



新加坡福建会馆属下五校小六统一考试  
道南 • 爱同 • 崇福 • 南侨 • 光华

SINGAPORE HOKKIEN HUAY KUAN  
5-SCHOOL COMBINED PRIMARY 6 PRELIMINARY EXAMINATION  
TAO NAN • AI TONG • CHONGFU • NAN CHIAU • KONG HWA

2011  
科学 SCIENCE  
BOOKLET A

Date: 25 August 2011

Total Time for Booklets A and B: 1 hour 45 minutes

**INSTRUCTIONS TO CANDIDATES**

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.

This booklet consists of 23 printed pages.

School : \_\_\_\_\_  
Name : \_\_\_\_\_  
Class : \_\_\_\_\_

TOTAL	60
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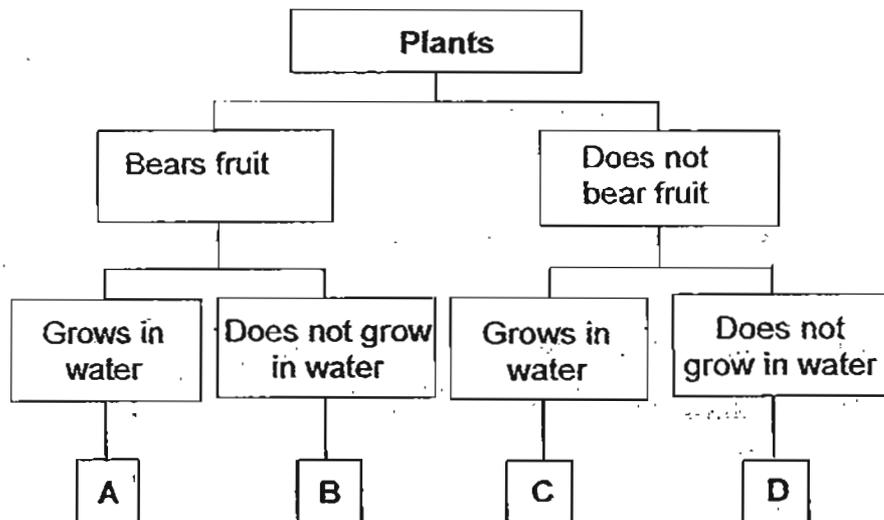
**Section A (30 x 2 marks)**

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. The table below gives information about 3 plants, L, M and N. A tick (✓) shows that the plant has the characteristic stated in the table.

Characteristic	Plant L	Plant M	Plant N
Bears Fruits	✓	✓	
Grows in water		✓	

From the information given, where do plants L, M and N, belong in the following classification chart?



	Plant L	Plant M	Plant N
(1)	A	B	C
(2)	B	A	D
(3)	B	C	A
(4)	D	C	A

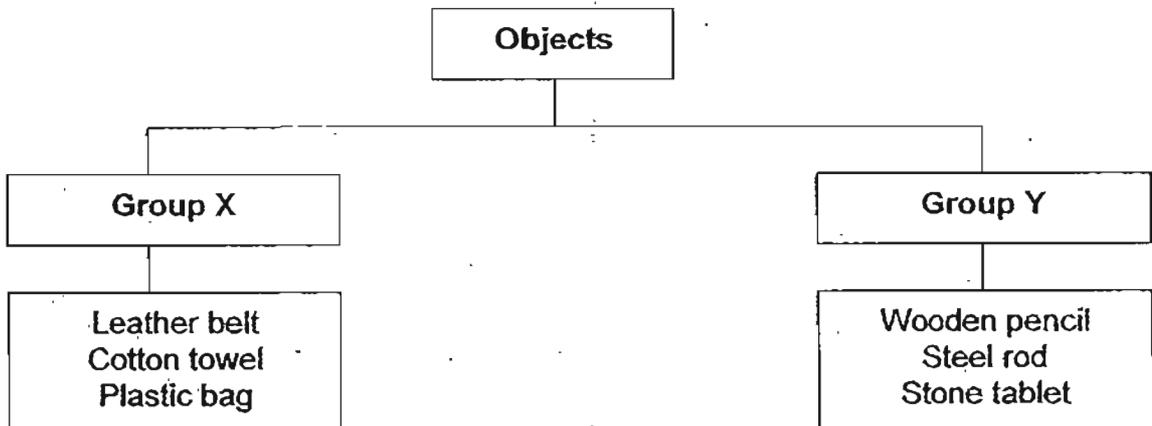
2. James was told that a crocodile, a frog and a penguin had been classified in the same group.

Which of the following could be the reasons the 3 animals were grouped together?

- A They all have four legs.
- B They live in the same habitat.
- C They have the same outer body covering.
- D They have the same method of reproduction.
- E They can move freely on their own in water and on land.

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

3. The chart below shows how some objects are grouped into 2 groups, X and Y.



Which of the following headings best describe the two groups?

	Group X	Group Y
(1)	Hard	Soft
(2)	Fragile	Non-fragile
(3)	Flexible	Non-flexible
(4)	Made from natural materials	Made from man-made materials

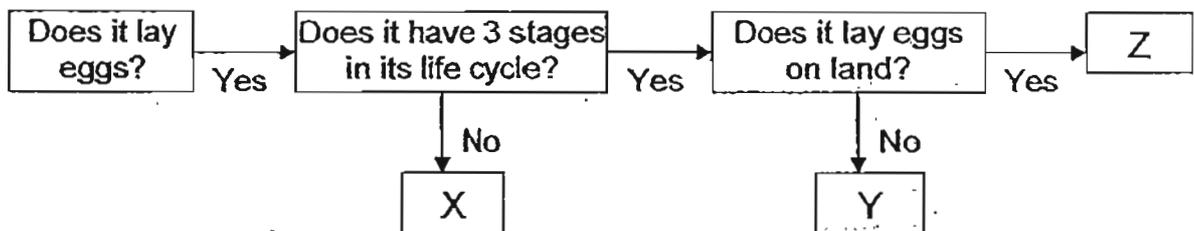
4. Kim conducted several tests on 4 materials, P, Q, R and S. The results of the tests are given below.

	P	Q	R	S
Breaks easily	Yes	No	Yes	No
Allows light to pass through	Yes	No	No	No
Is a good conductor of heat	No	No	No	Yes
Is waterproof	No	Yes	Yes	Yes

Based on the results given, which of the above materials is most suitable for making the handles of frying pans?

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

5. The flow chart below provides information about 3 animals, X, Y and Z.



Which of the following correctly represents animals X, Y and Z?

	Animal X	Animal Y	Animal Z
(1)	Chicken	Grasshopper	Cockroach
(2)	Cockroach	Frog	Butterfly
(3)	Mealworm beetle	Cockroach	Frog
(4)	Mosquito	Frog	Chicken

6. The following statements describe what happened during the process of sexual reproduction in plants.

- A Male reproductive cell fuses with the female reproductive cell.
- B Pollen grains are transferred to the stigma.
- C The anther releases pollen grains.
- D Pollen tube grows towards the ovary.
- E Ovule develops into a seed.

Which of the following shows the correct sequence of the process?

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

7. The table below provides information about 3 human reproductive organs, A, B and C.

Human Reproductive Organs		
Female		Male
Produces eggs	Does not produce eggs	C
A	B	

Based on the table, which of the following correctly represents organs A, B and C?

	A	B	C
(1)	Stigma	Testis	Ovule
(2)	Ovary	Womb	Testis
(3)	Womb	Ovary	Penis
(4)	Ovary	Stigma	Anther

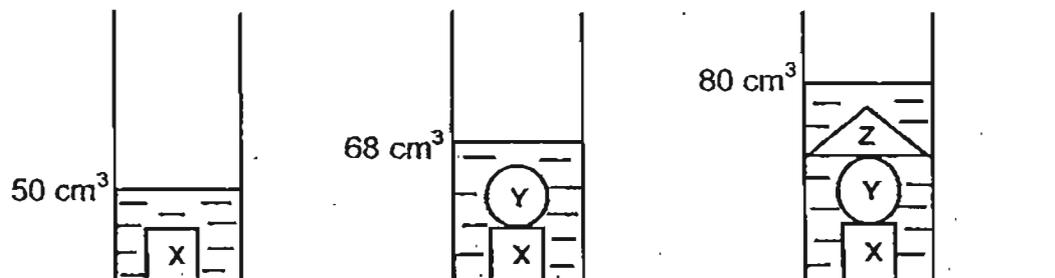
8. Jackson wanted to find out how the strength of the wind would affect the distance travelled by Seed X when it is dropped from a height.

