

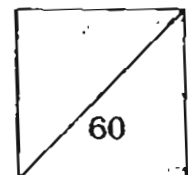


HENRY PARK PRIMARY SCHOOL
2011 PRELIMINARY EXAMINATION
PRIMARY 6 SCIENCE

Booklet A

Name: _____ ()

Class: Primary 6 _____



30 Questions
60 Marks

Total Time for Booklet A and B: 1 h 45 min

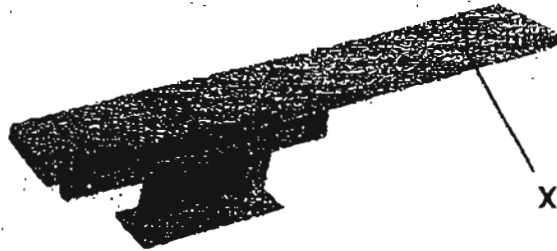
DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

READ AND FOLLOW INSTRUCTIONS CAREFULLY.

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 (OAS).

1. Jane wants to make a diving springboard as shown below at a swimming pool.



The table below shows some characteristics of 4 materials, A, B, C and D.

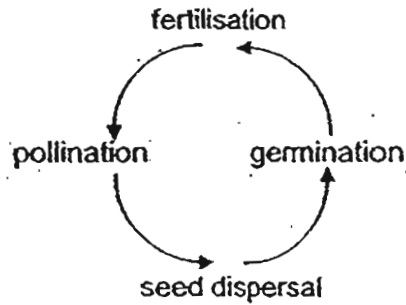
| Material | Hard | Strong | Flexible |
|----------|------|--------|----------|
| A | | | ✓ |
| B | ✓ | ✓ | |
| C | ✓ | | ✓ |
| D | | ✓ | ✓ |

Which one of these materials, A, B, C and D, is most suitable for making part X of the springboard?

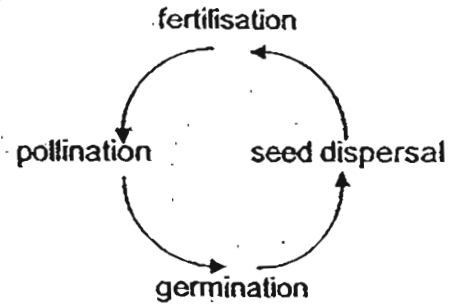
- (1) A
- (2) B
- (3) C
- (4) D

2. Which one of the following cycles shows the correct order of processes in the life cycle of a flowering plant?

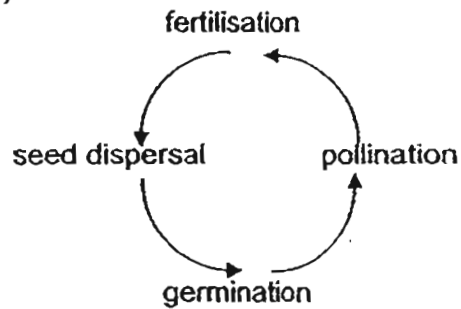
~~(A)~~



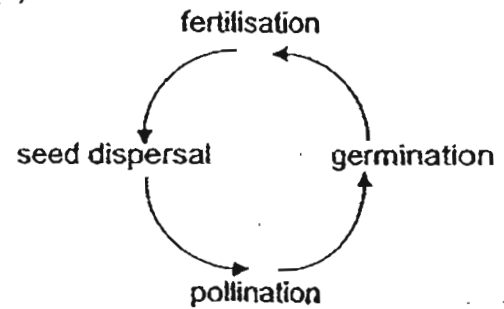
(B)



~~(C)~~



(D)



3. The list below shows the steps (not in correct order) involved in the formation of plant seeds.

- A: Male sex cells fuses with female sex cells
- B: Pollen grain is transferred to the stigma
- C: Anther releases pollen grain
- D: Pollen tube grows towards the ovule

Which of the following shows the correct sequence of events?

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

4. What are the conditions for seeds to germinate?

- ~~(1)~~ oxygen, moisture and warmth
- (2) oxygen, chlorophyll and sunlight
- (3) carbon dioxide, moisture and warmth
- ~~(4)~~ carbon dioxide, chlorophyll and sunlight

8. Adi did a study on two animals, X and Y, and drew a checklist to record his observations shown in the table below.

| Observation | Animal X | Animal Y |
|------------------------------------|----------|----------|
| Its life cycle has a pupal stage. | ✓ | |
| It has 3 stages in its life cycle. | | ✓ |
| Its young lives in water. | ✓ | ✓ |

Which of the following identifies the two animals correctly?

| | Animal X | Animal Y |
|-----|-----------|-----------|
| (1) | dragonfly | frog |
| (2) | frog | butterfly |
| (3) | butterfly | mosquito |
| (4) | mosquito | dragonfly |

6. The diagram below shows the bird's nest fern and the mushroom.



bird's nest fern

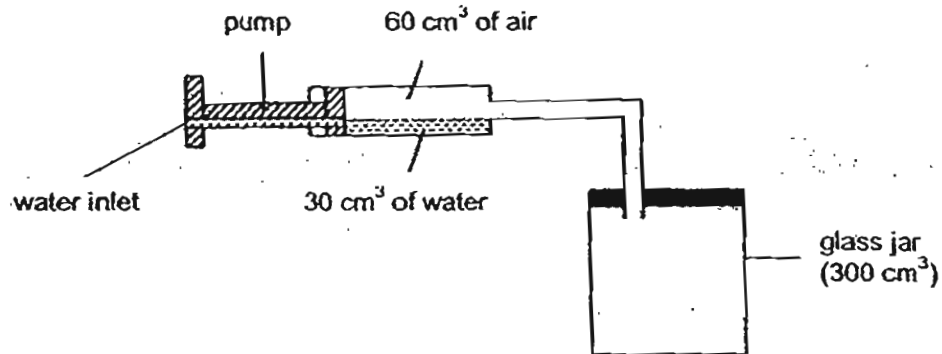


mushroom

Which one of the following compares the difference between the two organisms correctly?

| | bird's nest fern | mushroom |
|-----|----------------------------|------------------------------------|
| (1) | It has flowers. | It does not have flowers. |
| (2) | It feeds on dead plants. | It feeds on dead animals. |
| (3) | It reproduces from seeds. | It reproduces from spores. |
| (4) | It needs sunlight to grow. | It does not need sunlight to grow. |

7. The diagram below shows a pump connected to a glass jar with a capacity of 300 cm^3 .

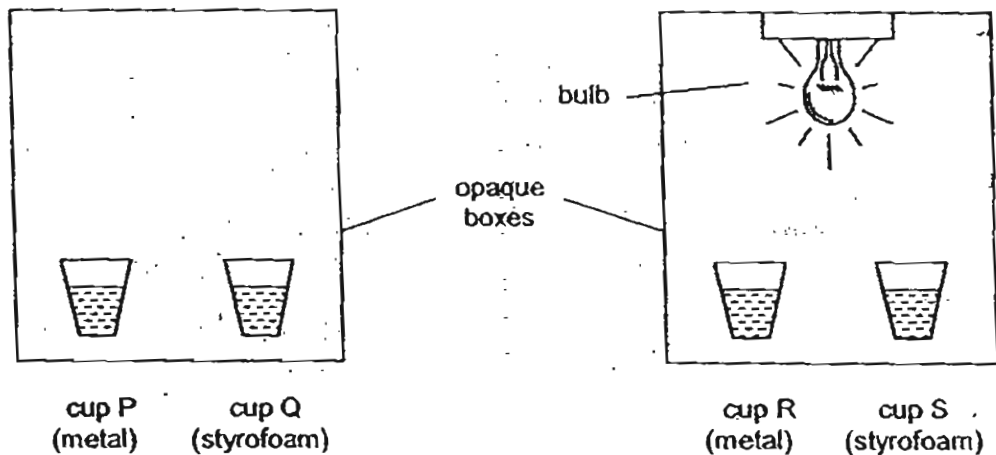


When the pump is pushed completely in, 30 cm^3 of water and 60 cm^3 of air is forced into the jar. What is the volume of the air in the jar?

- (1) 60 cm^3
- (2) 270 cm^3
- (3) 330 cm^3
- (4) 360 cm^3

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8. An experiment was conducted using 2 opaque boxes as shown below. One of the boxes had a bright bulb attached to the top. There were 2 cups in each box. One cup was made of metal and the other styrofoam. The cups were filled with the same amount of water and left in the boxes for 5 hours. The amount of water left in each cup was then compared.



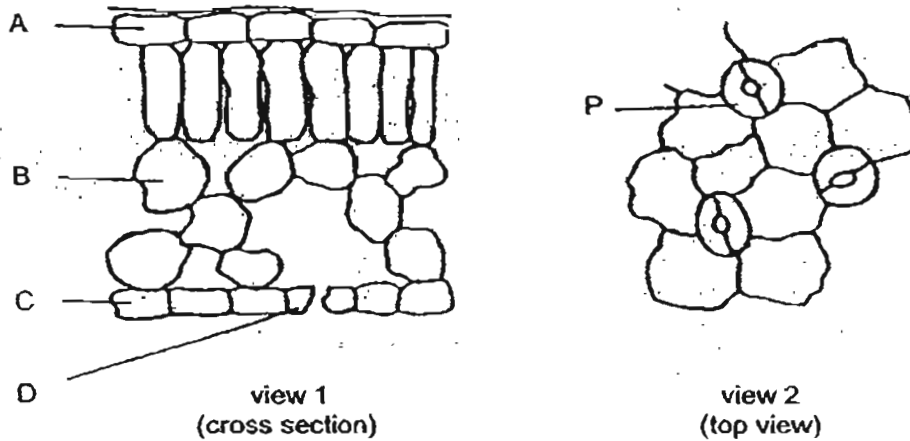
Which of the following statements about the results are correct?

