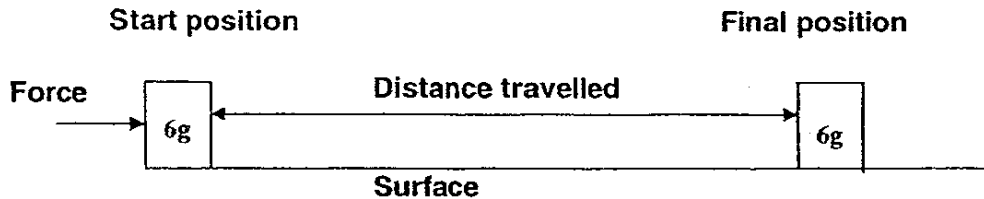


Which one of the following graph shows their results?



( Go on to the next page)

8. Peter pushed an object of mass 6 grams over a distance on four different surfaces P, Q, R and S. He used the same amount of force to push the object on each surface.



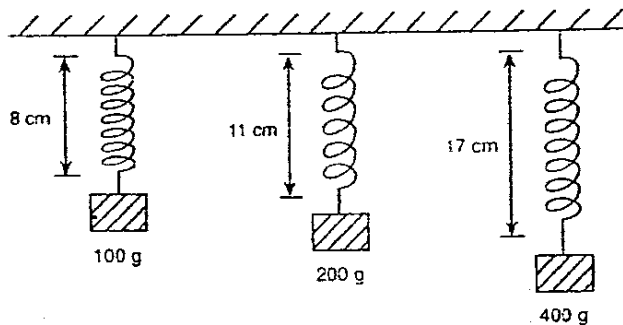
The distance travelled and the time taken by the object on each surface was recorded in the table shown below.

| Surface | Distance travelled (cm) | Time taken (sec) |
|---------|-------------------------|------------------|
| P       | 110                     | 6                |
| Q       | 120                     | 5                |
| R       | 100                     | 5                |
| S       | 100                     | 6                |

Which surface (P, Q, R or S) has the most amount of friction?

- (1) P (2) Q  
 (3) R (4) S

9. The diagram below shows the length of a spring when different weights were hung on it.

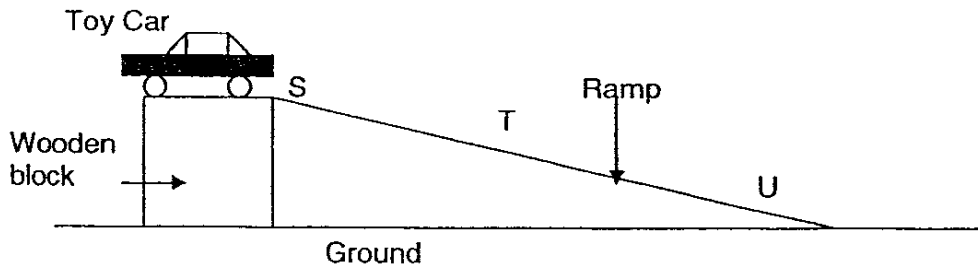


What is the original length of the spring most likely to be?

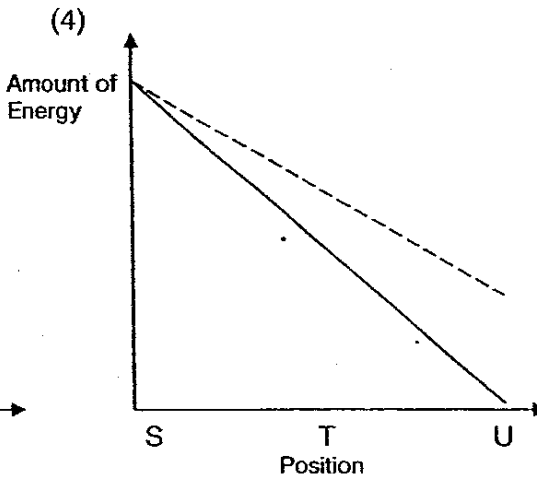
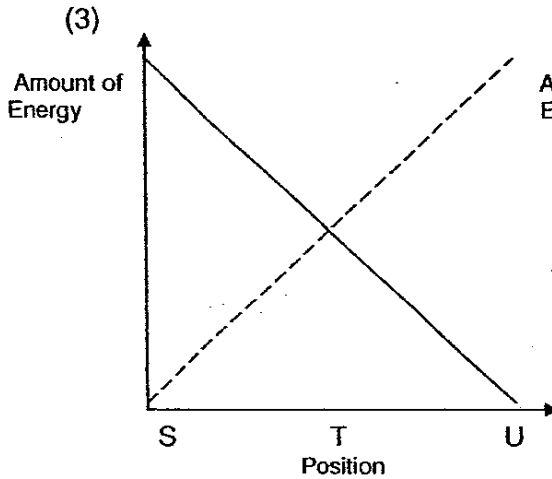
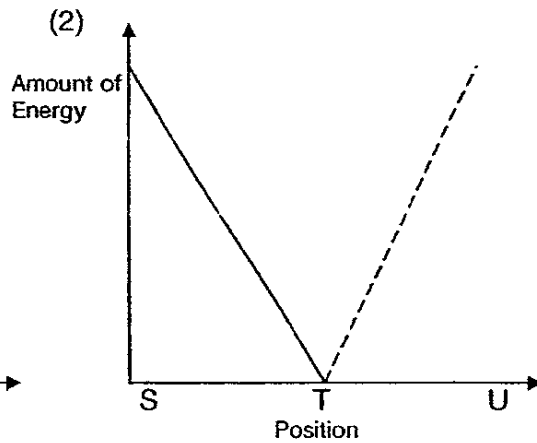
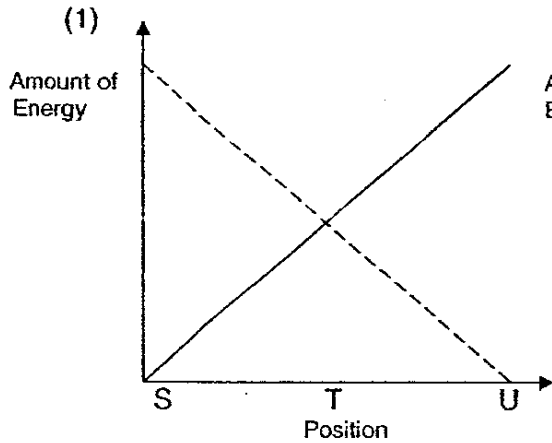
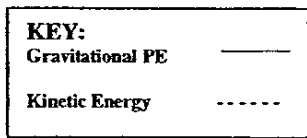
- (3) ~~(1)~~ 5 cm      ~~(2)~~ 8 cm  
~~(4)~~ 11 cm      ~~(3)~~ 20 cm

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10. Jonathan placed a toy car on a ramp as shown below. He then gave the toy car a push and the toy car rolled down the ramp. The toy car stopped after sometime.

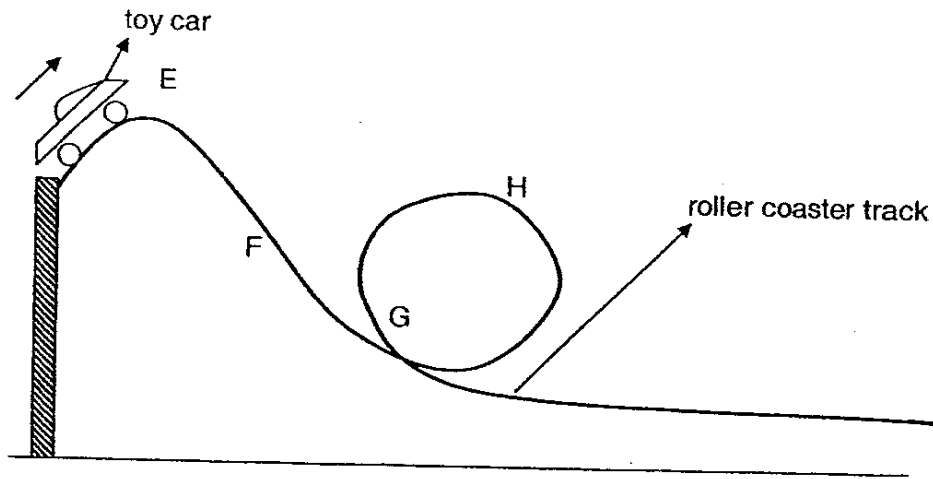


Which one of the following graphs correctly represents the change in the amount of Gravitational Potential Energy and Kinetic Energy as the toy car rolled down the ramp (from S to U)?