Which of the following variables should he keep the same to ensure a fair test?

- A Location of the experiment
- B Strength of wind blowing at Seed X
- C Height from which Seed X is dropped
- D Distance travelled by Seed X away from the starting point

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

9. Ellen poured an equal amount of water into 3 identical measuring cylinders. Objects X, Y and Z were put into the measuring cylinders as shown in the diagram below.



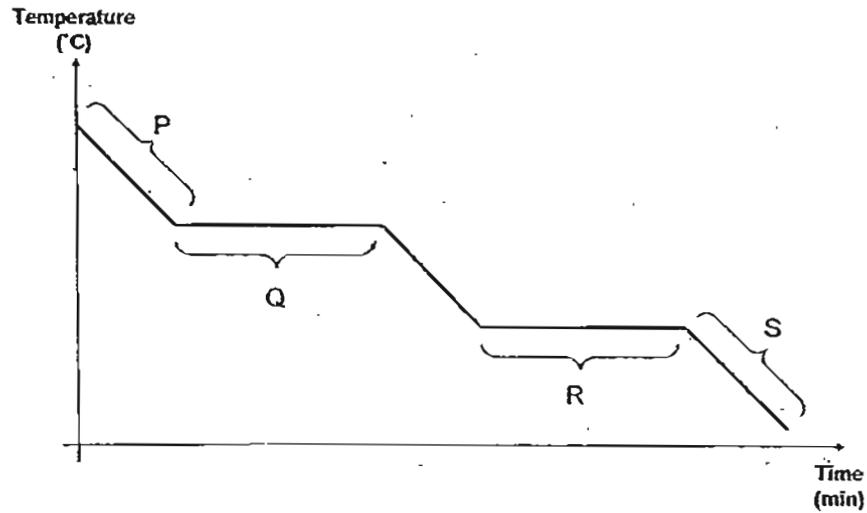
Based on the experiment, Ellen wrote down some statements in her Science journal.

- A The volume of Object Y is 18 cm<sup>3</sup>.
- B The volume of Object Y is greater than the volume of Object Z.
- C The mass of Object Z is 12 g.
- D The mass of Object X and Object Y is greater than the mass of Object Z.

Which of her statements are correct?

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

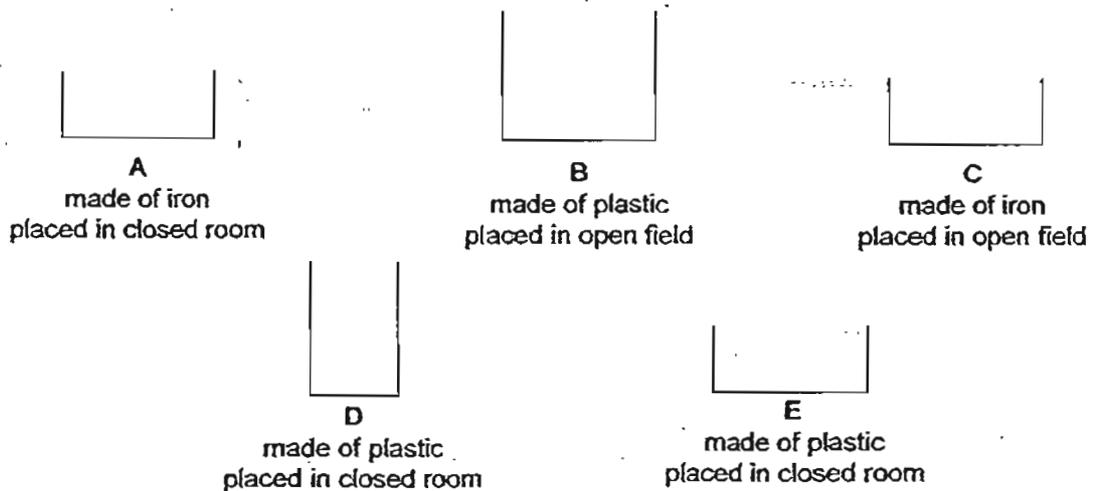
10. Substance X was cooled from its gaseous state to its solid state. The graph below shows the temperature change of Substance X over time during this cooling process.



Which part of the graph, P, Q, R or S; represents the freezing process?

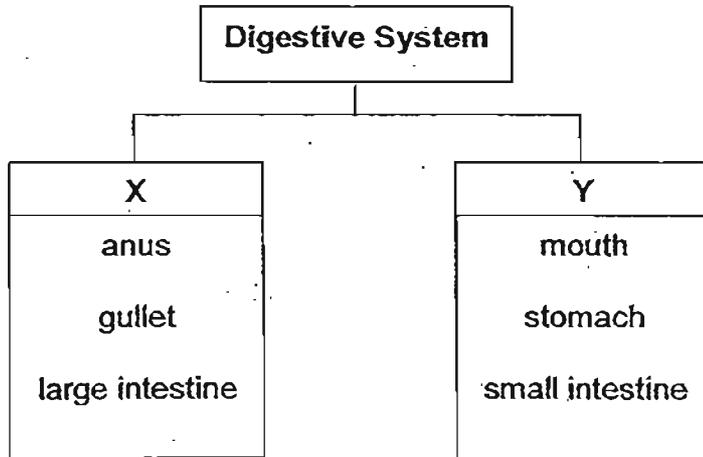
- (1) P
  - (2) Q
  - (3) R
  - (4) S
11. Chloe conducted an experiment to investigate if the presence of wind affects the rate of evaporation of water. She obtained 5 containers and filled them with equal amounts of water. She then placed the containers in locations as described in the diagrams below.

Which 2 containers should she compare in this investigation?



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

12. The chart below shows how the organs of the human digestive system are classified.



Based on the chart above, which of the following shows the correct heading for Y?

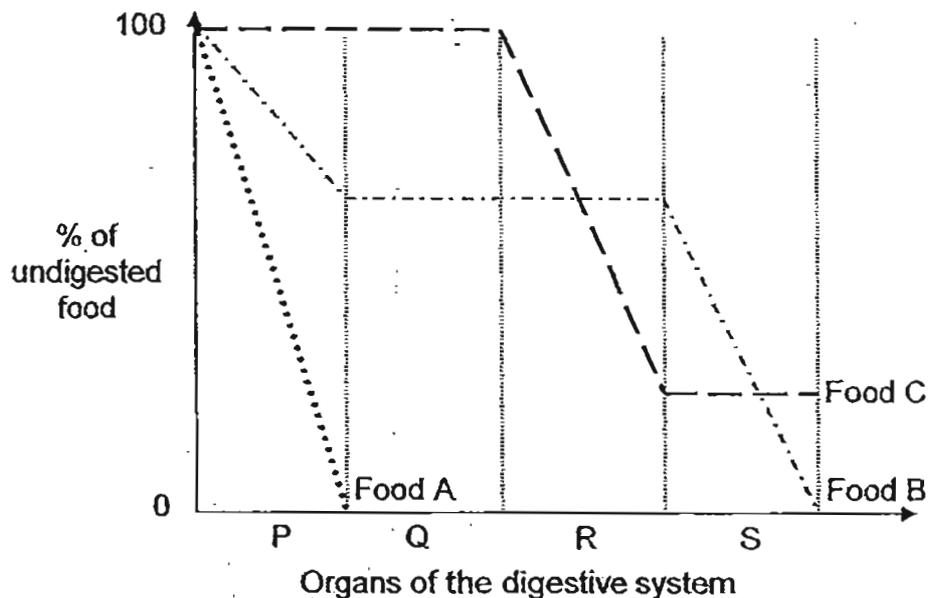
- (1) Where digestion takes place.
- (2) Where digestion is completed.
- (3) Where absorption of water takes place.
- (4) Where absorption of digested food takes place.

13. Some scientists wanted to study the digestive system of Animal X. They fed Animal X with the same amount of foods A, B and C over 3 days. The following table shows the type of food it was fed with on each day.

	Fed with
Day 1	Food A
Day 2	Food B
Day 3	Food C

Animal X's digestive system was checked at specific time intervals each day to find out how much of the food remained to be digested.