- A: Cup P had less water left than cup Q.
- B: Cup R had less water left than cup S.
- C: Both cup P and cup Q had the same amount of water left.
- D: Both cup R and cup S had the same amount of water left.

- A and B only
- A and D only
- B and C only
- C and D only

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9. The diagrams below show the outline of a leaf seen from two views.



Which cell, A, B, C or D, in View 1 is the same as cell P in View 2?

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

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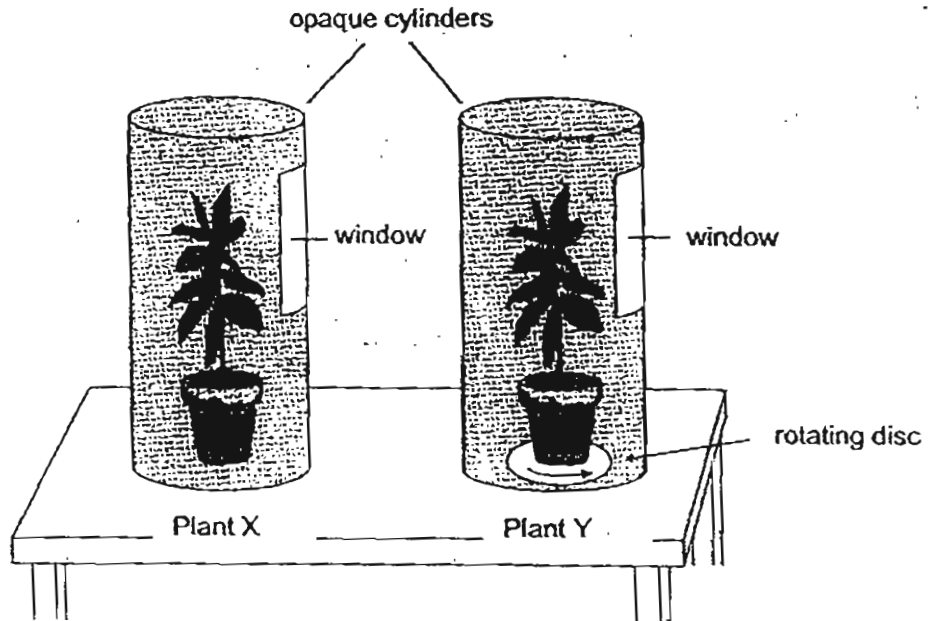
10. Which of the following substances are found in the blood of the human circulatory system?

- A: food
- B: water
- C: oxygen
- D: carbon dioxide

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

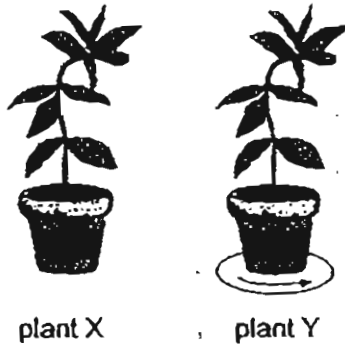
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11. The diagram below shows 2 identical plants that are covered by opaque cylinders which have windows to let light in. Only plant Y is rotated continuously on a disc.

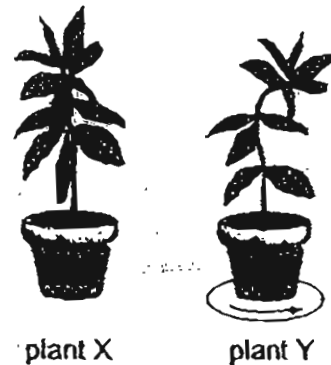


Which one of the following shows how the plants will look like when the cylinders are removed 3 weeks later?

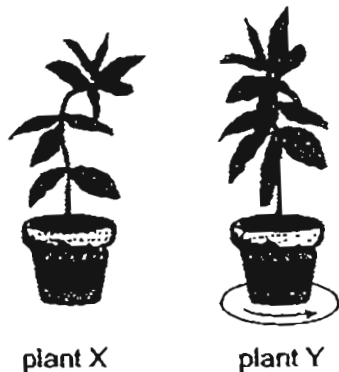
(X)



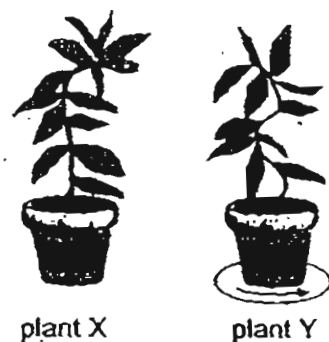
(Z)



(Y)



(W)



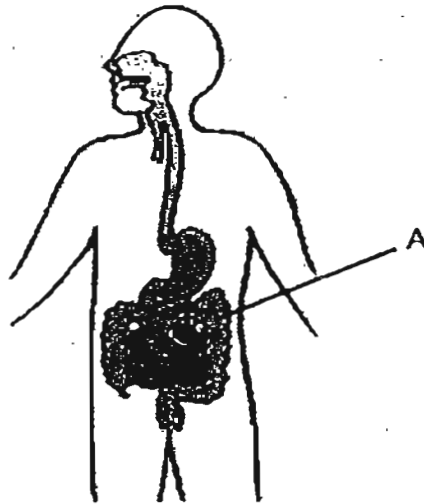
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12. Which one of the following statements about cells of animals is true?

- (1) All the cells in animals have nuclei.
- (2) The size of an animal determines the size of its cells.
- (3) New cells are not produced to replace cells that have died.
- (4) The size of an animal determines the number of cells it has.

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13. The diagram below shows the human digestive system.



What is the function of part A?

- (X) It breaks food down into simple substances.
- (2) It takes away water from the undigested food.
- (3) It passes the undigested food out of the body.
- (4) It absorbs the digested food into the bloodstream.

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14. Cells in the human body use oxygen to break down food and release energy. This process also produces carbon dioxide and water as waste products which are released into the bloodstream.

The table below shows the composition of gases in the air.

| Gases | Percentage |
|----------------|------------|
| nitrogen | 78 |
| oxygen | 21 |
| carbon dioxide | 0.03 |
| other gases | 1 |

Which one of the following tables shows the likely percentage of oxygen and carbon dioxide in the exhaled air of a person sleeping and another jogging?

(X)

| Gases | Percentage | |
|----------------|------------|---------|
| | Sleeping | Jogging |
| oxygen | 21 | 16 |
| carbon dioxide | 0.03 | 4 |

(X)

| Gases | Percentage | |
|----------------|------------|---------|
| | Sleeping | Jogging |
| oxygen | 16 | 14 |
| carbon dioxide | 4 | 6 |

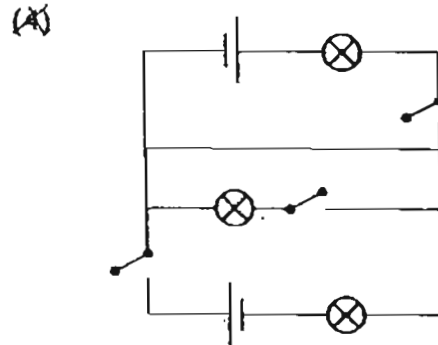
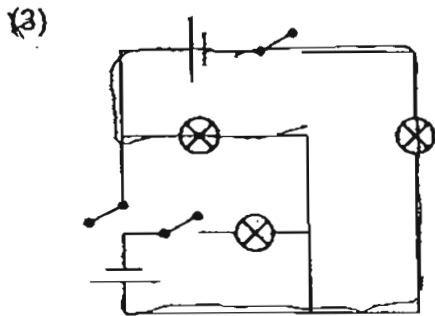
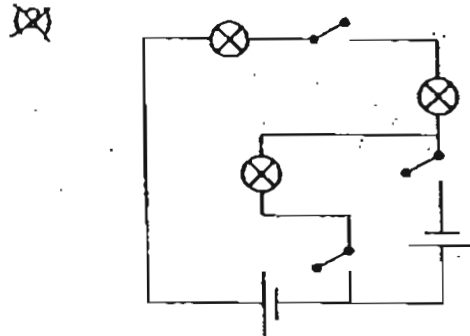
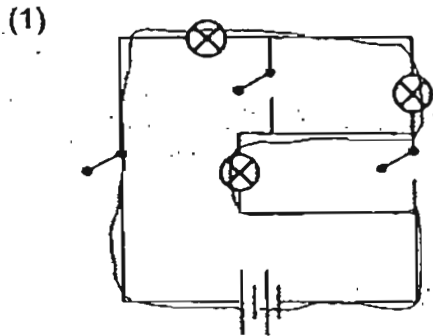
(X)

| Gases | Percentage | |
|----------------|------------|---------|
| | Sleeping | Jogging |
| oxygen | 16 | 16 |
| carbon dioxide | 4 | 4 |