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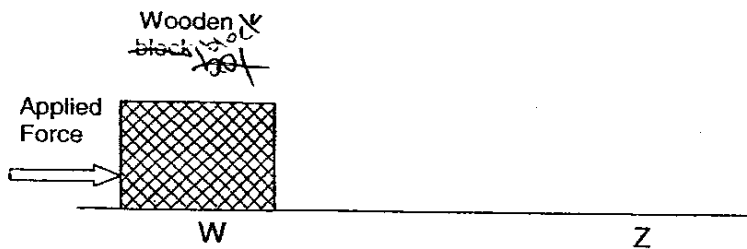
11. The picture below shows the path taken by a toy car on a toy roller coaster track.



Arrange the amount of Gravitational Potential Energy the toy car possessed in descending order (from the most Gravitational Potential Energy to the least).

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

12. The wooden <sup>block</sup> ~~box~~ needs to be moved from position W to Z, as shown in the diagram below.



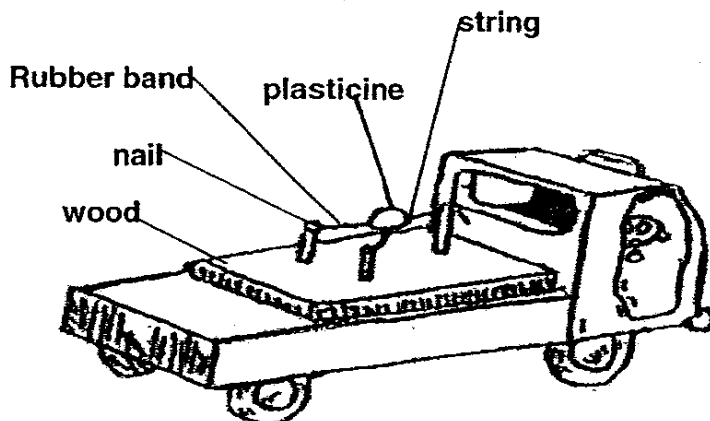
Which one of the following must happen?

- (1) The gravitational force and the frictional force acting on the block must be equal.  
 (2) The frictional force acting against the block must be greater than the applied force.  
 (3) The force applied on the block must be greater than the frictional force acting against it.  
 (4) The frictional force acting against the block must be greater than the gravitational force acting on it.

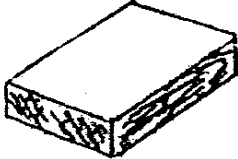
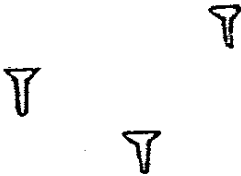

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13. Study the picture below carefully.



The toy car will move forward when the string is cut to release the plasticine. Which of the following will enable the truck to travel the greatest distance?

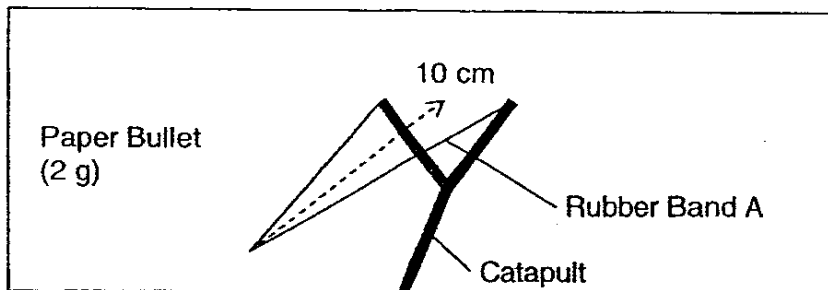
|   |   |  |
|---|---|--|
|  <p>W – increase the size of the wood</p> |  <p>X – increase the distance between the nails</p> |  <p>Y – place more plasticine on the rubber band</p> |
|---|---|--|

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

- (2) X only
- (4) X and Y only

( Go on to the next page)

14. Henry wanted to find out which rubber band, A or B, would help him to shoot a paper bullet a further distance. He first carried out the experiment with rubber band A as shown below.



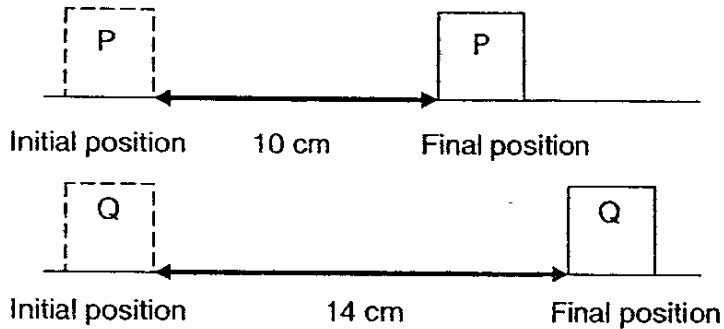
Which one of the following shows what Henry should do to carry out the test on Rubber Band B so that his comparison is a fair one?

- (1) (2) (3) (4)
- Option (1) shows a catapult with a 2g paper bullet, a 20 cm distance from the pivot to the launch point, and Rubber Band B. Option (2) shows a catapult with a 2g paper bullet, a 10 cm distance from the pivot to the launch point, and Rubber Band B. Option (3) shows a catapult with a 3g paper bullet, a 20 cm distance from the pivot to the launch point, and Rubber Band B. Option (4) shows a catapult with a 2g paper bullet, a 10 cm distance from the pivot to the launch point, and Rubber Band B. There are handwritten annotations in option (4): '3g' next to the bullet weight and '20 cm' next to the distance label.

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16. Two identical blocks of wood, P and Q, were pushed with an equal force as shown below. The distance moved by each block of wood was recorded.

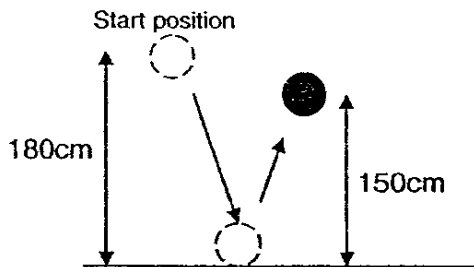


Based on the above information, what is the likely reason that caused block Q to move further than block P?

- A: The surface along which block P was pushed was wet and rough.
- B: The surface along which block P was pushed was dry and smooth.
- C: The surface along which block Q was pushed was wet and smooth.
- D: The surface along which block Q was pushed was dry and rough.

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

17. Peter dropped a ball from a height of 180cm. It bounced up and down several times before coming to a stop. He noticed that after each bounce, the ball reached a height that was 30cm less than the previous height. An example is shown below.

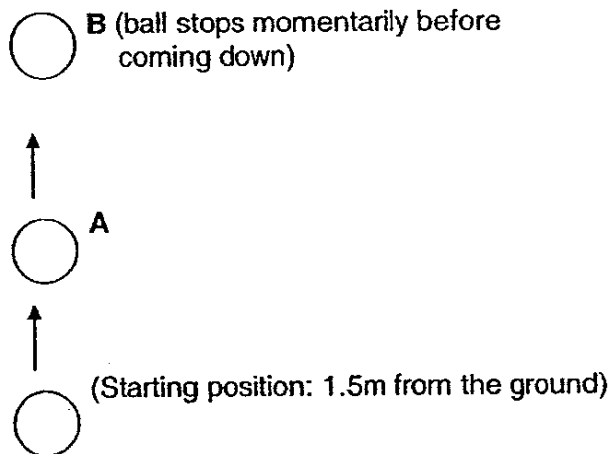


How many bounces did the ball take to lose half of its gravitational potential energy it originally had at the height of 180cm?

- (1) 2
- (2) 3
- (3) 4
- (4) 5

( Go on to the next page)

18. When a ball is thrown into the air, the ball may possess potential energy (PE), kinetic energy (KE) or a combination of both types of energy (PE + KE).



Identify the type(s) of energy the ball possesses at positions A and B, as the ball moves up into the air before coming down.