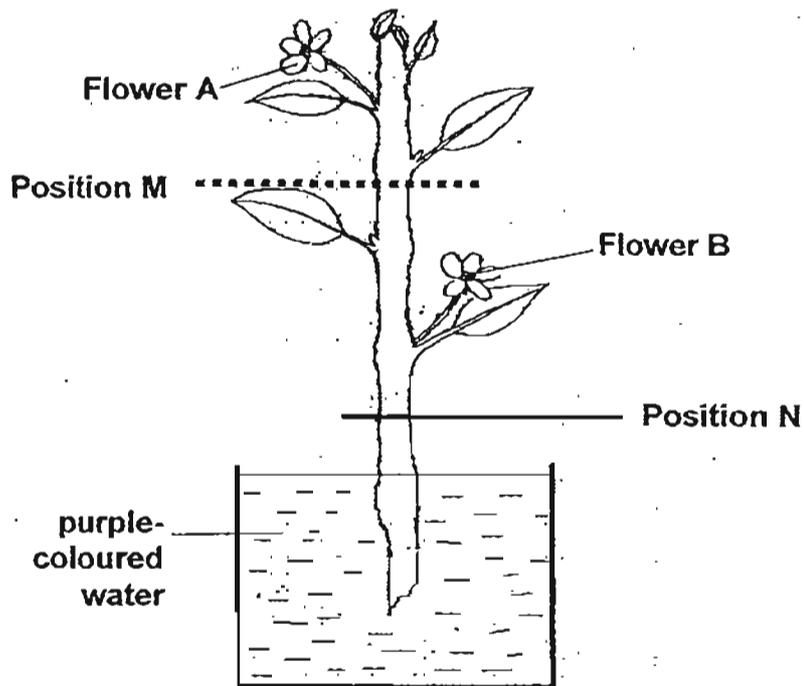
The results were plotted in the line graph below.



Based on the above results, what can the scientists conclude at the end of the experiment?

- (1) Organ R is the most effective at digestion.
- (2) The amount of food Animal X ate affects the process of digestion.
- (3) The type of food Animal X ate affects the rate of absorption of digested food.
- (4) Different organs of the digestive system digest different substances in the food.

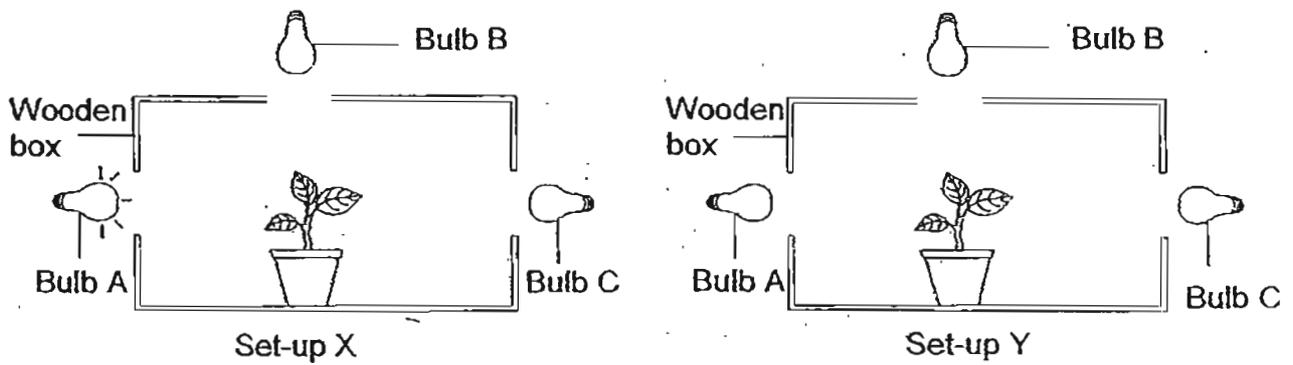
14. Alice placed a plant with two white flowers, A and B, into a beaker containing purple-coloured water. She removed a ring of the stem at positions M and N as shown in the diagram below. After a few hours, Flower A remained white while Flower B turned purple.



Based on Alice's observation, which tubes were likely to have been cut and removed at Positions M and N respectively?

	Tube(s) removed at Position M	Tube(s) removed at Position N
(1)	water-carrying tubes only	water-carrying tubes and food-carrying tubes
(2)	food-carrying tubes only	water-carrying tubes only
(3)	water-carrying tubes and food-carrying tubes	food-carrying tubes only
(4)	food-carrying tubes only	water-carrying tubes and food-carrying tubes

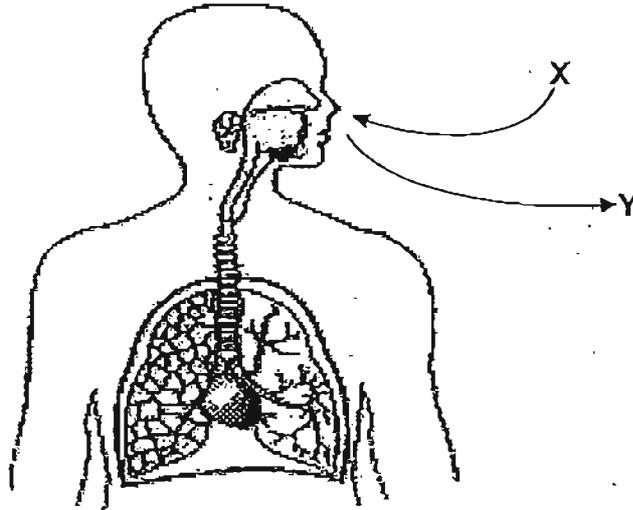
15. Mr Lee set up an experiment as shown below to investigate if plants grow towards light. Both set-ups X and Y were placed in a completely dark room.



In Set-up X, only Bulb A was lit up. What must Mr Lee do to Set-up Y to confirm his investigation?

- (1) Bulb B should be lit.
- (2) Bulb C should be lit but not bulbs A and B.
- (3) Bulbs A, B and C should be lit up with the same brightness.
- (4) Bulb A in Set-up Y should be brighter than Bulb A in Set-up X.

16. Ahmad was given the diagram below which shows the human respiratory system. X represents the air from the surroundings that enters the system while Y represents the air that leaves the system.

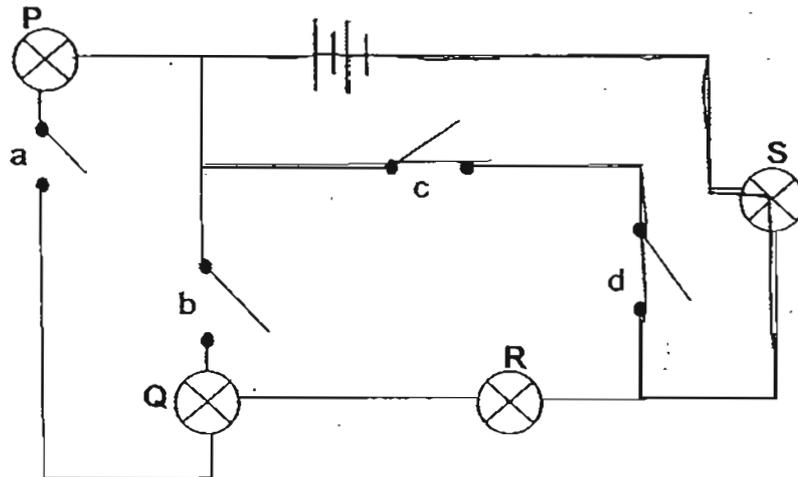


Which of the following statements about X and Y is/are correct?

- A Y will cause limewater to turn chalky.
- B X contains only oxygen and water vapour.
- C X will enter the nose and travel down the gullet.
- D X and Y both contain a gas that is needed during photosynthesis.

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

17. The following shows an electric circuit in which there are 4 bulbs, P, Q, R and S, and 4 switches, a, b, c and d, placed at different parts of the circuit.