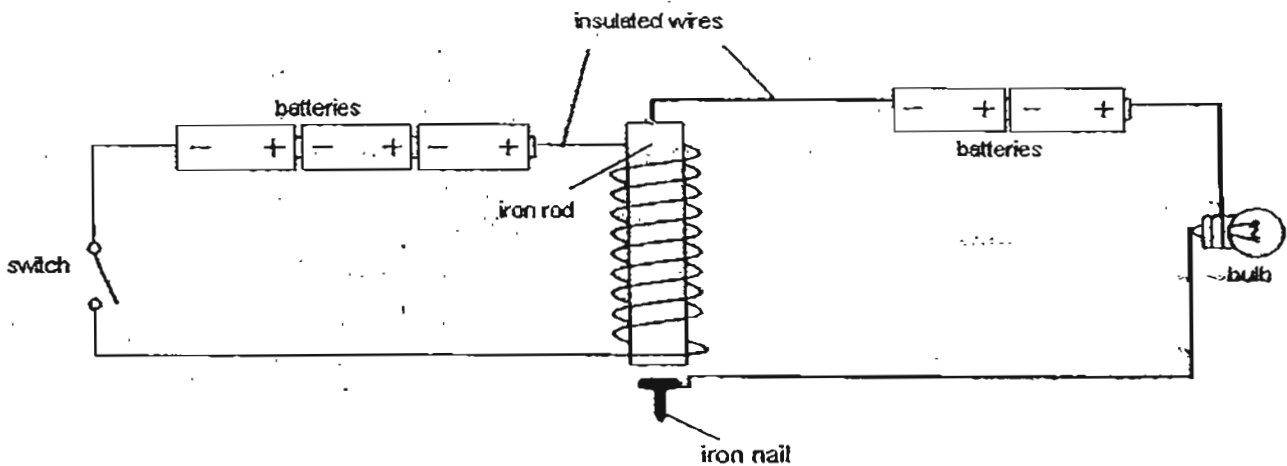
(X)

| Gases | Percentage | |
|----------------|------------|---------|
| | Sleeping | Jogging |
| oxygen | 0 | 0 |
| carbon dioxide | 20 | 20 |

15. Ravi constructed a circuit by connecting 2 identical batteries, 3 identical bulbs and 3 switches. He closed one switch and found that only 2 of the bulbs lit up. Which one of the following could be the circuit that Ravi had constructed?



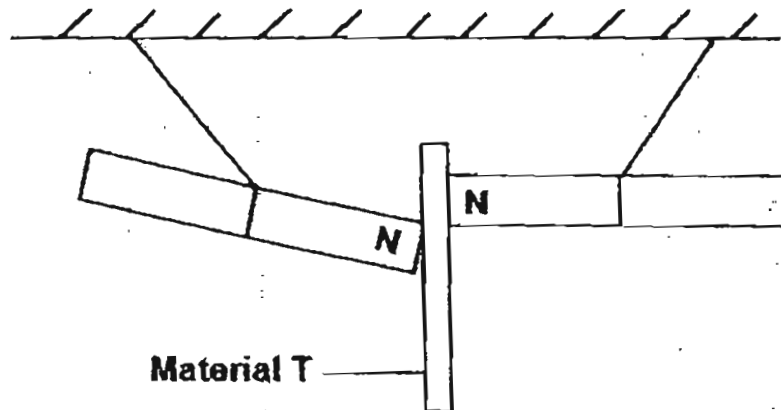
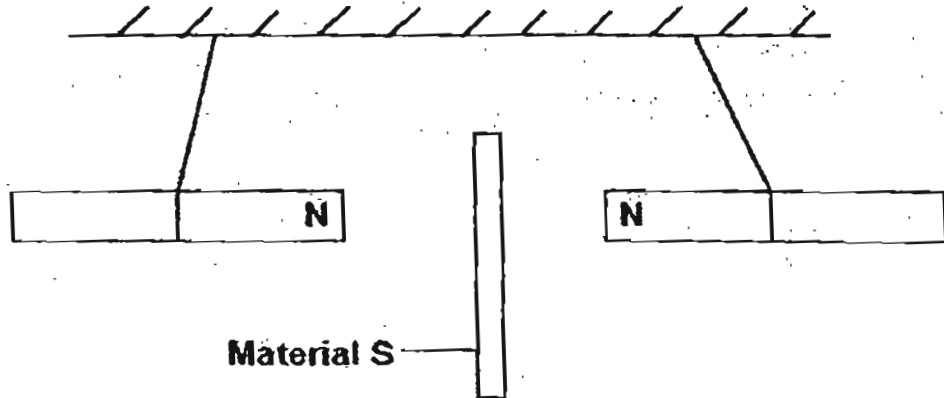
16. Janey set up the circuit shown below.



Which one of the following statements is true when the switch in the above circuit is closed?

- (1) The iron nail does not move but the bulb lights up.
- (2) The iron rod attracts the iron nail and the bulb lights up.
- (3) The iron rod heats up and the iron nail moves away from it.
- (4) The iron nail moves away from the iron rod and the bulb does not light up.

17. The setup shows two magnets hanging on the string. Two different types of materials were placed between the two magnets.



Which of the following correctly shows what materials S and T are?

| | Material S | Material T |
|-------------------------------------|------------|------------|
| <input checked="" type="checkbox"/> | Wood | Steel |
| <input checked="" type="checkbox"/> | Iron | Rubber |
| <input checked="" type="checkbox"/> | Iron | Steel |
| <input checked="" type="checkbox"/> | Cardboard | Plastic |

18. 2 identical tennis balls, P and Q, are rolling along a marble floor at different speeds as shown below.



Which of the following will be observed immediately after P collides into Q?

- A: P moves towards the left.
 B: P continues to move towards the right.
 C: Q moves faster towards the right.
 D: Q slows down and moves towards the left.

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

The table below shows the number of dragonflies around a school pond at 3 specific timings over 3 days.

Use the data in the table to answer questions 19 and 20.

| Time | Number of dragonflies around school pond | | |
|------------|--|-------|-------|
| | Day 1 | Day 2 | Day 3 |
| 7.00 a.m. | 7 | 11 | 5 |
| 12.00 noon | 149 | 143 | 62 |
| 7.00 p.m. | 13 | 19 | 9 |

19. Which one of the following is the best conclusion that can be derived from the table?
- (1) Dragonflies are most active at noon time.
 (2) Dragonflies prefer a cool environment to a hot environment.
 (3) The temperature around the school pond on Day 3 was the lowest.
 (4) The time of the day does not affect the number of dragonflies around the pond.

20. Which one of the following steps does not help to improve the reliability of the data?

- (1) ~~Count the dragonflies for another 3 days.~~ Wrong
 (2) ~~Count the dragonflies around 2 other ponds.~~
 (3) ~~Count the dragonflies before and after a rainfall.~~
 (4) ~~Count the dragonflies at 9 a.m. and 3 p.m. as well.~~

Section A

20. Which of the following steps do not help to improve the reliability of the data?

A: Count the dragonflies for another 3 days.

B: Count the dragonflies around 2 other ponds.

C: Count the dragonflies before and after a rainfall.

D: Count the dragonflies at 9 a.m. and 3 p.m. as well.

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A and C only

A and D only

B and C only

C and D only

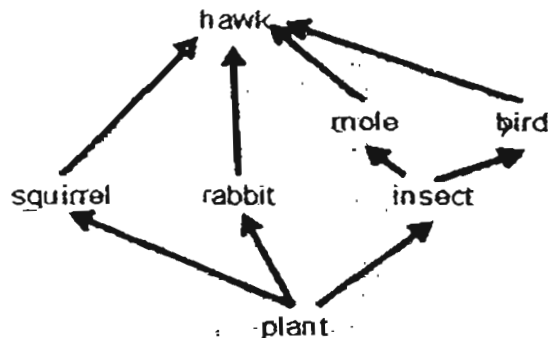
21. The table below shows the number of some organisms living in a habitat.

| Organisms | Number of organisms |
|--------------|---------------------|
| Slugs | 11 |
| Mynahs | 5 |
| Butterflies | 6 |
| Ixora | 3 |
| Snails | 7 |
| Caterpillars | 5 |
| Hibiscus | 9 |

How many populations of animals are there altogether?

- (1) 4
- (2) 6
- (3) 7
- (4) 34

22. The food web below shows the predator-prey relationship of some organisms.



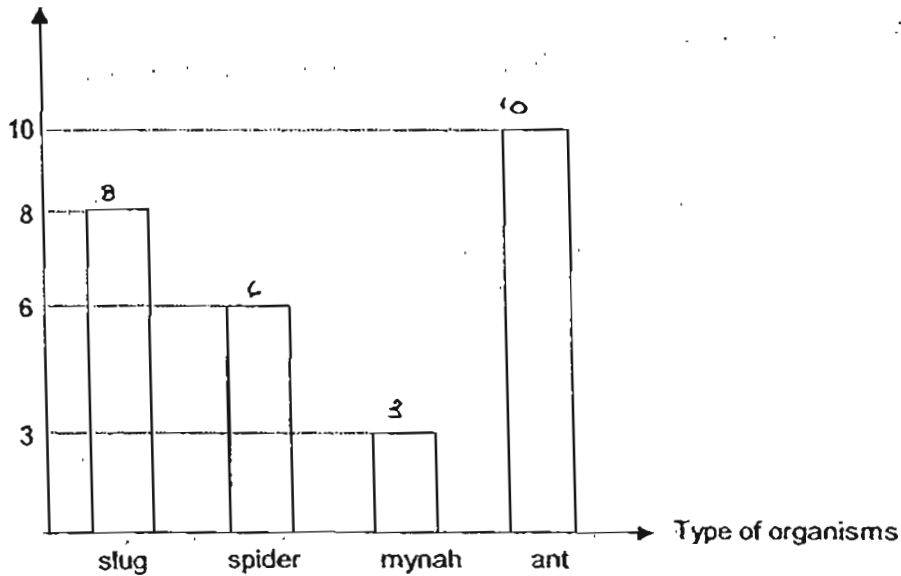
Which of the following statements are definitely true about the food web?