(1)

| Position | Type of Energy |    |         |
|----------|----------------|----|---------|
|          | PE             | KE | PE + KE |
| A        | √              |    |         |
| B        |                |    | √       |

(2)

| Position | Type of Energy |    |         |
|----------|----------------|----|---------|
|          | PE             | KE | PE + KE |
| A        |                | √  |         |
| B        |                | √  |         |

(3)

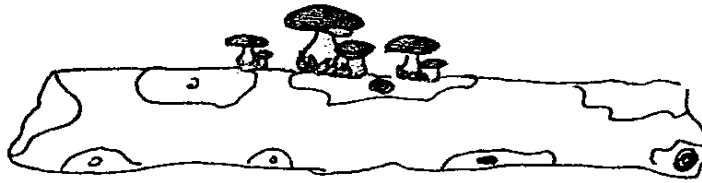
| Position | Type of Energy |    |         |
|----------|----------------|----|---------|
|          | PE             | KE | PE + KE |
| A        | √              |    |         |
| B        |                | √  |         |

(4)

| Position | Type of Energy |    |         |
|----------|----------------|----|---------|
|          | PE             | KE | PE + KE |
| A        |                |    | √       |
| B        | √              |    |         |

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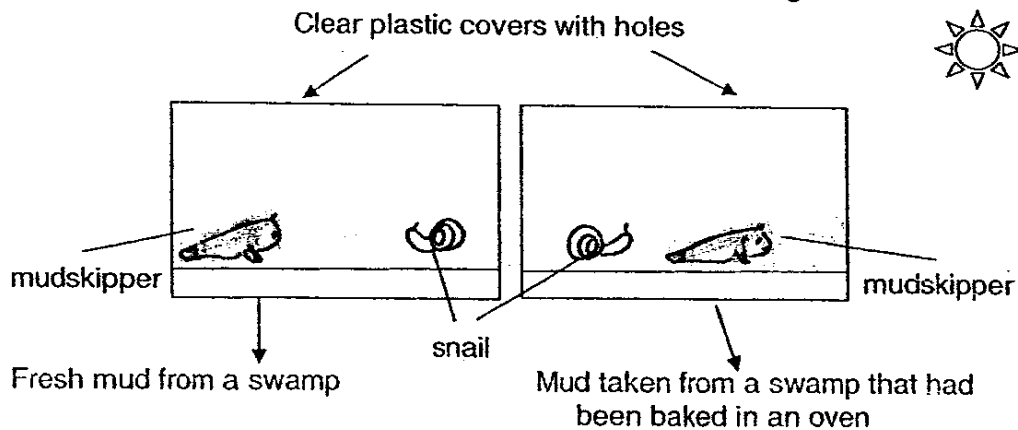
19 The picture below shows toadstools growing on a dead log.



Which of the following best explains why the dead log is important to the toadstools?

- (1) The dead log provides carbon dioxide for the toadstools.
  - (2) The dead log helps the toadstools to make food.
  - (3) The dead log provides nutrients for the toadstools.
  - (4) The dead log provides the support for the toadstools to reproduce.
20. Which of the following correctly state how completely submerged plants are helpful to animals?
- A: They can be a source of food for the animals.
  - B: They provide animals with shelter.
  - C: They take in the carbon dioxide given out by the animals.
  - D: They provide the animals with places to lay eggs.
- (1) A and C only
  - (2) A, B and C only
  - (3) A, B and D only
  - (4) A, B, C and D

21. Yong Sheng conducted an experiment as shown in the diagram below.

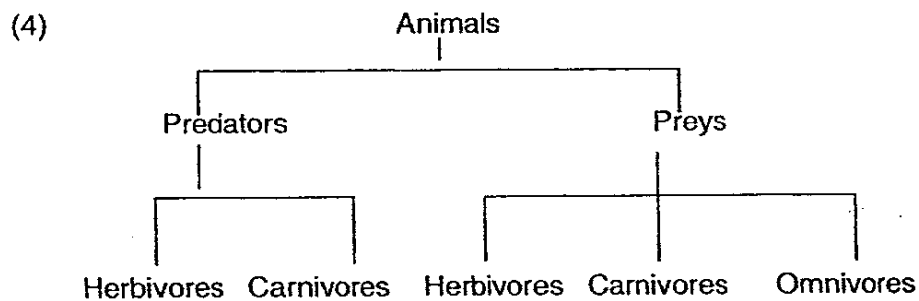
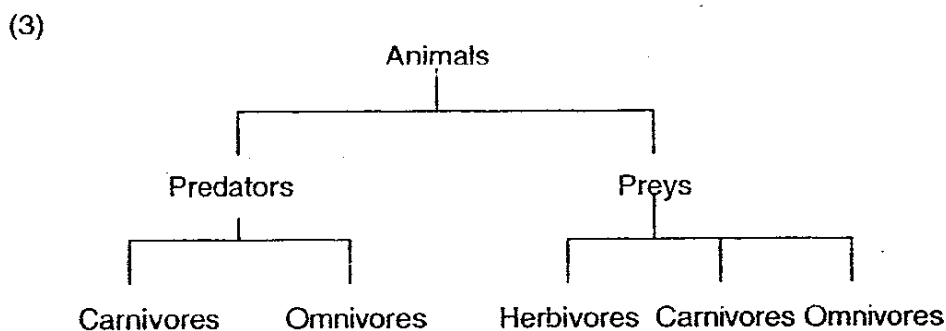
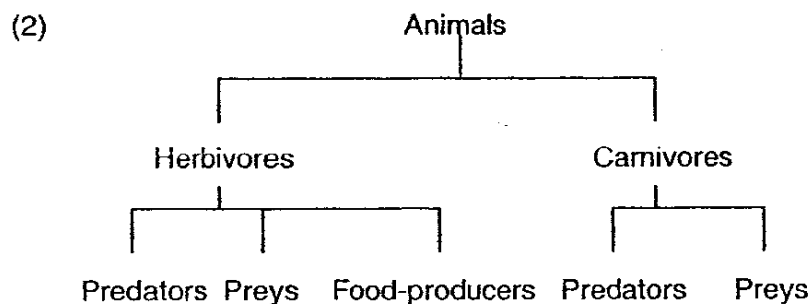
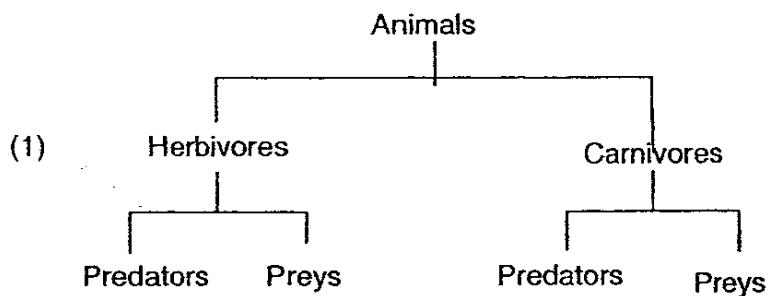


What do you think Yong Sheng was trying to find out?

He wanted to find out if \_\_\_\_\_.

- (1) the snails are food for the mudskipper
- (2) the amount of water in the mud affects the survival of the mudskipper.
- (3) the amount of light affects the survival of the mudskipper.
- (4) the amount of air affects the survival of the mudskipper.

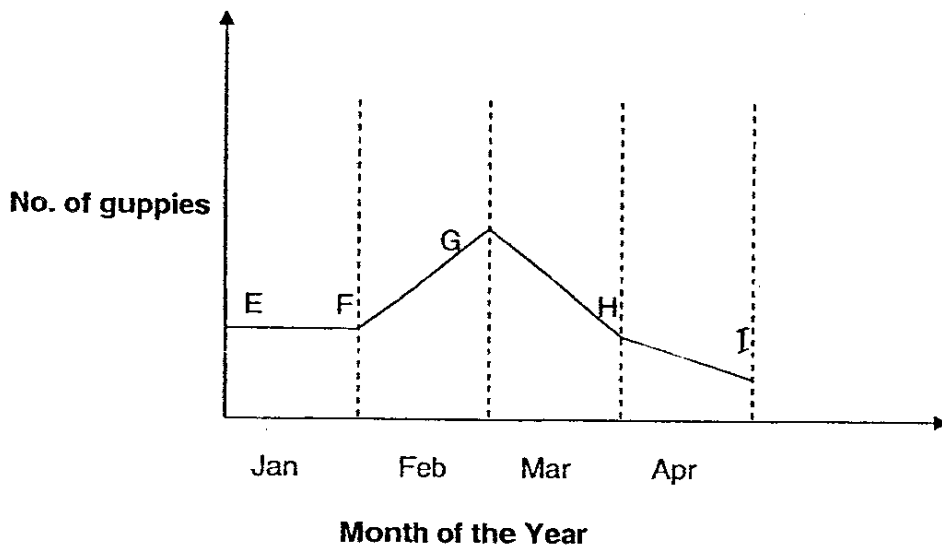
22. Which one of the classification charts below is correct?



- 23 Li Ling kept a record of the number of deaths and births of the guppies in her aquarium from January to April as shown in the table below.

| Month    | Observation                              |
|----------|--|
| January  | No births and deaths.                    |
| February | No deaths but a few guppies were born.   |
| March    | Rate of death higher than rate of birth. |
| April    | Rate of birth higher than rate of death. |

Based on her observation, she drew a graph:



Which section of the graphs had been wrongly drawn?