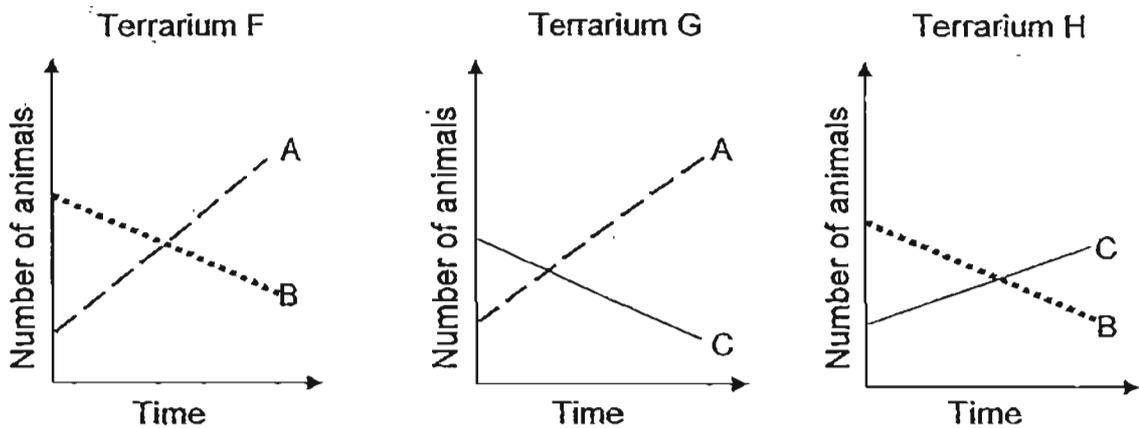
Which of the following correctly shows the bulb(s) that would be lit when the switch(es) mentioned is/are closed?

	Switch(es) closed	Bulb(s) that would light up
(1)	b only	R only
(2)	a and c only	P and R only
(3)	c and d only	S only
(4)	a, b and c only	P and Q only

18. Isaac decided to study the food relationship among 3 different types of animals, A, B and C. He created 3 similar terrariums, F, G and H, such that they resembled the natural habitat of the 3 animals. He then placed a number of the animals in the terrariums in the following manner.

Terrarium	Animals
F	A and B only
G	A and C only
H	B and C only

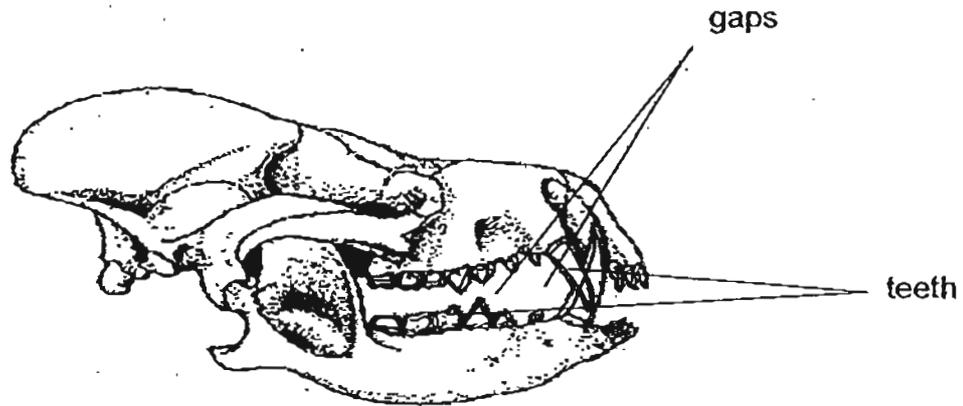
For a month, Isaac counted the number of each type of animal in the terrariums every 2 days. He plotted three graphs, as shown below, to illustrate the results that he had recorded.



Based on the graphs, which of the following statements correctly explains a possible food relationship between the animals?

- (1) A is the prey of C.
- (2) B is the predator of A.
- (3) C is the predator of B.
- (4) B is both a predator and a prey.

19. Matthew went on a safari holiday and he discovered a skull as shown below. He examined the skull and inferred that the animal fed on both plants and animals.



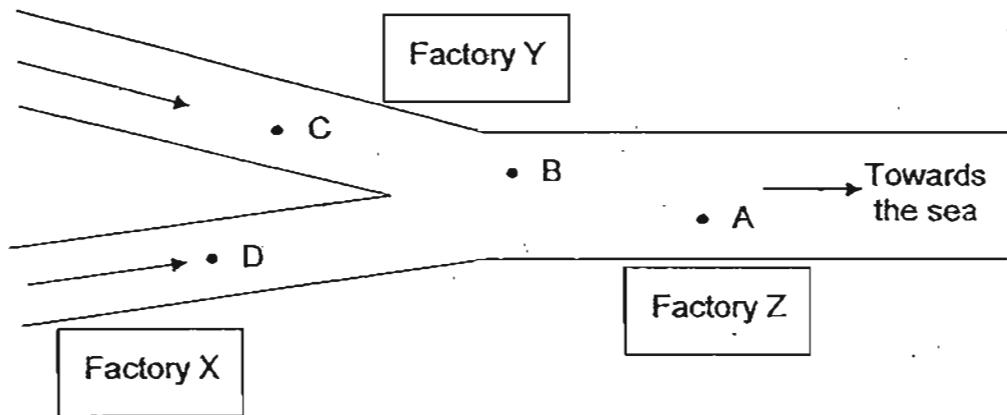
Which of the following observations enabled Matthew to arrive at his inference?

- (1) There are many teeth.
  - (2) There are both blunt teeth and sharp, pointed teeth.
  - (3) There are huge gaps between the two rows of teeth.
  - (4) There are more sharp, pointed teeth than blunt teeth.
20. Joseph recorded some information about earthworms in the table below.
- |          |  |
|----------|--|
| <b>A</b> | An earthworm can twist around wildly in an attempt to free itself from its predator.   |
| <b>B</b> | An earthworm stays beneath the soil's surface in the day to hide from its predators.   |
| <b>C</b> | An earthworm releases mucus to help it slide through the soil quickly when it is threatened.   |
| <b>D</b> | An earthworm camouflages well with the soil owing to the colour of its body and that prevents it from being spotted easily by predators. |

Which statement(s) above show(s) the behavioural adaptation(s) of the earthworm that would enhance its survival?

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

21. The diagram below shows the path of water flowing downstream in a river towards the sea. Three factories, X, Y and Z are situated near the water. All the factories discharge the same amount and same type of chemical waste into the water daily.



Moses studied the extent of pollution at four locations of the river, A, B, C and D. The table shows the number of living organisms found in each location.

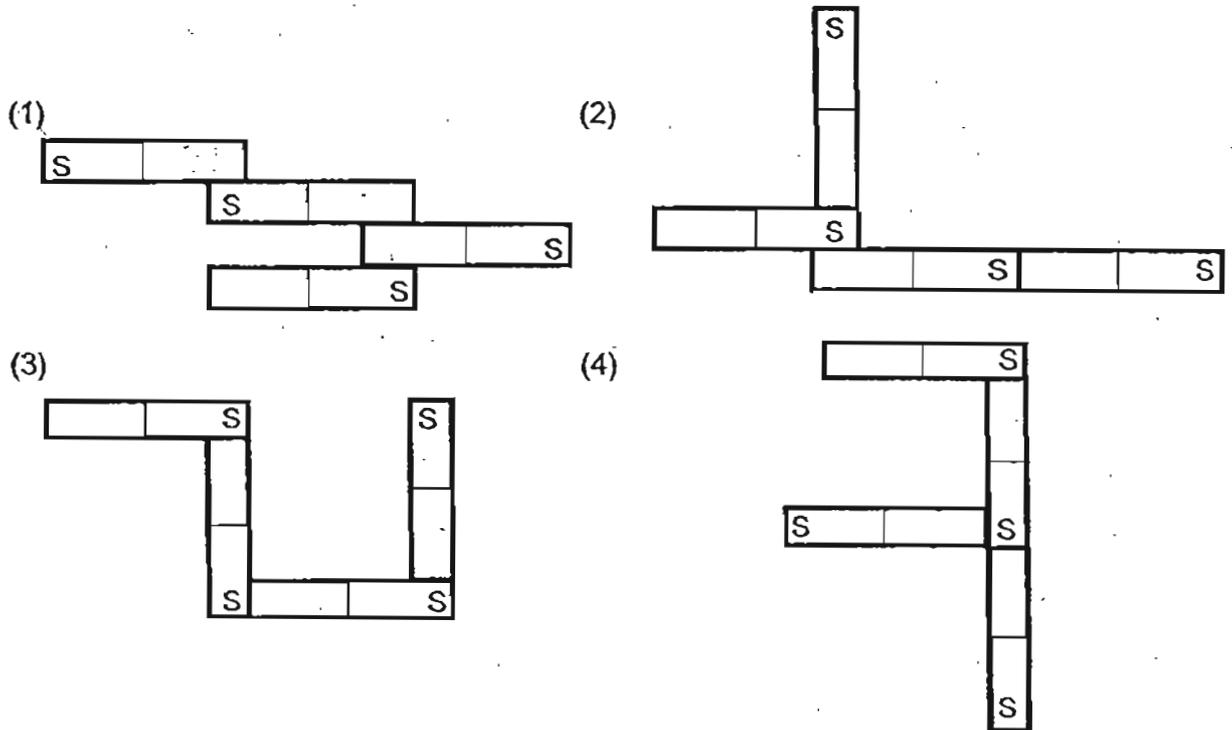
Location	Number of organisms found in each location
A	12
B	22
C	36
D	24

Which of the following shows the correct order of the locations of the river, from the most polluted part to the least polluted part?