- A: There are only 2 organisms which are both prey as well as predator.
- B: The hawks feed on more moles than birds because the moles cannot fly.
- C: When the population of the plant decreases, the population of the other organisms would decrease too.
- D: The population of the rabbit is only affected by the population of the plant.

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

22. Michael counted the number of organisms on a tree. He presented his data in the graph below.

Number of organisms



Based on the graph shown above, which of the following statements are definitely correct?

- A: There are 8 types of slugs.
- B: There are 27 populations of animals.
- C: There are at least four populations of animals.
- D: There is only one community found on the tree.

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

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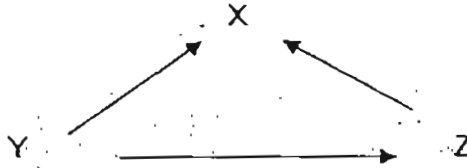
24. Which of the following adaptations help an aquatic plant to obtain maximum sunlight?

- A: Waxy leaves
- B: Clasping roots
- C: Swollen leaf stalks
- D: Air spaces in stems

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

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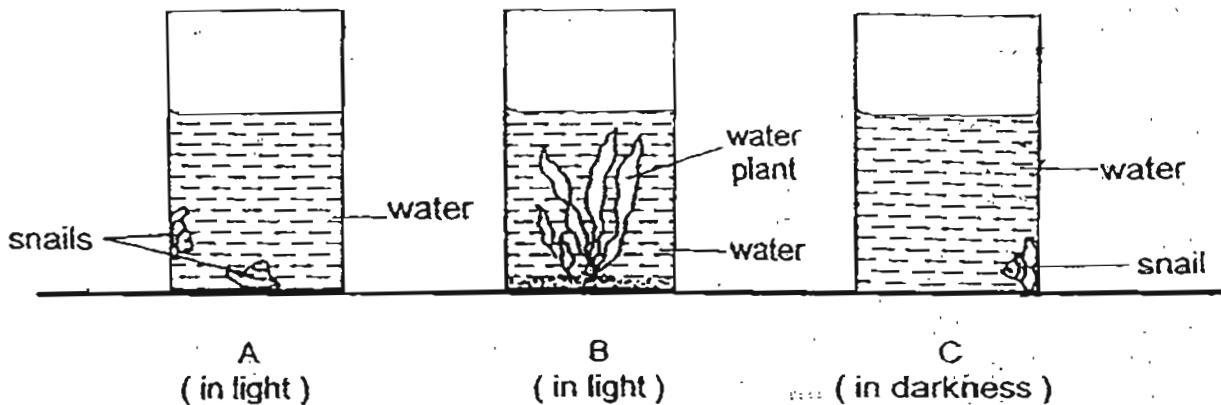
25. The letters X, Y and Z, represent 3 organisms in a community while the arrows show the direction of the flow of energy.



Which one of the following correctly represents X, Y and Z in this community?

| | X | Y | Z |
|-----|-------------|-------------|-------------|
| (1) | producers | decomposers | consumers |
| (2) | producers | consumers | decomposers |
| (3) | consumers | decomposers | producers |
| (4) | decomposers | producers | consumers |

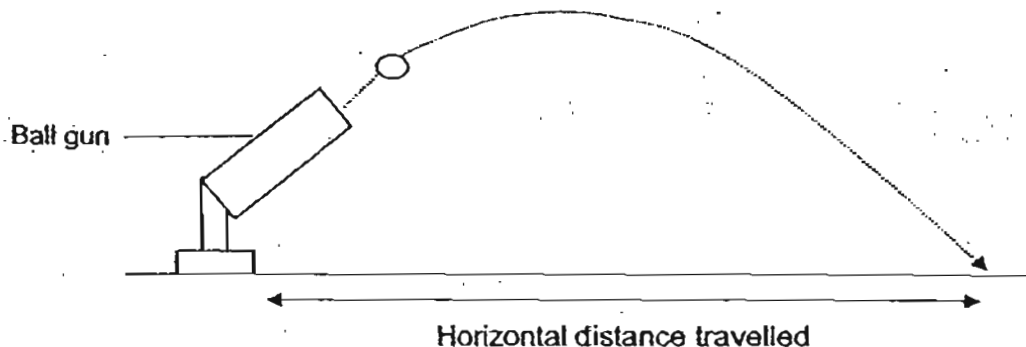
28. 3 containers, A, B and C, are set up with the same amount of carbon dioxide at the start of the experiment. For 12 hours, A and B were kept in the presence of light while C was kept in darkness.



Rank the containers according to the amount of carbon dioxide in the water at the end of the experiment, starting from the one with the least carbon dioxide.

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

27. Emma carried out an experiment to find out which brand of tennis balls, X or Y, would travel a longer distance when ejected from a ball gun.



She carried out the experiment and measured the horizontal distance the ball travelled from the starting point to the point when the ball first hit the ground. The results are recorded in the table below.

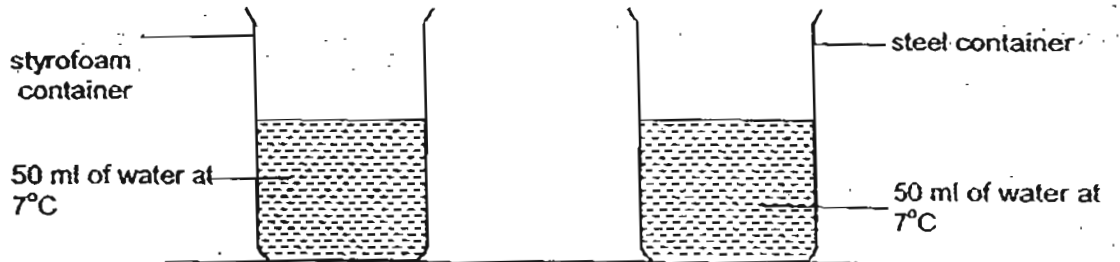
| Tennis ball of brand | Horizontal distance travelled (cm) | | | |
|----------------------|------------------------------------|-----|-----|---------|
| | 1st | 2nd | 3rd | Average |
| X | 205 | 189 | 191 | 195 |
| Y | 275 | 262 | 267 | 268 |

Which of the following explain(s) the difference in distance travelled by the 2 brands of tennis balls?

- A: Less gravity acted on the tennis ball of brand X than that of brand Y.
- B: More gravity caused the tennis ball of brand X to move in a curved path.
- C: The tennis ball of brand X experienced a greater air resistance than that of brand Y.
- D: The tennis ball of brand Y experienced a greater air resistance than that of brand X.

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

28. The diagram below shows a styrofoam container and a steel container of the same shape and capacity. The containers are filled at the same time with the same amount of water at 7°C and left in a classroom. The temperature of the water in both cups was measured after every five minutes.



The table below shows the temperature readings of the water in the styrofoam container.

| | | | | | |
|------------------|---|----|----|----|----|
| Time (min) | 0 | 5 | 10 | 15 | 20 |
| Temperature (°C) | 7 | 10 | 12 | 14 | 18 |

Which one of the following best represents the changes in the temperature of water in the steel container over 20 minutes?

(A)

| | | | | | |
|------------------|---|----|----|----|----|
| Time (min) | 0 | 5 | 10 | 15 | 20 |
| Temperature (°C) | 7 | 10 | 12 | 14 | 18 |

(B)

| | | | | | |
|------------------|---|----|----|----|----|
| Time (min) | 0 | 5 | 10 | 15 | 20 |
| Temperature (°C) | 7 | 10 | 14 | 18 | 22 |

(C)

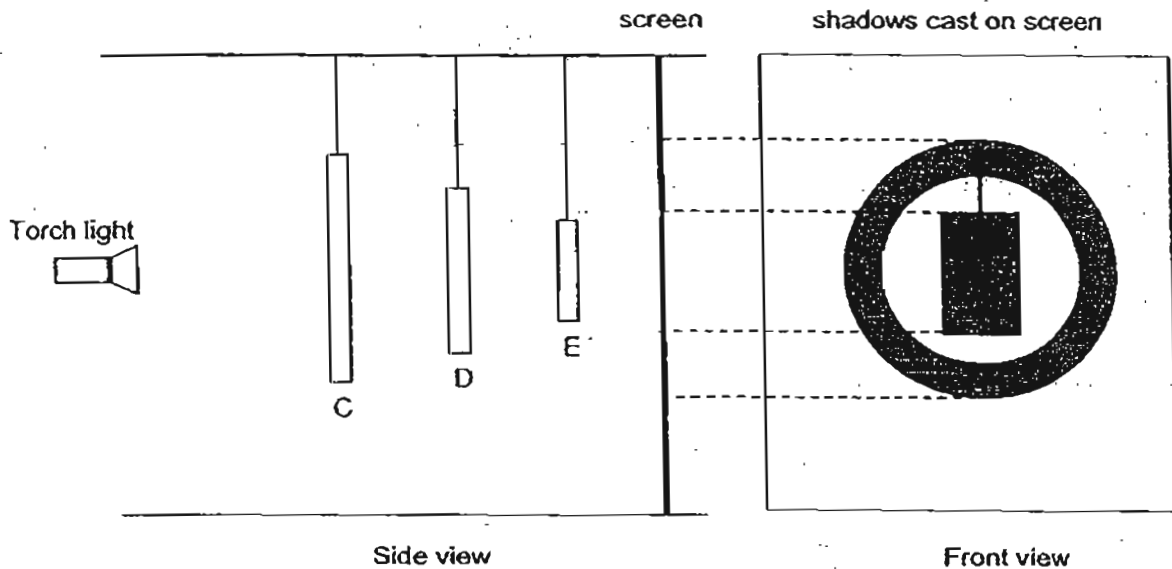
| | | | | | |
|------------------|---|---|----|----|----|
| Time (min) | 0 | 5 | 10 | 15 | 20 |
| Temperature (°C) | 7 | 5 | 4 | 3 | 2 |

(D)

| | | | | | |
|------------------|---|---|----|----|----|
| Time (min) | 0 | 5 | 10 | 15 | 20 |
| Temperature (°C) | 7 | 8 | 9 | 11 | 13 |

29. Justin used 3 different materials, C, D and E, to make 3 cut-outs of different shapes and heights but of the same thickness.