- |        |        |
|--------|--------|
| (1) EF | (2) FG |
| (3) GH | (4) HI |

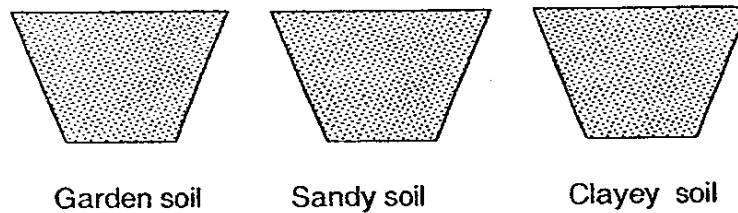
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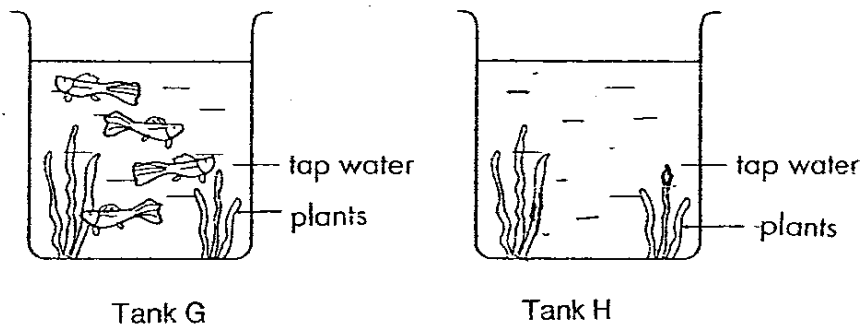


28. Halim wanted to find out if the type of soil an animal lives in affects how fast it reproduces.



He put a few earthworms in three separate pots of soil as shown above. Which of the variables should he keep the same?

- A: Type of soil  
 B: Amount of soil  
 C: Place where the pots are put  
 D: Number of earthworms put in the soil
- (1) A and B only  
 (2) B, and C only  
 (3) A, C and D only  
 (4) B, C and D only
29. Jim set up two tanks, G and H, in the same place as shown in the diagram below and placed them next to each other.

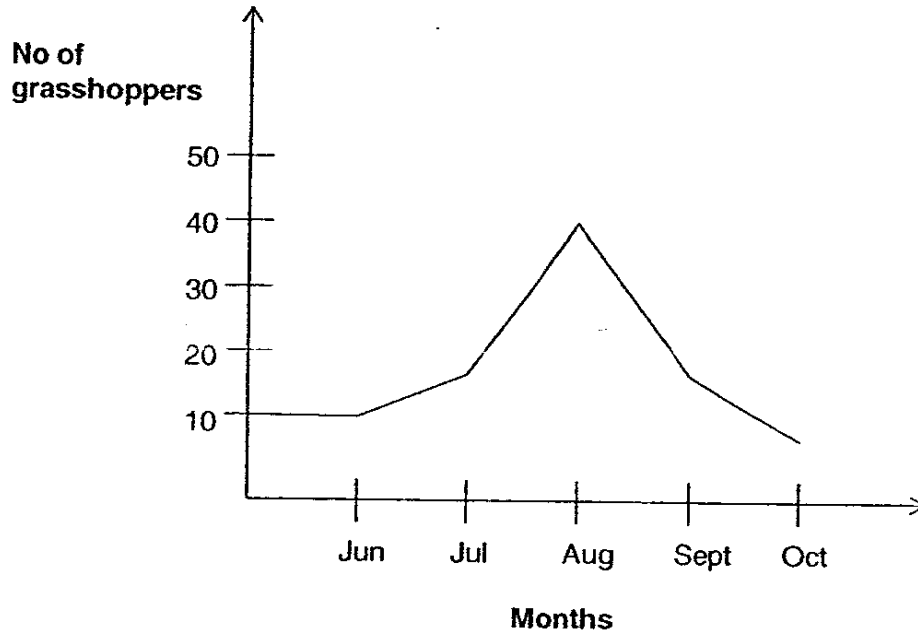


After two weeks, Jim found that the plant in tank G had grown taller than the plant in tank H.

Which of the following is/are possible reason(s) for his observations?

- A: The plant in H received less sunlight.  
 B: The fish in tank G provided more carbon dioxide for the plant.  
 C: The waste of the fish in tank G provided nutrients for the plant.
- (1) A only  
 (2) A and B only  
 (3) B and C only  
 (4) A, B and C

30. The graph below shows the changes in the population size of grasshoppers in a field over 5 months.



Based on the graph, which of the following statements are true?

- A: The population of birds that feed on grasshoppers decreased after August.
- B: More grass were grown in the field from September onwards.
- C: More grasshoppers reproduced between June and August.
- D: A disease that kills grasshoppers occurred from August to October.

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

END OF BOOKLET A

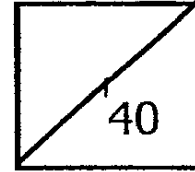
46



**Rosyth School**  
**First Semestral Assessment for 2006**  
**SCIENCE**  
**Primary 6 EM1/2**

Name: \_\_\_\_\_

Total  
Marks:



Class: Pr 6 \_\_\_\_\_ Register No. \_\_\_\_\_ Duration: 1 h 45 mins

Date: 10 May 06

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

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## **Booklet B**

### Instructions to Pupils:

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

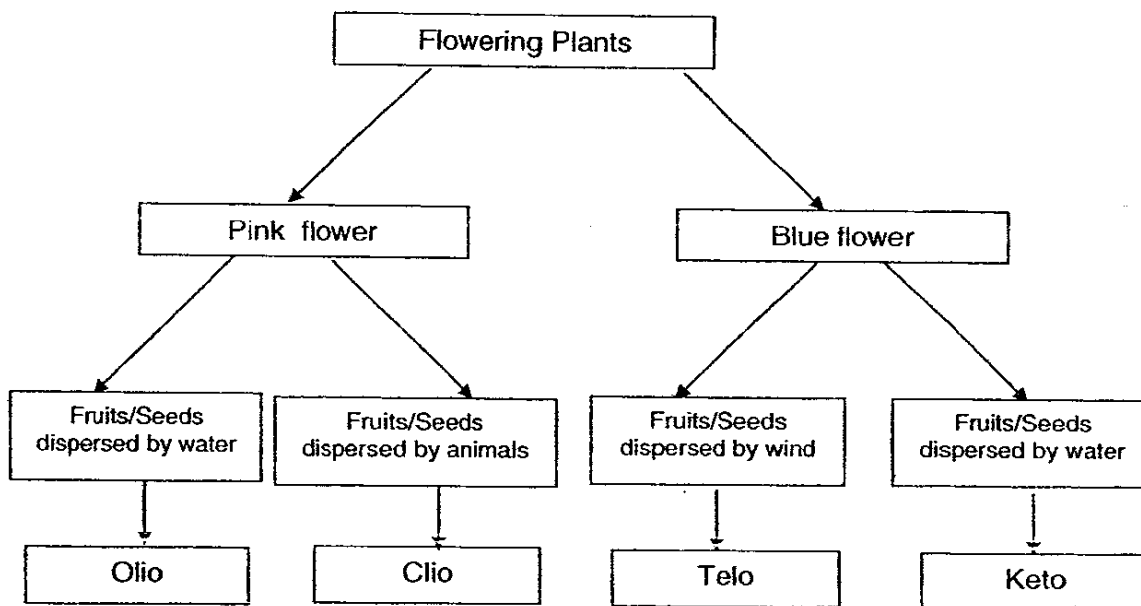
\* This booklet consists of 17 pages .

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**PART II ( 40 MARKS)**

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

31. Olio, Clio, Telo and Keto are flowering plants found on a mystery island. They are classified as shown in the chart below. Study the chart to answer the questions.



- (a) How are Olio and Keto similar? (1 mark)

---



---

- (b) Tom found a plant Bito, which had blue flowers and its seeds were small with wing-like structures. Which plant should he classify Bito with? (1 mark)

---



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32. The table below shows the melting points of some metals.

| Metal     | Melting Point (°C) |
|-----------|--------------------|
| Aluminium | 2450               |
| Gold      | 2850               |
| Iron      | 2550               |
| Copper    | 2550               |
| Tin       | 2450               |
| Silver    | 2350               |

- (a) From the table, determine the metal that has the highest melting point and the metal that has the lowest melting point. (1 mark)

Highest melting point: \_\_\_\_\_

Lowest melting point: \_\_\_\_\_

- (b) A factory wants to use either iron or aluminium to make cans. Which material (iron or aluminium) should the factory use? Explain your answer. (2 marks)

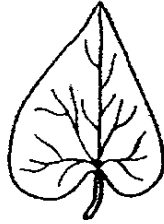
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33. Study the two leaf samples shown below.