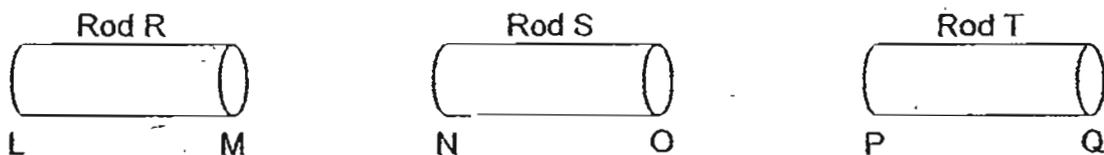
	Most Polluted	→	Least Polluted	
(1)	A	B	C	D
(2)	A	B	D	C
(3)	C	D	B	A
(4)	D	B	A	C

22. When a force is applied to an object that is stationary, which of the following will not happen?
- (1) The object moves.
  - (2) The object rotates.
  - (3) The object remains stationary.
  - (4) The object increases in its mass.

23. The diagrams below show 4 similar magnets arranged in different ways. Which of the following arrangements is not possible?



24. David had three rods, R, S and T, of the same size but made of different materials. The ends of each rod were labelled as shown below.



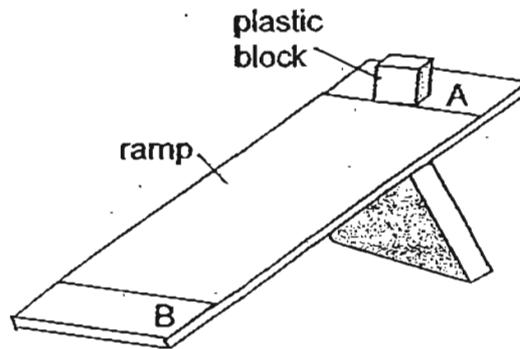
He brought different ends of the rods together and recorded his observations in the table below.

Ends brought together	Observations
L and Q	Repel
M and N	Attract
M and O	Attract
O and P	Attract

Based on the observations, which rod(s) is/are made of magnetic material?

- (1) Rod R only
- (2) Rod S only
- (3) Rods R and T only
- (4) Rods R, S and T

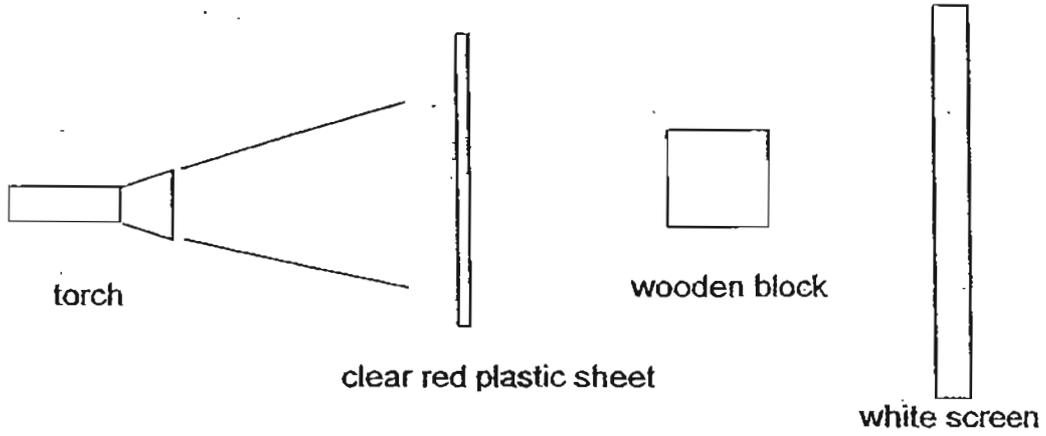
25. As shown in the diagram below, a plastic block was released from Point A of a ramp and it travelled towards Point B.



Which of the following was/were the force(s) that helped the block move from Point A to B?

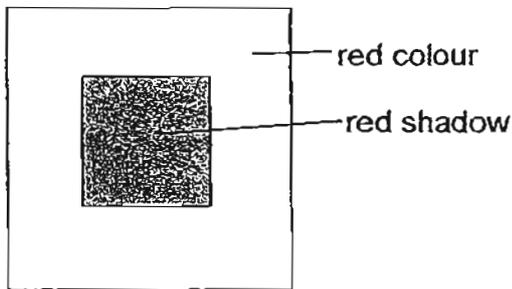
- A Weight of the block
  - B Earth's magnetic field
  - C Frictional force between the block and the ramp
  - D The upward force that the ramp exerts on the block
- (1) A only  
(2) B and D only  
(3) C and D only  
(4) A, B and C only

26. Ali shone a torch on a clear red plastic sheet and a wooden block placed in the manner shown below. He then observed what was cast on the screen.

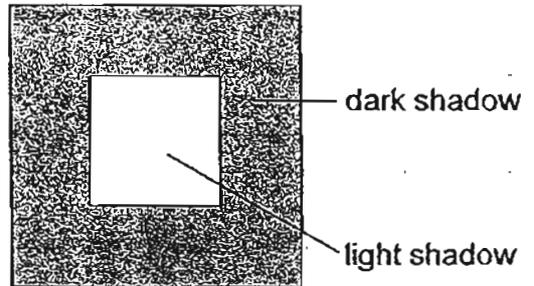


Which one of the following will be cast on the screen?

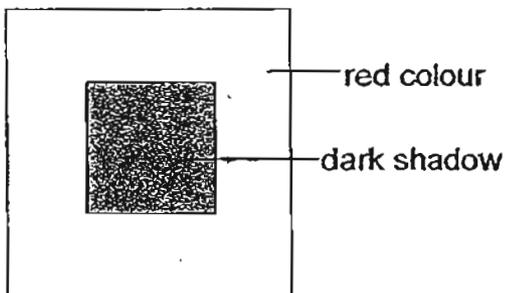
(1)



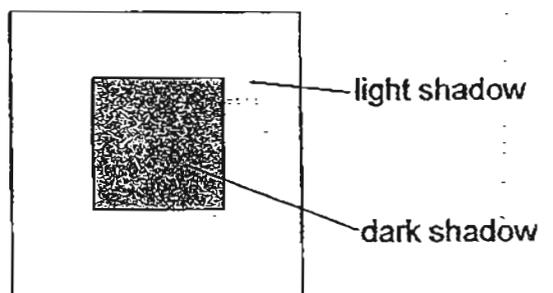
(2)



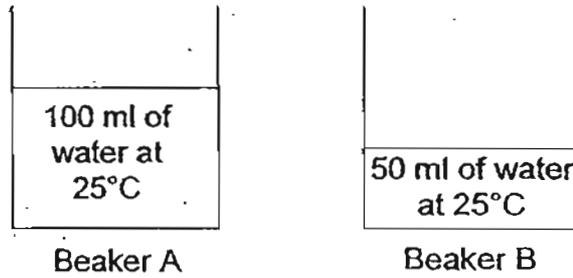
(3)



(4)



27. In a science experiment, Peter poured 100 ml of water into Beaker A and 50 ml of water into Beaker B, as shown in the diagram below. The temperature of the water in both beakers was the same.

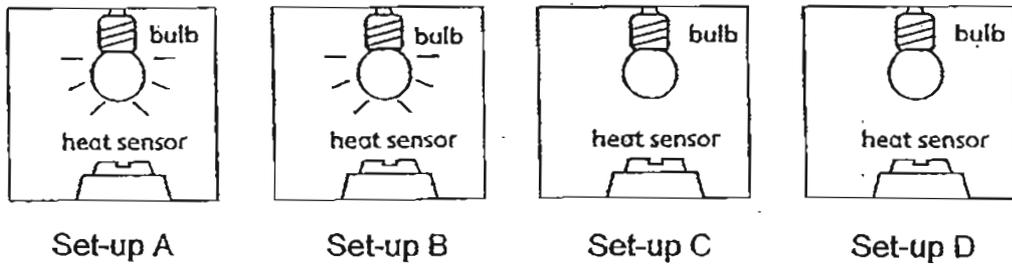


He used a Bunsen burner to heat Beaker A for 5 minutes. Then, he recorded the temperature of the water using a thermometer immediately after the heating. He repeated the experiment with Beaker B.