He hung the 3 cut-outs from a support between a screen and a torchlight. When he switched on the torchlight, the shadows cast on the screen are shown below. [The diagrams are drawn to scale]

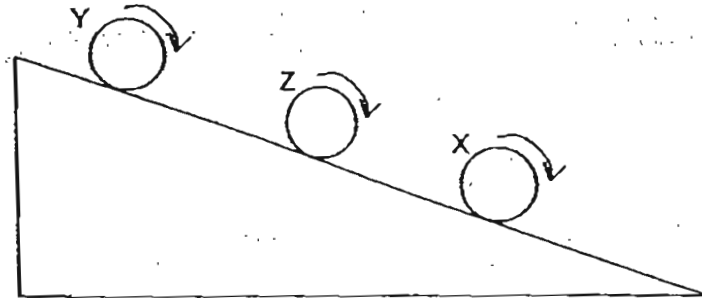


Which one of the following best represents the materials C, D and E, based on the observation of the shadows formed on the screen?

| | Material C | Material D | Material E |
|-----|---------------|---------------|---------------|
| (X) | Wood | Tracing paper | Cardboard |
| (A) | Clear glass | Wood | Aluminium |
| (B) | Cardboard | Iron | Frosted glass |
| (A) | Clear plastic | Frosted glass | Clear glass |

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30. 3 identical marbles X, Y and Z were released, one after another, from the same starting point at the top of a ramp.
The diagram below shows the 3 marbles rolling down the ramp.



Based on the diagram above, which of the following statements are true?

- A: Marble X has more kinetic energy than marble Y.
- B: Marble Y has less kinetic energy than marble Z.
- C: Marble X has less gravitational potential energy than marble Z.
- D: Marble Y has more gravitational potential energy than marble X.

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

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HENRY PARK PRIMARY SCHOOL

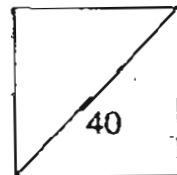
2011 PRELIMINARY EXAMINATION

PRIMARY 6 SCIENCE

Booklet B

Name: _____ ()

Class: Primary 6 _____



14 Questions
40 Marks

Total Time for Booklet A and B: 1 h 45 min

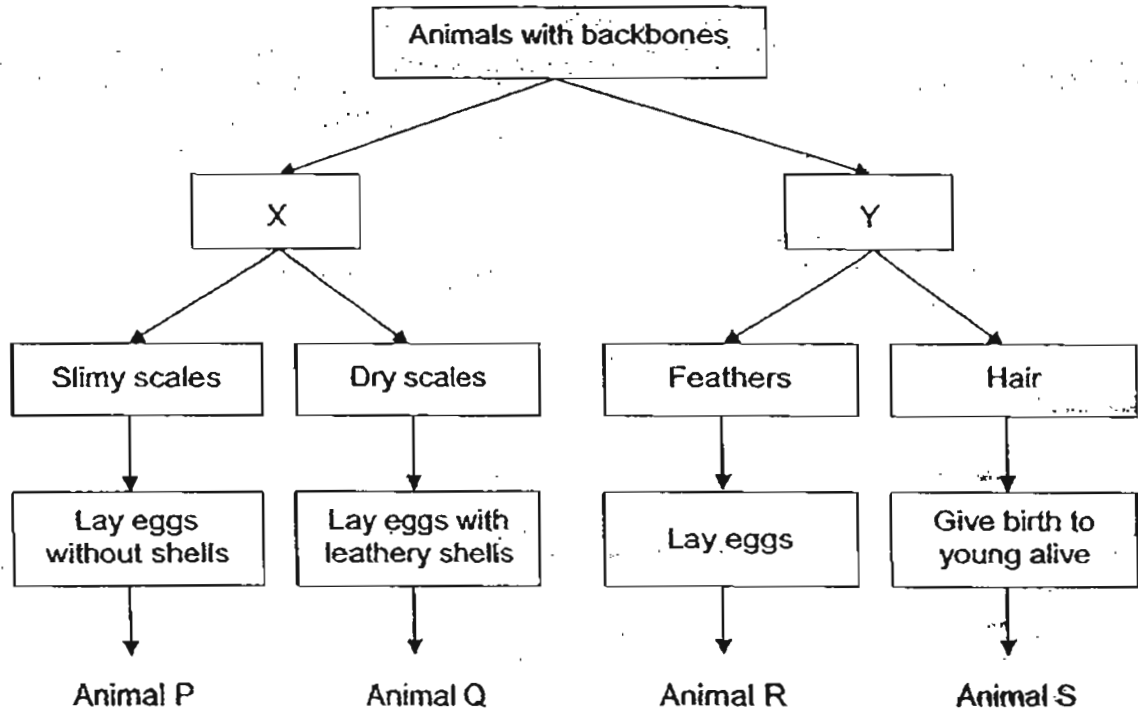
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Booklet B (40 marks)

Write your answers to questions 31 to 44 in the spaces given.

31. The classification chart below identifies 4 groups of animals, P, Q, R and S.



a) Write down suitable headings for X and Y.

(1m)

X : _____

Y : _____

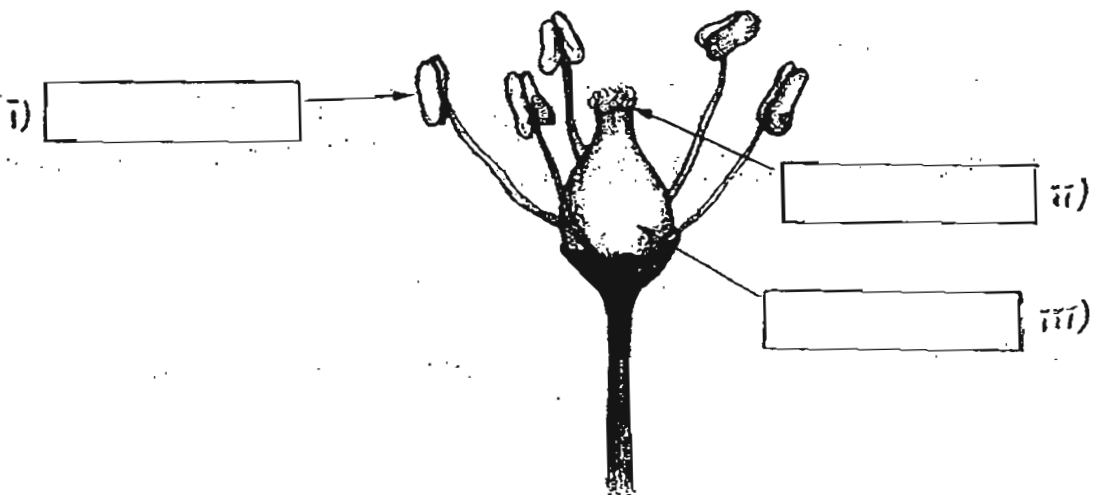
b) Describe the **physical** characteristics of Animal Q.

(1m)

c) Explain why a crab cannot be placed in the above classification chart.

(1m)

32. The diagram below shows the grapevine flower.

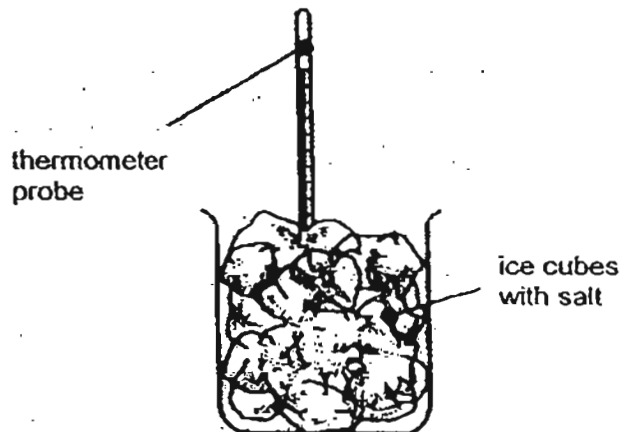


a) The arrows in the diagram are pointing at three parts of the flower. Name these parts by **filling in the boxes** next to the arrows. (1m)

b) The grapevine flower is able to self pollinate. (1m)
Explain how this flower is adapted for this process.

c) State one advantage of the self-pollination method. (1m)

33. An experiment was set up as shown below. Salt was slowly sprinkled onto the ice in the beaker and the temperature of the content was taken using a data logger after different amounts of salt had been added.



The table below shows the readings taken by the data logger.