Leaf X

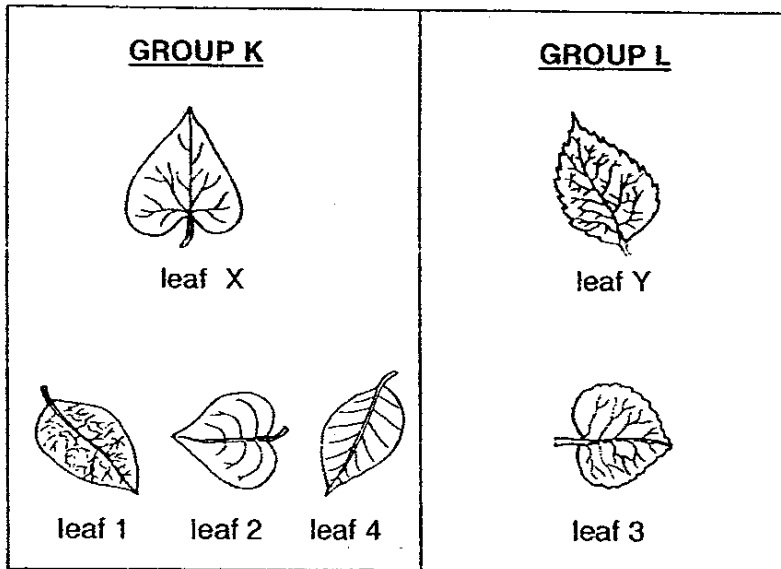
leaf



Leaf Y

leaf

(a) Gina and Mei Huang were told to group the leaves X and Y based on the similarities they shared with some other leaves (1, 2, 3 and 4). Gina grouped the leaves as shown below.



(i) Describe how did Gina grouped the ~~leaves~~ together? (1 mark)

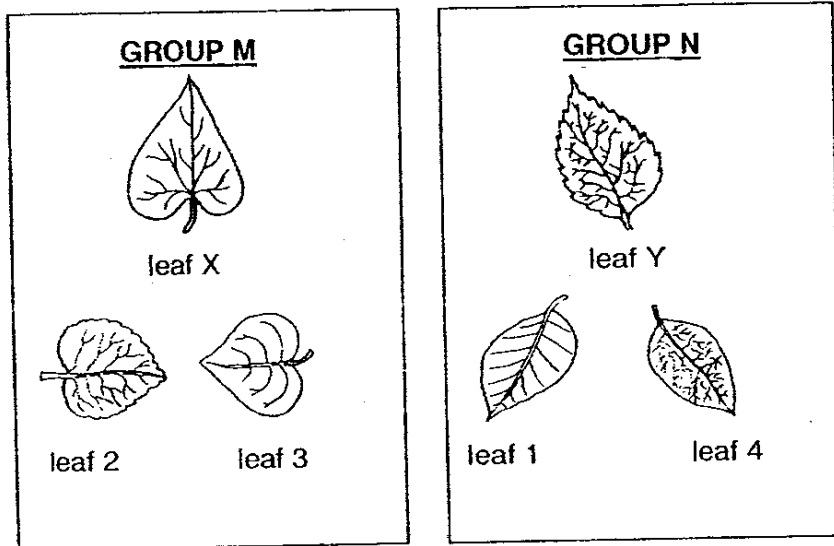
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(Question 33 continues on next page)



Mei Huang, however, grouped the leaves as shown below:



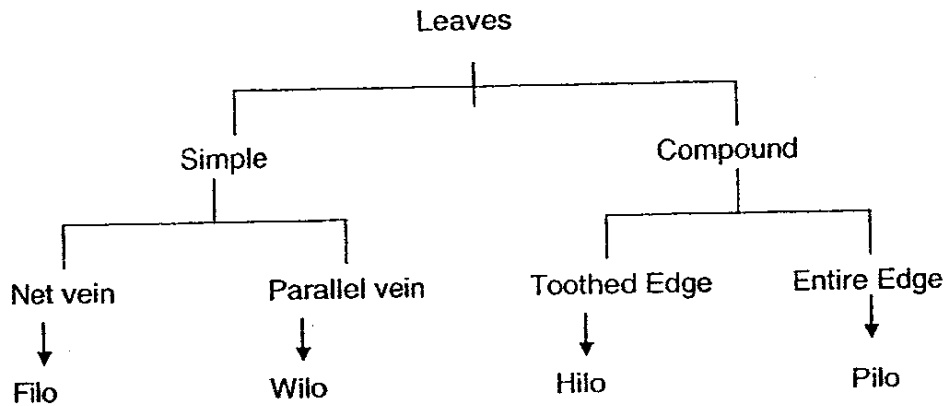
(ii) Describe how Mei Huang grouped the leaves together? (1 mark)

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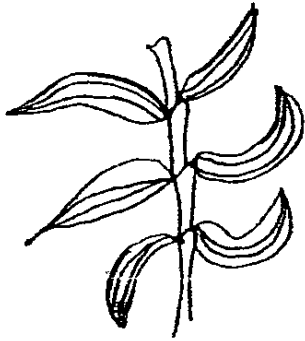
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(b) Gina was given another three leaves which she had to identify with the help of the classification chart shown below. But she was not able to do so.

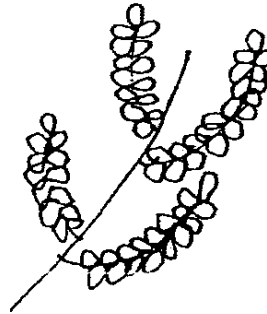


(Question 33 continues on next page)

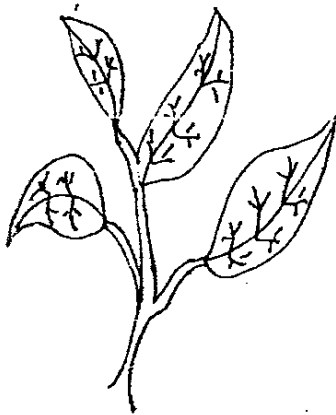
Observe the three leaves carefully and help identify them as Filo, Wilo, Hilo or Pilo.  
(2 marks)



(i) \_\_\_\_\_

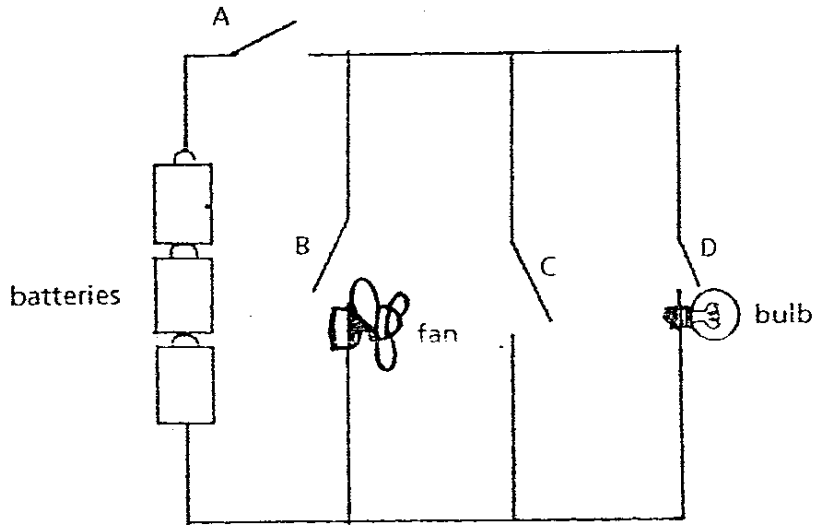


(ii) \_\_\_\_\_



(iii) \_\_\_\_\_

34. Study the circuit diagram shown below. There are four switches marked A, B, C and D.



Which of the switches must be closed for the following energy conversions to take place?