Which of the following are possible temperatures of the water recorded in both beakers?

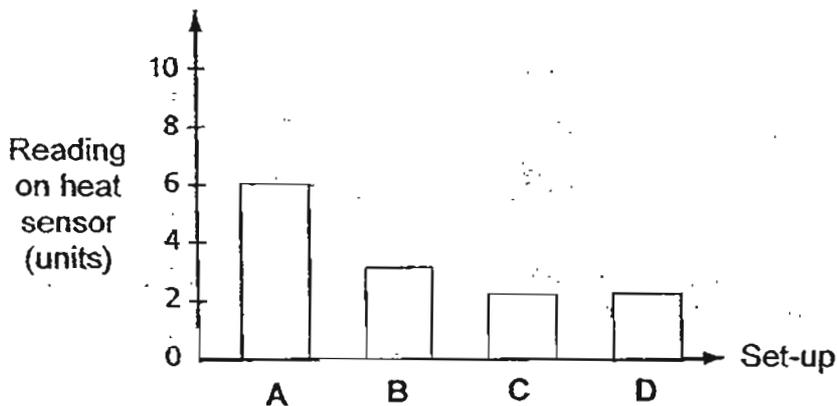
	Beaker A	Beaker B
(1)	40°C	40°C
(2)	40°C	60°C
(3)	60°C	40°C
(4)	25°C	25°C

28. Mariam obtained 4 similar sealable rectangular containers and placed a heat sensor of the same type in each container. She also placed one light bulb connected to a simple electric circuit into each container as shown in the diagram below.



The 4 set-ups were placed at the same location. The light bulbs in set-ups A and B were switched on at the same time and were equally bright while the light bulbs in set-ups C and D were not turned on.

The bar graph below shows the readings on the heat sensors after the two bulbs were lit for half an hour.



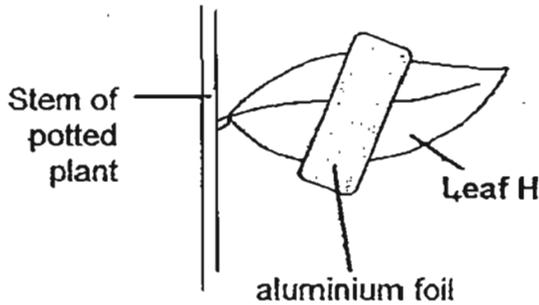
Based on the above, Mariam made the following conclusions.

- A Both the bulbs in set-ups A and B gave out heat.
- B Both the bulbs in set-ups C and D also produced heat.
- C The bulb in Set-up A is a more energy-saving bulb than the bulb in Set-up B.
- D The bulb in Set-up B produced less heat than the bulb in Set-up A.

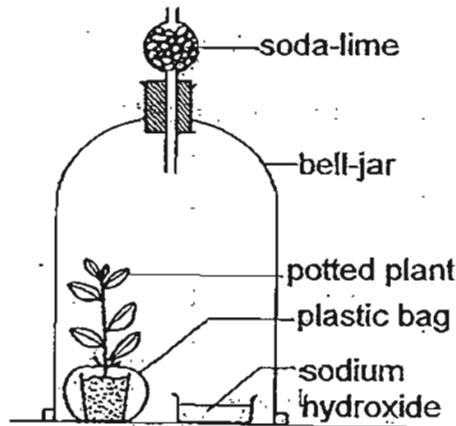
Which of the above conclusions were correctly made?

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

29. A potted plant was kept in darkness for one day to remove any starch present in its leaves. One of its leaves, Leaf H, was then partially covered with aluminium foil on both of its sides as shown in the diagram below.

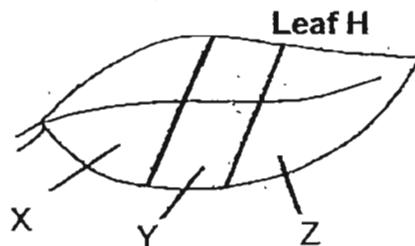


The plant was then watered and had its pot covered with a plastic bag before being placed in a bell jar as shown in the following diagram.



The bell jar could allow air to enter and exit but the soda-lime and sodium hydroxide solution in the bell jar would remove any carbon dioxide that is in the jar.

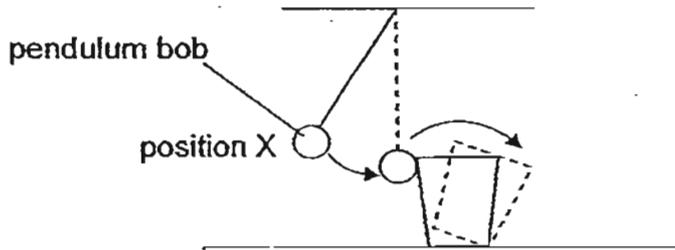
The whole set-up was left in strong sunlight for a few hours, after which Leaf H was removed and tested for starch.



On which part(s) of Leaf H would the iodine solution remain brown?

- (1) X only
- (2) Y only
- (3) X and Y only
- (4) X, Y and Z

30. As shown in the diagram below, a pendulum bob, when released from position X, hit a plastic cup which toppled to its side.



Which of the following shows the conversion of energy that took place in the experiment?

- (1) Gravitational potential energy of bob  $\longrightarrow$  kinetic energy of bob  $\longrightarrow$   
 gravitational potential energy of cup  $\longrightarrow$  sound energy of cup when it  
 hits the table
- (2) Gravitational potential energy of bob  $\longrightarrow$  kinetic energy of bob  $\longrightarrow$   
 sound energy of bob when it hits the cup + kinetic energy of cup
- (3) Gravitational potential energy of bob  $\longrightarrow$  kinetic energy of bob  $\longrightarrow$   
 sound energy of bob when it hits the cup + kinetic energy of cup  $\longrightarrow$   
 sound energy of cup when it hits the table
- (4) Gravitational potential energy of bob  $\longrightarrow$  kinetic energy of bob when it  
 hits the cup + kinetic energy of cup



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5-SCHOOL COMBINED PRIMARY 6 PRELIMINARY EXAMINATION  
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2011  
科学 SCIENCE  
BOOKLET B

Date: 25 August 2011

Total Time for Booklets A and B: 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.

This booklet consists of 17 printed pages.

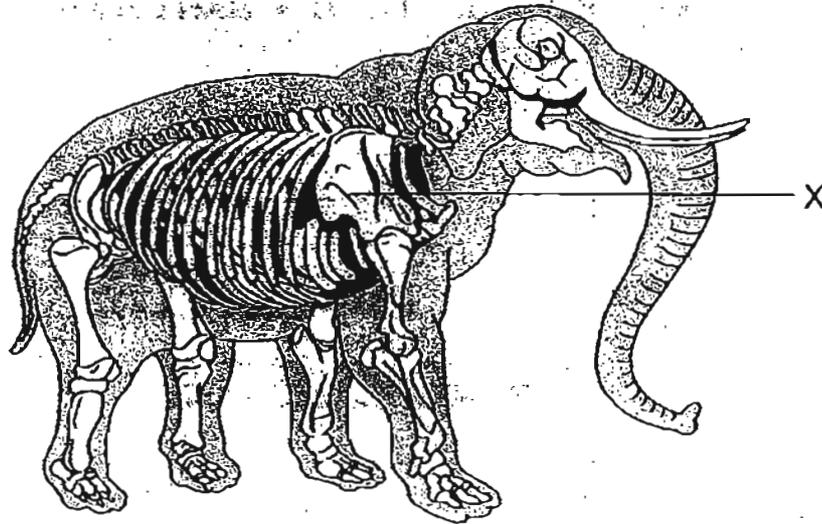
School : \_\_\_\_\_  
Name : \_\_\_\_\_  
Class : \_\_\_\_\_

TOTAL	40
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**Section B: 40 marks**

**Read the questions carefully and write down your answers in the spaces provided.**

31. The diagram below shows Body System X of an elephant.



(a) Which body system has parts that are attached to and works closely with Body System X to enable the elephant to walk? [1]