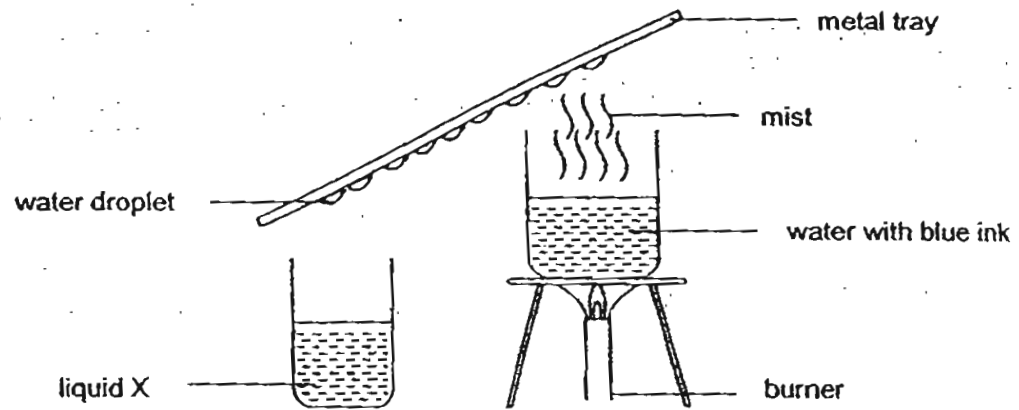
| | | | | |
|---|---|----|----|----|
| Amount of salt (g) | 0 | 10 | 25 | 50 |
| Melting Point of ice ($^{\circ}\text{C}$) | 0 | -2 | -5 | -9 |

- a) Based on the results obtained, what is the relationship between the amount of salt used and the melting point of ice? (1m)

- b) What is the melting point of ice when 40g of salt is added? (1m)

- c) During winter, roads are covered in snow and ice. This makes the roads slippery and this poses a safety hazard to motorists. In some countries, the authorities sprinkled salt onto roads when the temperature is just below 0°C . Based on the information above, explain why this is done. (1m)

34. Clarice set up the experiment as shown below.



a) What was the colour of liquid X? (1m)

b) Clarice noticed that fewer water droplets appeared on the underside of the metal tray after a while. Explain why this is so. (1m)

35. An experiment was conducted with 4 pots of similar plants which were placed in glass jars A, B, C and D as shown below. Oil was applied on different parts of the leaves of the plants in glass jars A, B and C.

All the pots were watered with the same amount of water and weighed. The pots were next covered with clear plastic bags before being placed under bright sunlight.



A

oil on
top surface
of the leaves



B

oil on
bottom surface
of the leaves



C

oil on
both surfaces
of the leaves



D

no oil
on the leaves

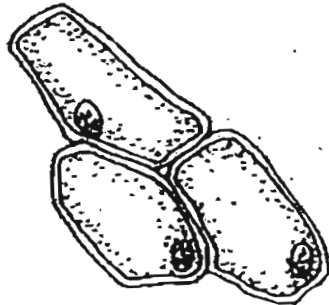
After 5 hours, each pot was weighed again and the difference in mass was calculated.

- a) Rank the jars in order of **increasing** loss of water for the 4 pots of plants. (1m)

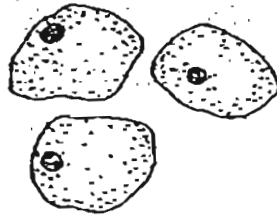
- b) Explain your answer in (a). (2m)

- c) What is the purpose of covering the pots with plastic bags? (1m)

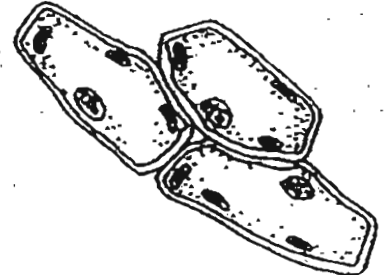
38. The diagram below shows cells A, B and C.



cell A



cell B



cell C

- a) State one difference between cell A and cell B. Do not mention their size and shape. (1m)

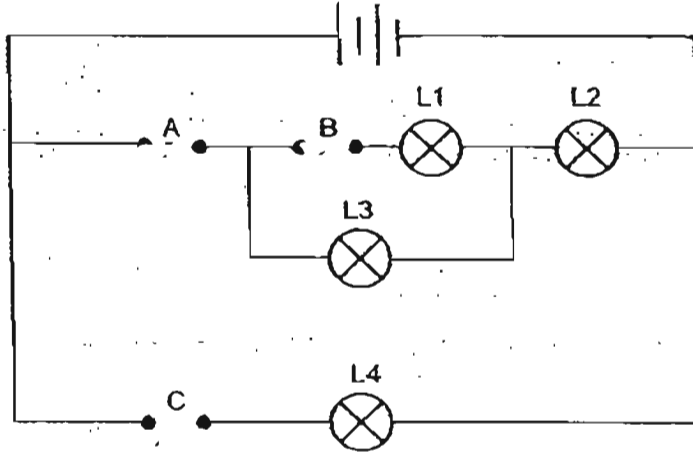
- b) State how cell C is different from cells A and B. (1m)

- c) Both cells A and C are found in the same organism. Identify where each cell can be found in the organism. (1m)

Cell A : _____

Cell C : _____

37. Dawn had 3 rods, P, Q and R, of unknown materials. She placed them in various positions, A, B and C, of the circuit shown below.



The results of the experiment were shown in the table below. When any of the lamps lit up, a tick (✓) was placed in the box.

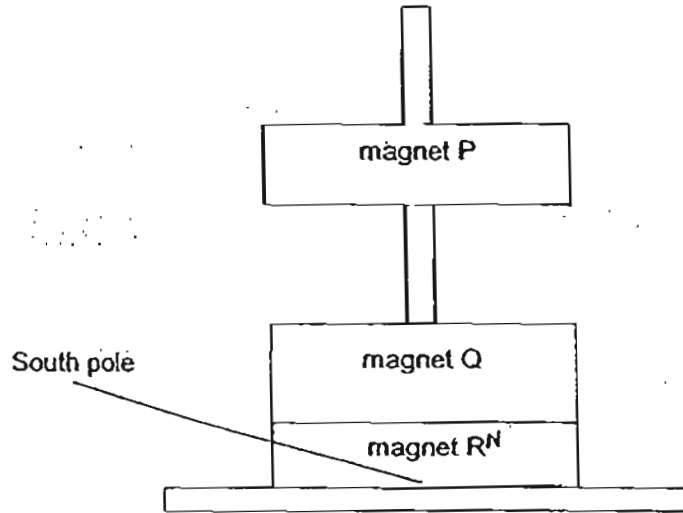
| Positions where rods were placed | | | Lamps | | | |
|----------------------------------|---|---|-------|----|----|----|
| A | B | C | L1 | L2 | L3 | L4 |
| P | Q | R | | ✓ | ✓ | ✓ |

- a) Dawn also placed the materials in other combinations as shown in the table below. Fill in the boxes with ticks (✓) to indicate which lamps lit up. (2m)

| Positions where rods were placed | | | Lamps | | | |
|----------------------------------|---|---|-------|----|----|----|
| A | B | C | L1 | L2 | L3 | L4 |
| Q | R | P | | | | |
| R | P | Q | | | | |

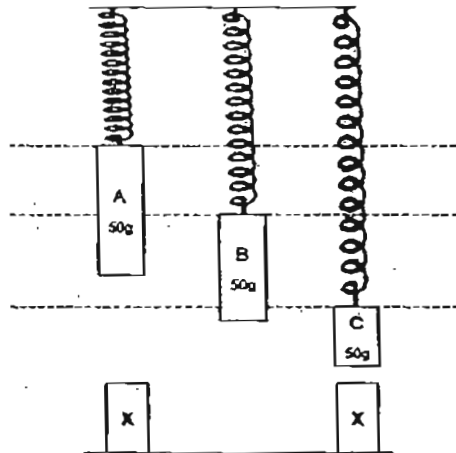
- b) Based on the results of the experiment, what conclusion can be made about materials P, Q and R? (1m)

38. The setup below consists of three ring magnets, through a wooden rod.



a) Identify the pole of magnet P that is facing magnet Q in the setup above. (1m)

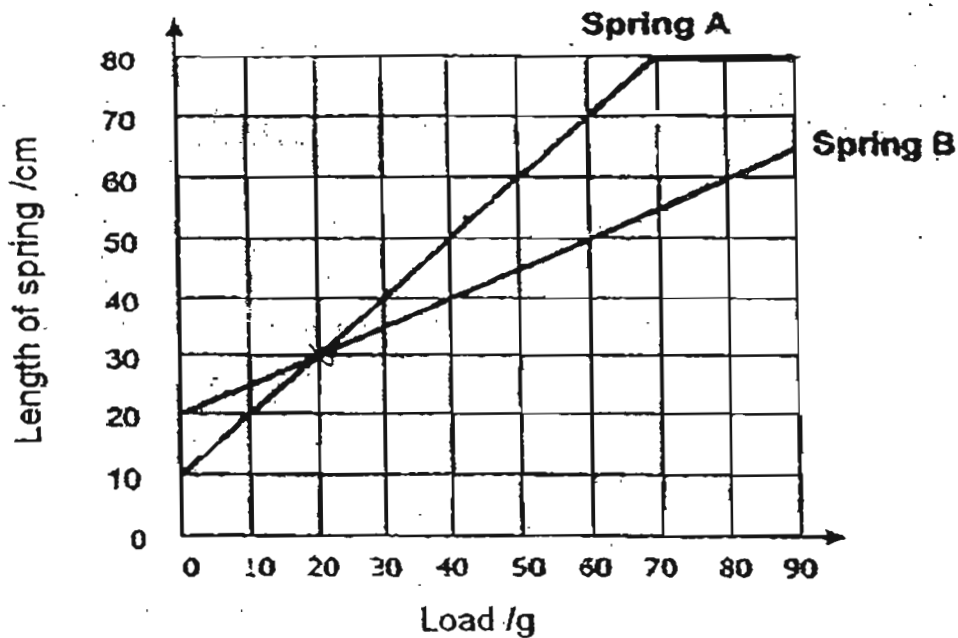
3 identical springs are used to suspend a block of 50 g mass each. 2 pieces of object X are placed directly below blocks A and C respectively, and the results are shown in the diagram below.