(2 marks)

- (a) Chemical energy  $\longrightarrow$  electrical energy  $\longrightarrow$  light energy + heat energy

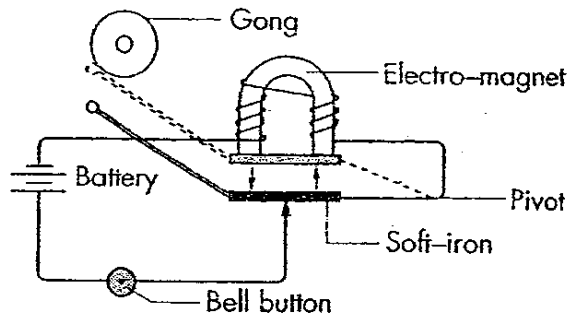
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- (b) Chemical energy  $\longrightarrow$  electrical energy  $\longrightarrow$  kinetic energy + heat energy

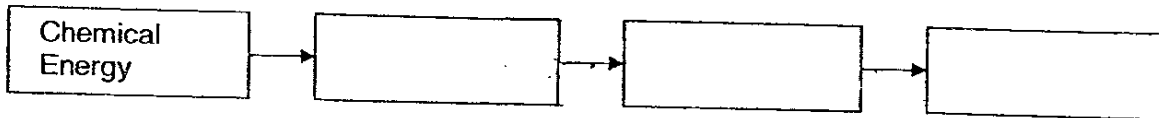
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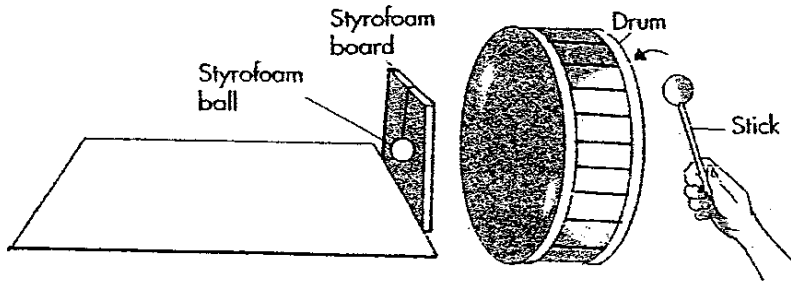
35. Study the circuit shown below closely.



(a) Pressing the bell button closes the electrical circuit, and as a result, energy conversion takes place. Complete the diagram below to show the energy conversion that has taken place. (1 mark)



(b) Zhi Qiang set up an experiment as shown below.

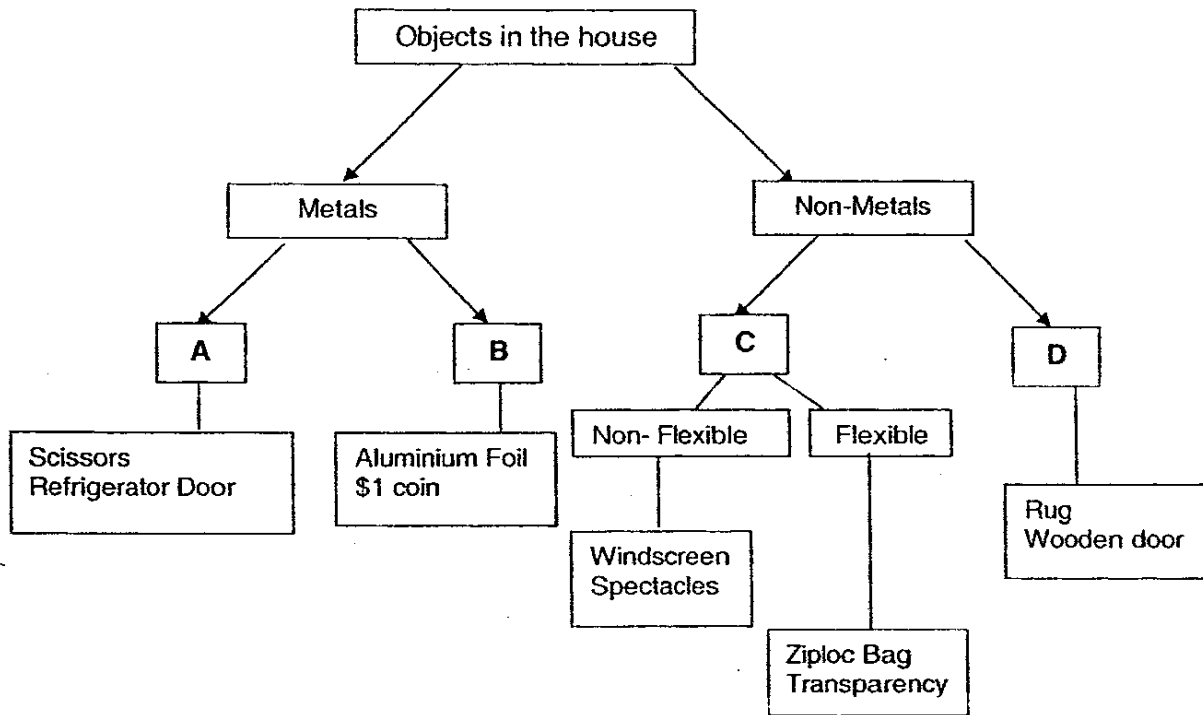


As he hit the drum with a stick, he noticed that the styrofoam ball moved. State the energy conversion by filling in the blanks below with the suitable words. (2 marks)

\_\_\_\_\_ energy in the hand is converted to \_\_\_\_\_  
 energy of the drum. This is converted to \_\_\_\_\_ energy of the air  
 which is finally converted to \_\_\_\_\_ energy of the styrofoam ball.

36. Look at the classification chart below.

(2 marks)



Identify the headings A, B, C and D.

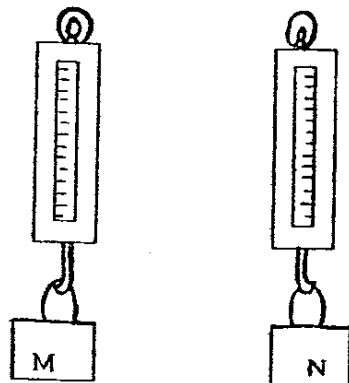
A: \_\_\_\_\_

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

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

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

37. Carol used a spring balance to weigh objects M and N as shown below. Objects M and N were both of the same shape and size.



- a) (i) Identify the type of force that the spring in the spring balance possessed. (½ mark)

\_\_\_\_\_

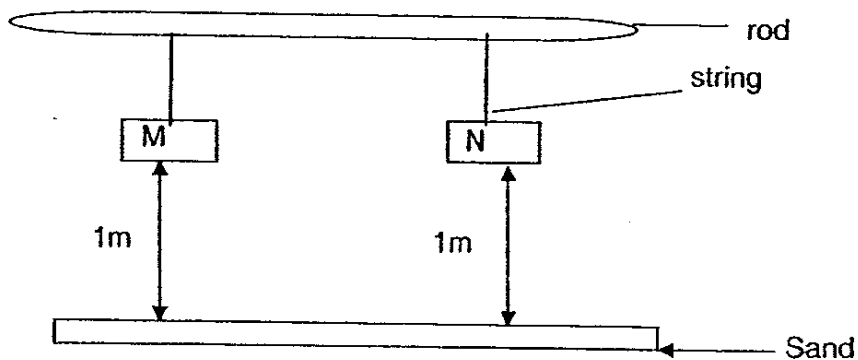
- (ii) Identify the force that was acting on both objects M and N. (½ mark)

\_\_\_\_\_

- b) Carol observed that object M weighed more than object N. What could be one possible reason? (1mark)

\_\_\_\_\_

- c) Carol hung both objects M and N at a height of 1m on a rod.

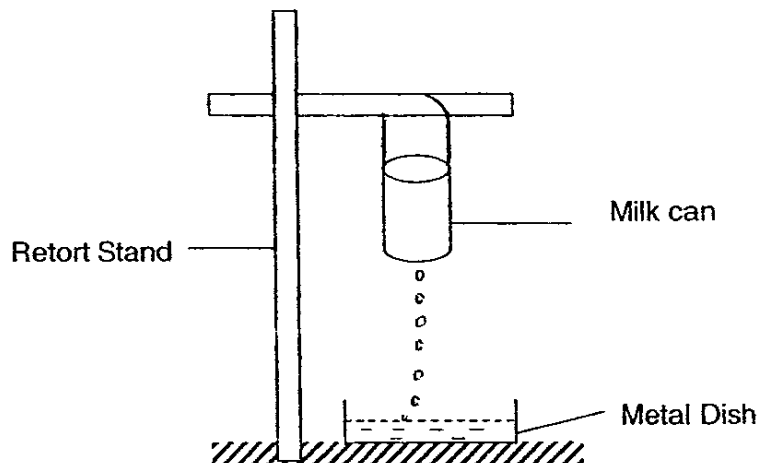


When both objects were released at the same time, Carol noticed that object M made a greater dent in the sand than object N. Explain why object M made a greater dent in the sand than object N. (2 marks)

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

(Go on to the next page)

38. A milk can completely filled with water was hung above a metal dish. A hole was pierced at the bottom of the milk can to allow water to drip. Each time a drop of water touched the metal dish, a sound was produced.