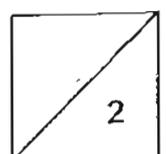
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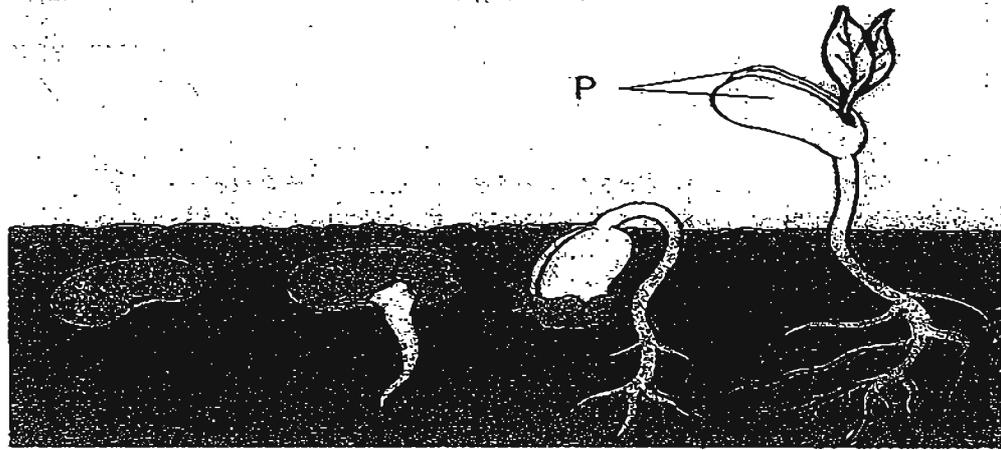
(b) State one other function of Body System X. [1]

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32. The diagram below shows the germination of a seed and its growth into a seedling.



- (a) The root appears first during germination to absorb water so that the germinating seed can grow. Give another reason why the root appears first. [1]

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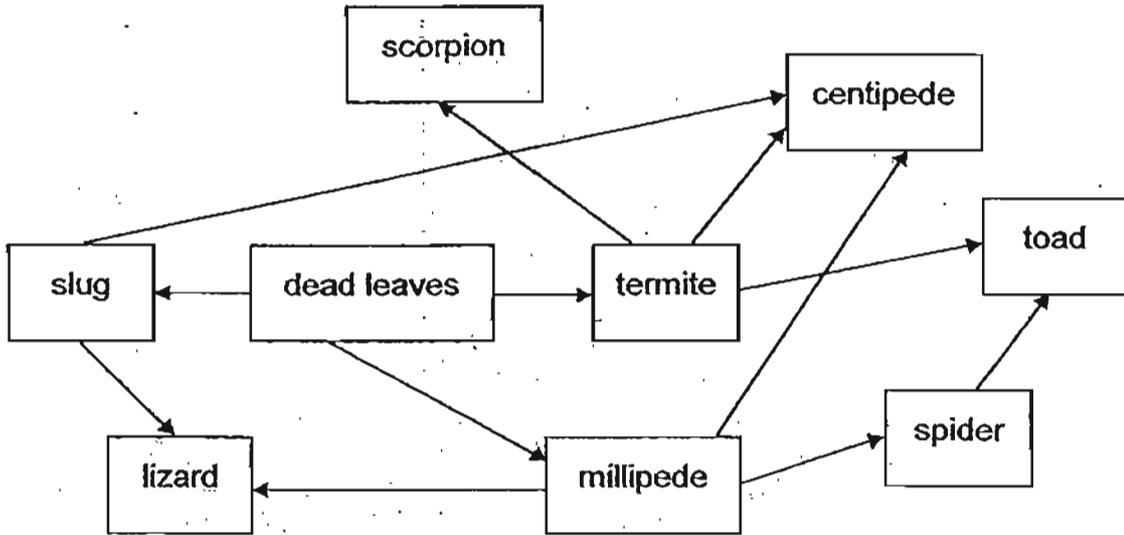
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- (b) What is the function of Part P for the germinating seed? [1]

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33. Study the food web below.



(a) How many food chains are there in the food web above? [1]

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(b) Explain what will happen to the population of spiders if the population of lizards increases. [2]

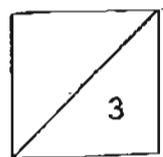
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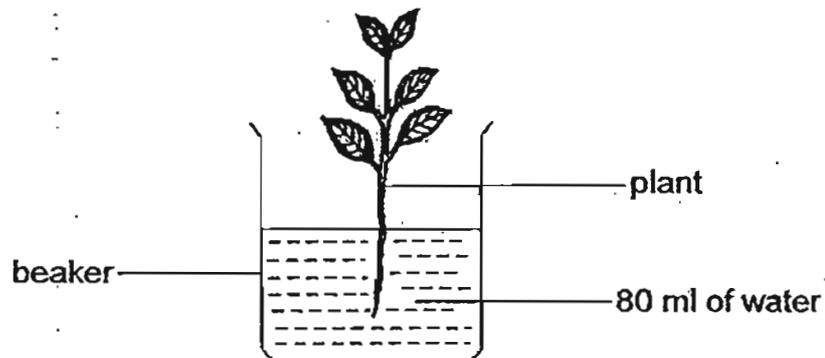
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34. Ruth wanted to investigate if the stem of a plant absorbs water using the set-up as shown below. She added 80 ml of water into the beaker.



Ruth observed and measured the amount of water in the beaker for 4 days and she recorded her findings in the table below.

Day	1	2	3	4
Amount of water in the beaker (ml)	80	77	71	65

From her findings, Ruth concluded that the stem of a plant absorbs water. However, her sister felt that Ruth's conclusion could be wrong.

- (a) Why could Ruth's conclusion be wrong? [1]

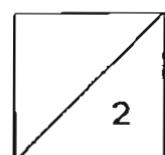
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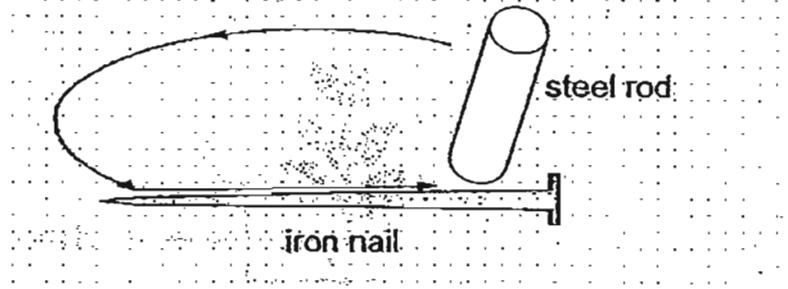
- (b) What could Ruth do to the set-up to ensure that her conclusion was correct? [1]

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35. Henry tried to make a temporary magnet by stroking an iron nail with a steel rod in the direction shown below.



When some steel paper clips were brought near the iron nail, it did not attract any of the steel paper clips.

- (a) What should Henry do to make the iron nail attract the steel paper clips? [1]

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Henry made the necessary change suggested in (a) and succeeded in making the iron nail a temporary magnet.

- (b) Using the same stroking method, how can the temporary magnet be made stronger? [1]

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Next, Henry was given a permanent magnet and three objects X, Y and Z. He was instructed to find out which of the objects was made of copper. He placed one pole of the magnet close to both ends of each object and recorded his observations in the table below.

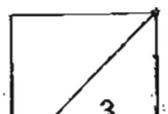
Object	Attracted to the magnet	Repelled by the magnet	Neither attracted to nor repelled by the magnet
X	✓	✓	
Y	✓		
Z			✓

- (c) Which object, X, Y or Z, was made of copper? Give a reason for your choice. [1]

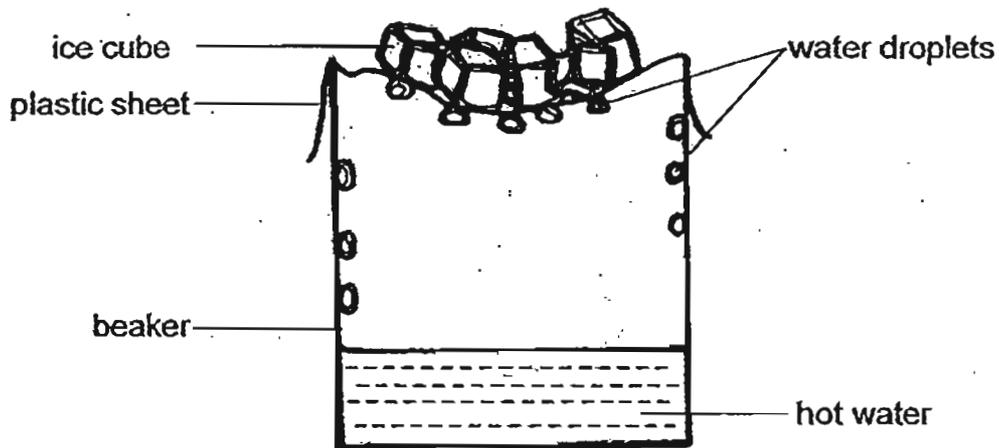
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36. Lionel constructed the set-up shown below to represent the water cycle.