b) What can object X be? (1m)

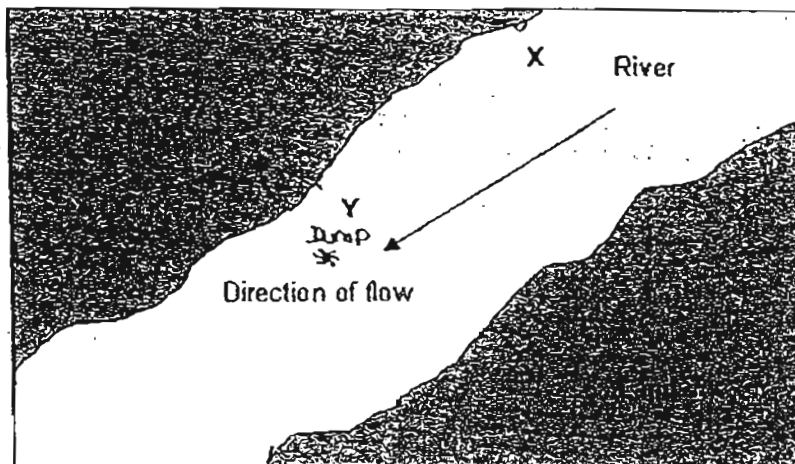
c) What material is block A made of? Explain your answer. (2m)

39. Springs, A and B, were used to support various loads. The results are recorded and plotted in the graph shown below.



- a) What was the difference in the original lengths of Spring A and B? (1m)
-
- b) What was the difference in the extensions of the two springs when a load 20g is hung on them? (1m)
-
- c) When the mass hung on Spring A was increased from 80g to 90g, what happens to the length of the spring? Explain your answer. (1m)
-
-
-

40. The diagram below shows part of a river and the direction of flow.



Ganesh collected several water samples of the same volume from areas X and Y of the river.

The water samples were analysed and the population of organisms A, B and C found in the samples are recorded in the table below.

| Area | Population of organism in the water samples | | | |
|------|---|------------|------------|-----------------|
| | Organisms A | Organism B | Organism C | Other organisms |
| X | 51 | 27 | 11 | 15 |
| Y | 33 | 15 | 31 | 21 |

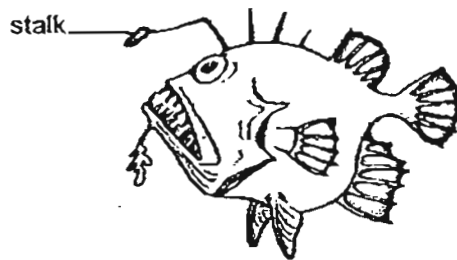
- a) If more sewage, containing animal waste, was dumped into the river at area Y than at area X, what is the relationship between amount of sewage dumped and the population of organisms A and C based on the data in the table above? (1m)

- b) How is the amount of dissolved oxygen in the river likely to be changed as a result of the increase of sewage at area Y? (2m)
Explain clearly how this change is caused by the presence of sewage.

41. The table below shows the physical conditions at different depths in the ocean.

| Ocean zones | Depth /m | Temperature (°C) | Intensity of light |
|---------------|-------------|------------------|--------------------|
| Sunlight Zone | 0 - 200 | 25 - 32 | Bright |
| Twilight Zone | 200 - 1000 | 6 - 25 | Dim |
| Dark Zone | 1000 - 4000 | 0 - 6 | Dark |
| Abyss | 4000 - 6000 | Less than 0 | Pitch dark |

The angler fish shown below is usually found at a depth where the temperature of the water is lower than 5°C.

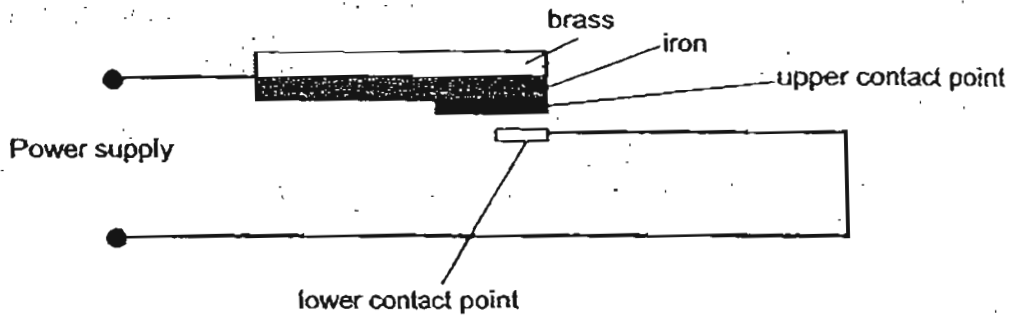


- a) Based on the above information, what is the minimum depth at which the angler fish would be expected to live in? (1m)

- b) The angler fish, a predatory animal, has a stalk on its head which gives off light. (1m)
How does this feature help the angler fish to survive in its living environment?

42. The diagram below shows a bimetallic strip made up of brass and iron found in a device.

When there is contact between the upper and lower contact points, electricity will flow in the circuit and the temperature in the device will rise.



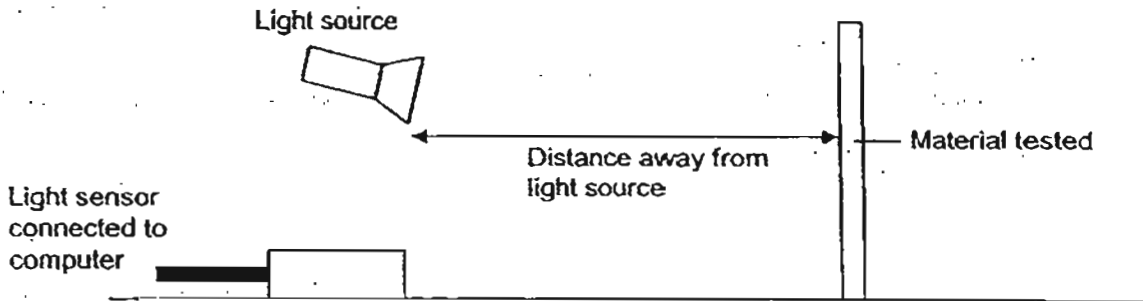
A 1-metre iron rod and brass rod when heated separately to 100°C will result in the following increase in length respectively.

| Metal | Increase in length (mm) |
|-------|-------------------------|
| Iron | 1.20 |
| Brass | 1.90 |

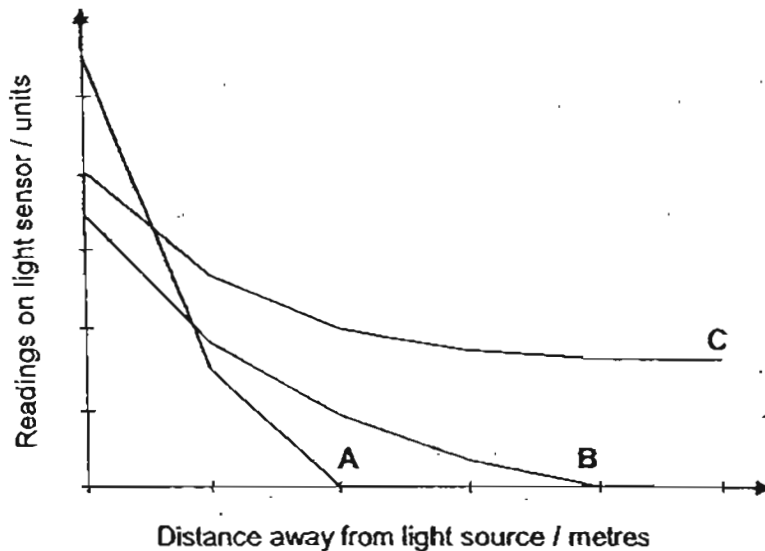
Using the information from the table, explain how the bimetallic strip works in the device when the bimetallic strip is heated.

(2m)

43. Elton conducted an experiment to find out how the amount of light reflected by three different materials, A, B and C, is affected by the distance the material is away from the light source. He set up his experiment in the diagram as shown below.