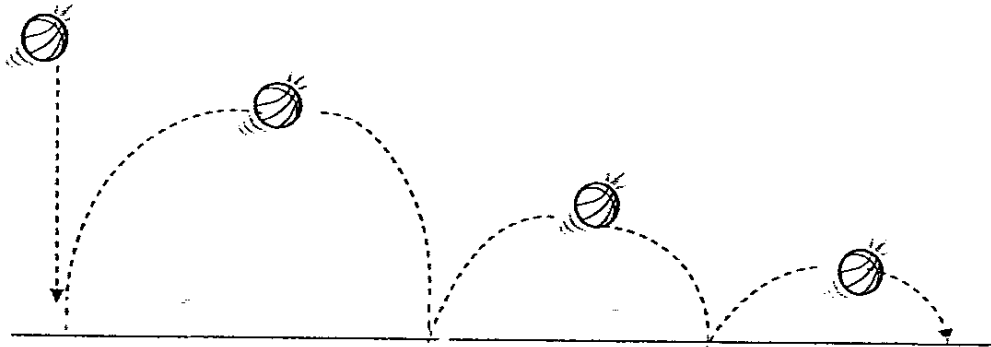


- a) What could be done if we wanted to increase the loudness of the sound made when the water touched the metal dish? (1 mark)

b)

Explain how your action in (a) helped to make the sound louder. (1 mark)

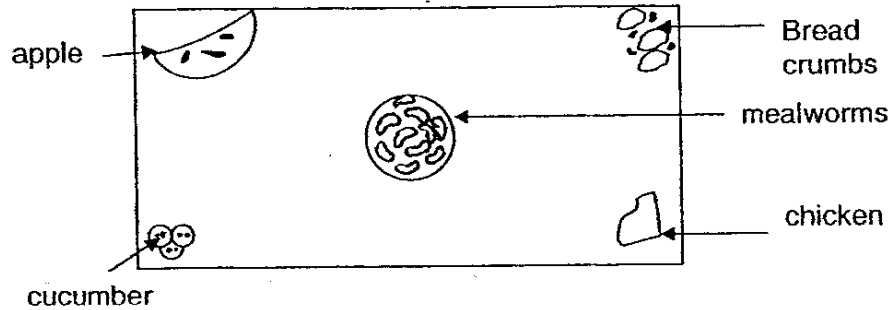
39. Kalim dropped a basketball from a height of 1 metre above the ground. It bounced to a lower height each time it hit the ground as shown below until it finally stopped.



- a) Identify the force that was acting continuously on the ball. (1 mark)
- \_\_\_\_\_
- b) Apart from the sound produced, what two other differences would be observed if Kalim used a similar-sized hollow rubber ball instead? (1 mark)
- \_\_\_\_\_
- \_\_\_\_\_



40. An experiment was carried out with 10 meal worms. The mealworms were placed in the centre of a tray as shown in the diagram. A different type of food was placed at each corner of the tray.



After 15 minutes, the number of mealworms at each corner was counted. The results were recorded in the table below.

| Type of food | No. of mealworm |
|--------------|-----------------|
| Apple        | 3               |
| Bread Crumbs | 15 5            |
| Cucumber     | 2               |
| Chicken      | 0               |

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

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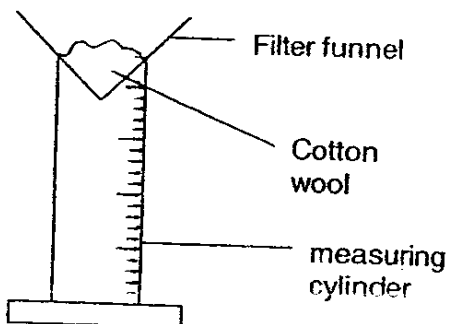
- b) Why was there a need to place the mealworms in the centre of the tray at the start of the experiment? (1 mark)

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41. You are given an equal amount of three different types of soil E, F and G. You want to carry out an experiment to find out which type of soil is best for growing flowering plants.



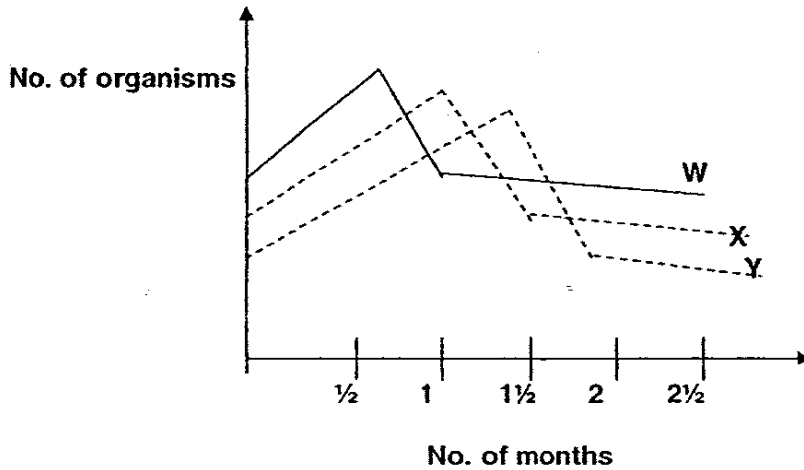
Using only the three types of soil, water and three identical set-ups (as shown above), describe how you would carry out the experiment.

Step 1 has been done for you.

(2 marks)

|  |
|--|
| Step 1: Put soil E into the filter funnel of one set-up. |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

42. Zheng Hua studied 3 aquatic organisms W, X and Y which she found in a small pond near a farm.  
He counted the number of each of the organisms and plotted the graph shown below.



- a) Based on the graph, describe the change in the population size of organism X. (4 mark)

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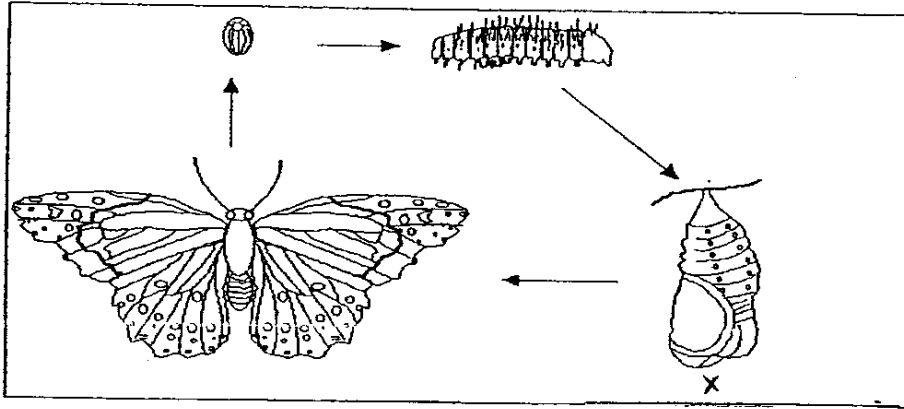
- b) Zheng Hua found out that the sudden drop in the number of organism Y was due to some activities carried out by the farmer. What was one possible activity that resulted in the sudden drop in the number of organism Y? (1 mark)

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43. Shu En observed many butterflies hovering near the flowers in her garden. She decided to look up on the life cycle of the butterflies and found a diagram showing the life cycle of the butterflies that looked similar to the one below.



- (a) From the diagram above, what is "X" known as ? (1 mark)
- \_\_\_\_\_
- (b) What role do the butterflies play in the garden community? (1 mark)
- \_\_\_\_\_
- (c) Shu En observed that the number of caterpillars in her garden decreased after sometime even though nobody had disturbed the plants and organisms. What are two possible reasons, other than the use of pesticides, for the decrease in the number of caterpillars? (1 mark)

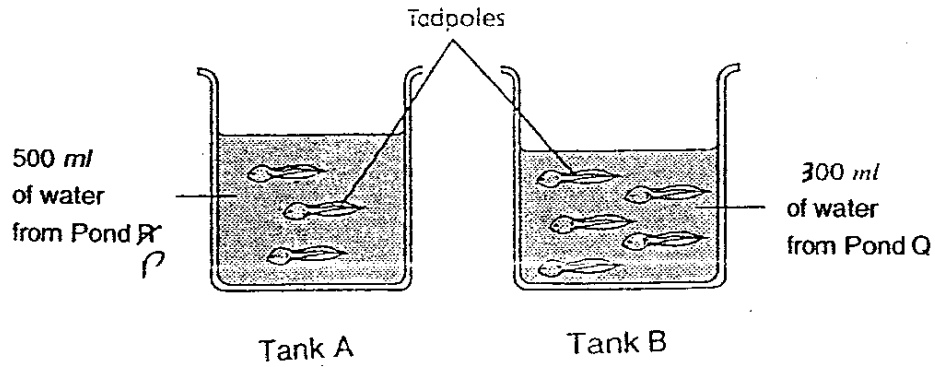
Reason 1 : \_\_\_\_\_

\_\_\_\_\_

Reason 2 : \_\_\_\_\_

\_\_\_\_\_

44. Ailing obtained two samples of pond water from two different ponds, P and Q. She wanted to find out which pond water would be suitable for tadpoles. She poured the water into two tanks, A and B as shown below. Then she put some tadpoles into the tank.



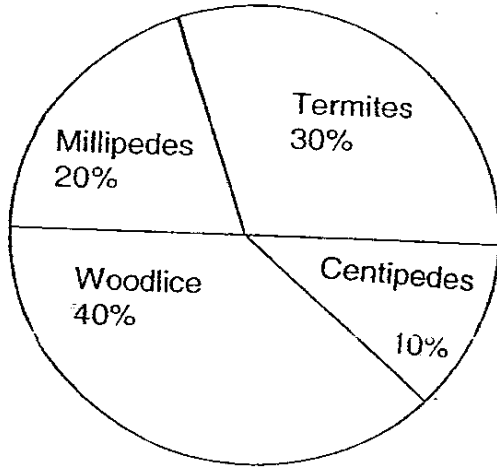
What two things must Ailing do to make her experiment a fair one?

(2 marks)

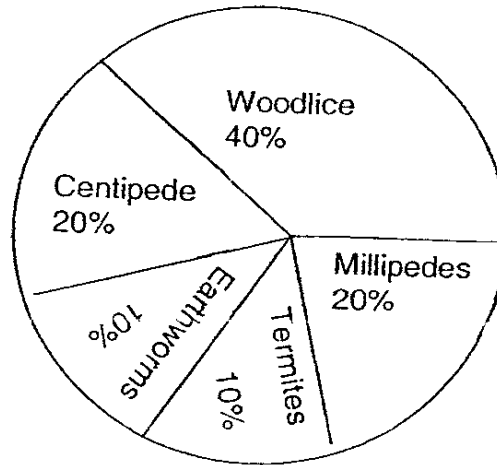
(i) \_\_\_\_\_

(ii) \_\_\_\_\_

45. Study the diagrams below.  
The two pie charts show the number of animals in percentages in two different communities, a leaf litter and a rotting log.



**Leaf litter community**

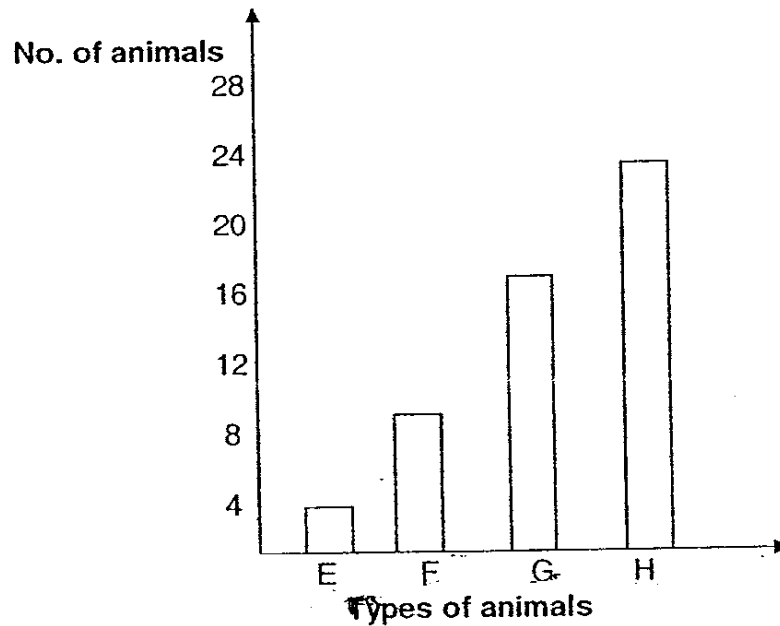


**Rotting log community**

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

|    | Statements   | True | False | Not possible to tell |
|----|--|------|-------|----------------------|
| a) | In the rotting log community, there are more woodlice than the combined total of other organisms.                |      |       |                      |
| b) | The conditions in the leaf litter community are more favourable for the termites than the rotting log community. |      |       |                      |
| c) | The number of woodlice is the same in both communities.  |      |       |                      |
| d) | The rotting log community has more types of animals than the leaf litter community.                              |      |       |                      |

46. Caren made a record of the animal population in a rotting log community as shown in the graph below.



Caren also took note of some other information in her Science journal:

- There were more woodlice than termites
- The millipedes formed the largest population
- The population size of the centipede was the smallest

- a) Based on the information, identify the animal that controls the population of other animals. (1 mark)

\_\_\_\_\_

- b) Using the information provided, identify the animals that are represented by the letters E, F, G and H. (2 marks)

E: \_\_\_\_\_

F: \_\_\_\_\_

G: \_\_\_\_\_

H: \_\_\_\_\_

End of Booklet B

Rosyth Primary School  
Primary 6 Science SA1 Exams (2006)

(ANSWER KEY)

SECTION A : (60 MARKS)

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

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

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

SECTION B (40 MARKS)

| Qn No. | Answers   |
|--------|---|
| 31a    | Their fruits seeds are dispersed by water, and they are flowering plants. |
| 31b    | He should classify Bitto with Telo.                                       |

|     |  |
|-----|--|
| 32a | Gold      Silver   |
| 32b | It requires less energy/heat so the cost of production is cheaper/lower. |

|         |   |
|---------|---|
| 33a (i) | Leaves in group K have smooth while that group L has toothed edge.                          |
| (ii)    | Group M was grouped under heart-shaped while Group N leaves were grouped under oval shaped. |
| 33b (i) | Wilo  |
| (ii)    | Pilo  |
| (iii)   | Filo  |

|     |         |
|-----|---------|
| 34a | A and D |
| 34b | A and B |



| Qn No. | Answers   |
|--------|---|
| 35a    | Electrical energy $\longrightarrow$ kinetic energy $\longrightarrow$ sound energy |
| 35b    | Potential, sound, kinetic, kinetic.   |

|    |  |
|----|--|
| 36 | A : Magnetic                      B : Non-magnetic |
|    | C : Transparent                  D : Opaque        |

|         |  |
|---------|--|
| 37a (i) | Elastic spring force   |
| (ii)    | Gravitational force  |
| 37b     | It is made up of a material that has a greater mass.   |
| 37c     | The greater the mass of an object the greater the gravitational potential energy. As more gravitational potential force was converted to kinetic energy the impact is greater on than N, |

|     |  |
|-----|--|
| 38a | Make the hole bigger.  |
| 38b | When the hole is bigger the drop of water will be bigger with more gravitational potential energy thus causing a louder sound. |

|     |   |
|-----|---|
| 39a | Gravitational force   |
| 39b | It would take a longer time to stop and it would be higher than the basketball when bounced on the floor each time in the ground. |

|     |  |
|-----|--|
| 40a | It was to find out what food the mealworm preferred.               |
| 40b | The mealworms would travel equal distance to all the food sources. |

|    |  |
|----|--|
| 41 | Step 1 : Put soil E into the filter funnel of one set-up.                              |
|    | Step 2 : Put soil F into the filter funnel of another set-up.                          |
|    | Step 3 : Put soil G into the filter funnel of another set-up.                          |
|    | Step 4 : Fixed amount of the filter funnel.  |
|    | Step 5 : Measure the water of all the set-up at the same time.                         |
|    | Step 6 : Check which one has the least amount of water in the set-up.                  |
|    | Step 7 : The one with the least is the best type of soil for growing flowering plants. |

|     |   |
|-----|---|
| 42a | Increased for the month, decreased / dropped for the next half month.                   |
| 42b | The pesticide used by the farmer might have dreaded into the pond to kill the organism, |

| Qn No.  | Answers                           |
|---------|-----------------------------------|
| 43a     | Pupa                              |
| 43b     | They pollinate the flowers.       |
| 43c (i) | They were eaten by more birds.    |
| (ii)    | They turned into the butterflies. |

|         |   |
|---------|---|
| 44a (i) | She must add another 200ml of water from Q. |
| (ii)    | She must add another two tadpoles to A.     |

|     |                      |
|-----|----------------------|
| 45a | False                |
| 45b | Not possible to tell |
| 45c | Not possible to tell |
| 45d | True                 |

|     |                |
|-----|----------------|
| 46a | Centipede      |
|     | E : centipede  |
|     | F : termites   |
|     | G : woodlice   |
|     | H : millipedes |