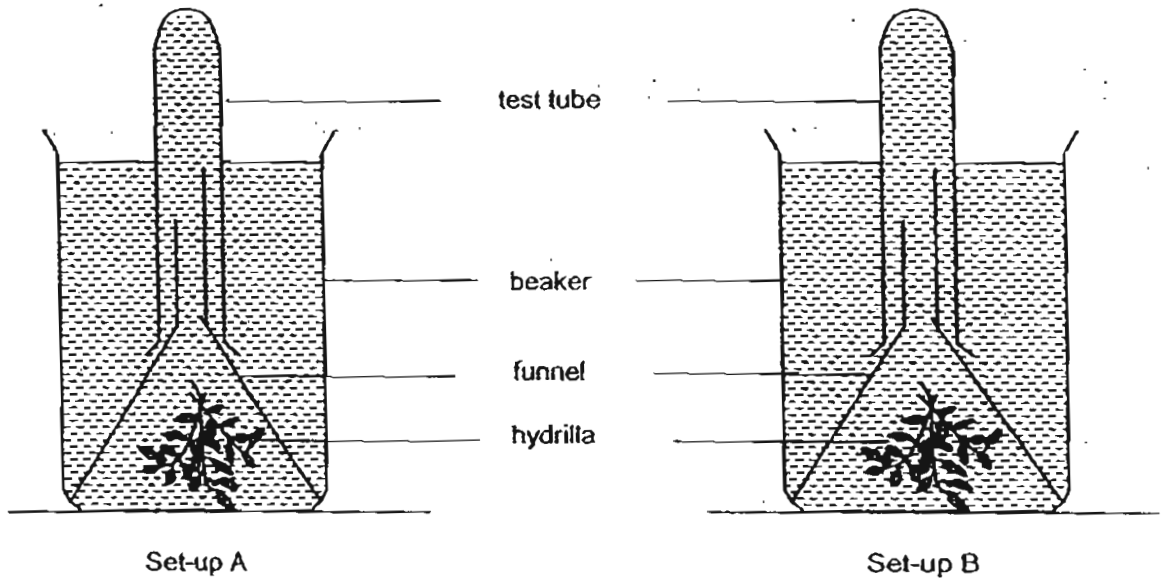
He placed the materials at different distances away from the light source and he used a light sensor to determine the amount of light that was reflected. He recorded the results and plotted the results in the graph below.



- a) Explain why Elton should conduct his experiment in a completely dark room to ensure a fair test. (1m)

- b) Based on the results of his experiment, which material, A, B or C, would be most suitable for making safety vests for cyclists who intend to cycle at night? Explain your answer. (1m)

44. Karen used 2 set-ups, A and B, for her experiments. She added baking soda to the water in one of the set-ups to increase the concentration of carbon dioxide in the water. She then placed them in the sun.



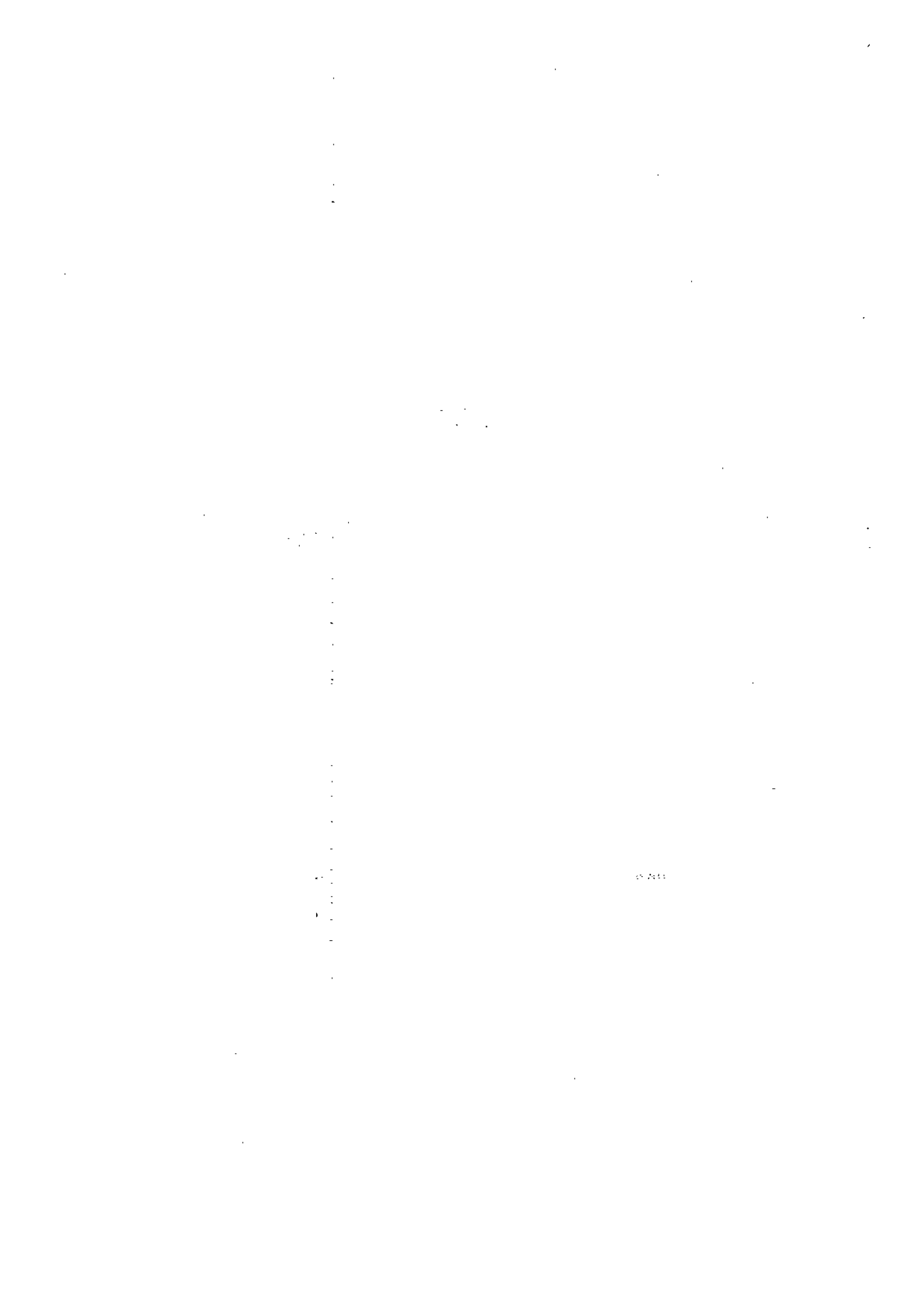
The table below shows the number of bubbles produced in the 2 set-ups over 20 minutes.

| Time (min) | Number of bubbles produced | |
|------------|----------------------------|------------|
| | Data set X | Data set Y |
| 0 | 0 | 0 |
| 5 | 3 | 4 |
| 10 | 9 | 11 |
| 15 | 13 | 17 |
| 20 | 19 | 25 |

- a) Which set of data, X or Y, represents the result from the set-up with baking soda added? Explain your answer. (2m)

- b) Besides the amount of hydrilla, state another variable which can be changed for the set-ups to have similar results as shown in the table. (1m)

End of Booklet B



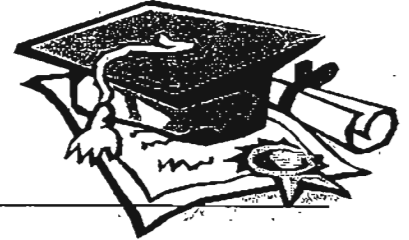


ANSWER SHEET

EXAM PAPER 2011

**SCHOOL : HENRY PARK
SUBJECT : PRIMARY 6 SCIENCE**

TERM : PRELIMINARY



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

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

31)a)X: Cold-blooded Y: Warm-blooded

- b)Animal Q has a backbone and has dry scales on its.
- c)It does not have a backbone.

32)a)i)Anther ii)Stigma iii)Ovary

- b)The anthers are located above the stigma so pollen grains can fall onto the stigma.
- c)It does not require a pollinator to pollinate the flower.

33)a)As the amount of salt used increases, the melting point of ice decreases.

- b)It is -8°C
- c)This lowers the melting point of the snow/so that the ice will melt faster and will turn into water.

34)a)Colourless.

- b)The metal tray had become hotter after some time and this decreased the rate of condensation thus less condensation took place.

35)a)C,B,A and D.

- b)There are more stomata's in the underside of the leaves as compared to the upperside of the leaves. In set-up C mostly all the stomatas were covered, thus very little water could escape followed by B where more stomatas were covered as compared to A because there are more stomatas on the under side of the leaves as compared to the upperside of the leaves ,thus less water was lost through B as compared to A there. D where none of the stomatas were covered allowing the most water to escape.

- c)It is to the water in the soil from evaporating so that her experiment is accurate.

36)a) Cell A has a cell wall but cell B does not.

b) Cell C has chloroplasts while cells A and B do not have chloroplasts.

c) A: Root cell C: leaf cell

37)a) ✓
 ✓ ✓ ✓

b) Materials P and R are conductors of electricity while material Q is a non-conductor of electricity.

38)a) It is the North pole.

b) Object X can be a magnet.

c) Block A is made of iron which can be magnetized since A and X repel, both must be magnets.

39)a) It was 10 cm.

b) It was 10 cm.

c) The length of the spring remains constant because the spring cannot be stretched any further.

40)a) As the amount of sewage dumped at area Y increases, the population of organism A decreases while the population of organism C increases.

b) The amount of dissolved oxygen in the water would decrease because the decomposers in the water would use the dissolved oxygen in the water to break down the animal waste in the sewage into simpler substances.

41)a) It would be 1000 m.

b) The light emitted from the stalk on the angler fish's head attracts its prey towards it so that it can catch its prey thus this feature helps angle fish to survive in its living environment.

42) When electricity is switched on, the bimetallic strip is heated up and expands. Brass expands more than iron so the bimetallic strip bends downwards and the upper contact point touches the lower contact point. Then electricity will flow in the circuit and the electric iron becomes hot.

43)a) It is to prevent the light from the surrounding from entering the light sensor which will make his results less accurate and reliable.

b) Safety vests need to reflect most of the light back when light shines on them and Material A reflected the most light back into the light sensor when the torch was shone on it thus it would be the most suitable to make safety.

44)a) Data Y because the number of bubbles produced was greater than that of Data X thus the hydrilla from which Data Y was collected photosynthesised at a faster rate as it had more carbon dioxide compared to the hydrilla from which Data X was collected.

b) The intensity of light each set-up receives.