Lionel observed that some water droplets had formed in the set-up after some time.

(a) Describe how the water droplets formed in the set-up. [2]

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(b) If the beaker of hot water was placed in a basin of tap water, what would happen to the rate at which the water droplets were formed in the set-up? Explain your answer. [2]

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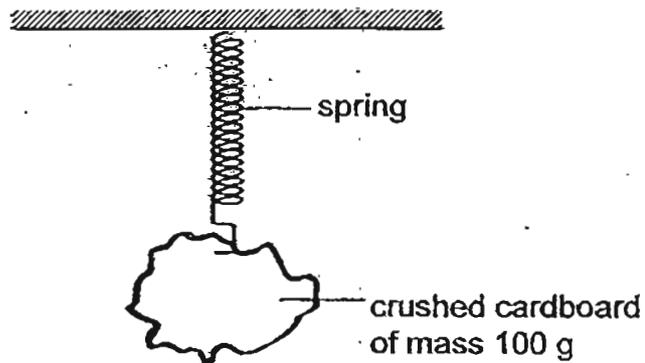
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37. A 100 g piece of crushed cardboard was hung onto a 7 cm spring as shown in the diagram below and the spring showed an extension of 2 cm.



- (a) Draw an arrow in the diagram above to show the direction of the force that prevents the spring from being stretched further. [1]
- (b) What would be the extension of the spring when a steel weight of mass 100 g was hung on it? [1]
- (c) Explain your answer in (b). [1]

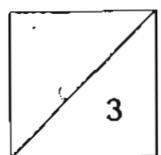
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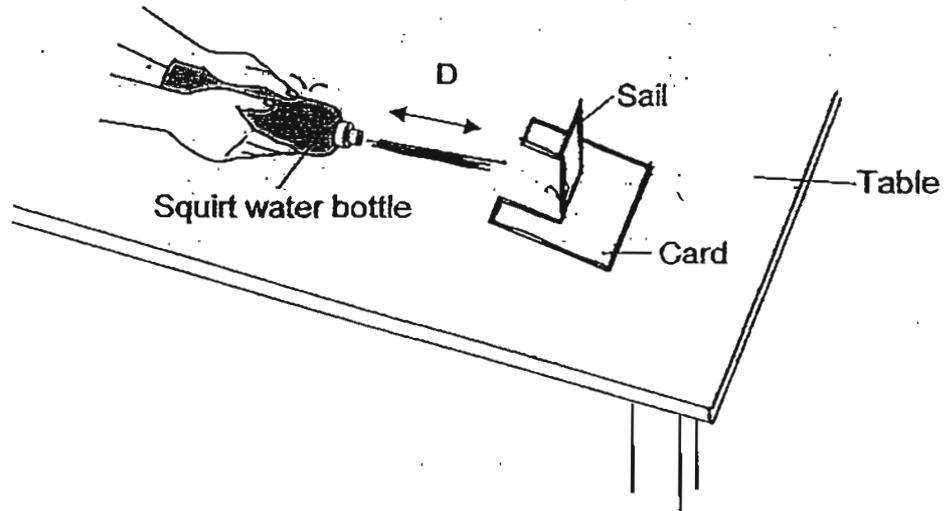
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38. David conducted an investigation after consuming his lunch. He squeezed out air from his empty squirt water bottle to move a card placed on a table as shown in the diagram below. D represents the distance between the squirt water bottle and the card.



In the table below, David recorded the distance moved by the card when the squirt water bottle was placed at three different distances from the card.

Distance between the squirt water bottle and card (D)	Distance moved by the card
5 cm	12 cm
10 cm	8 cm
15 cm	4 cm

- (a) What is the relationship between the distance at which the squirt bottle was placed and the distance moved by the card along the table? [1]

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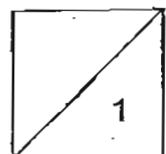
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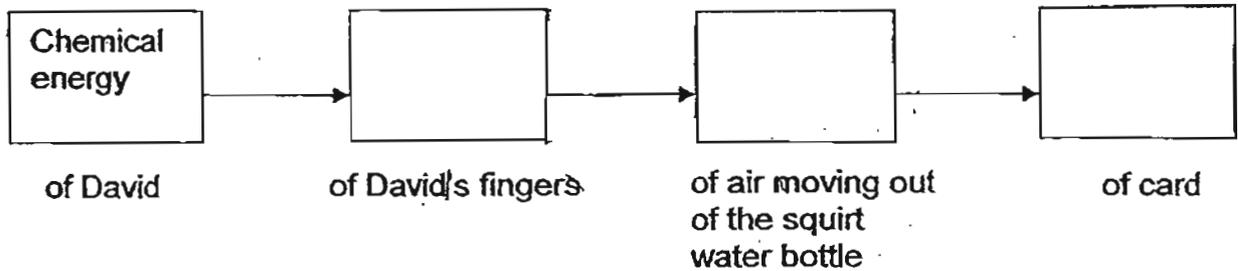
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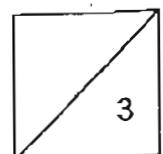
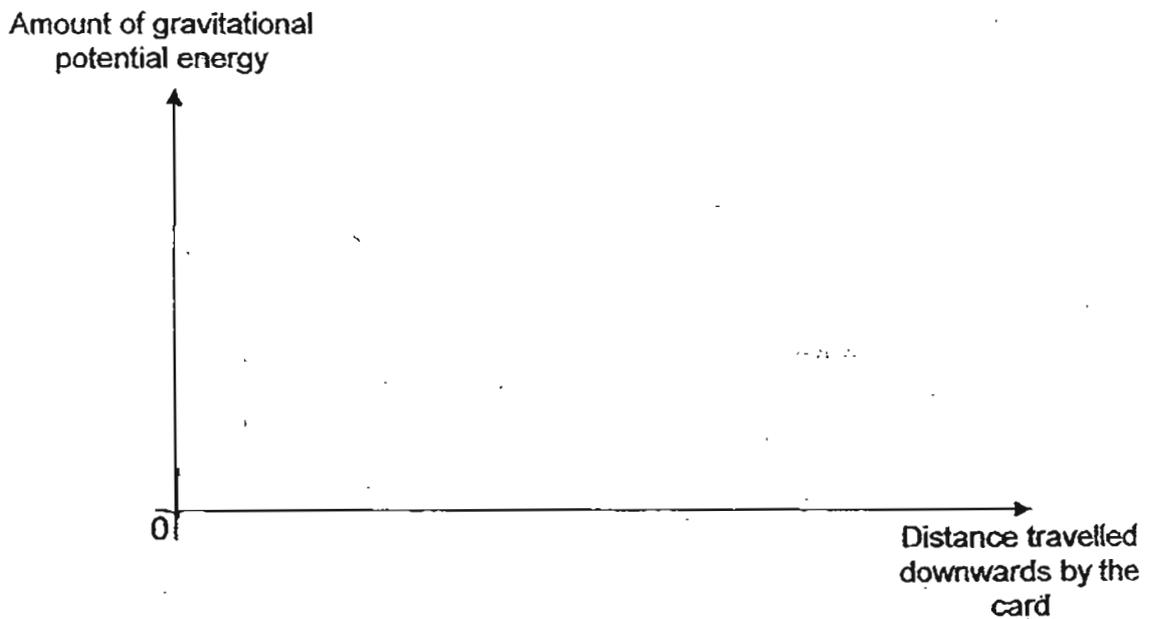
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- (b) Fill in the boxes provided, all the energy changes that took place to enable the card to move. The first has been done for you. [2]



- (c) During one of David's attempts to see how far he could get the card to move, it fell off the edge of the table. Draw a line graph using the axes provided below to show the change in gravitational potential energy of the card as it falls off the table. [1]



39. Amos was studying an area that had a slope with trees growing on it and a lake that was situated at the bottom of the slope. One day, all the trees on the slope were dug up and the slope was completely bare.

(a) Amos observed that the lake next to the slope became muddy after a season of rain. Give a reason for his observation. [1]

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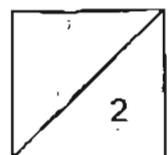
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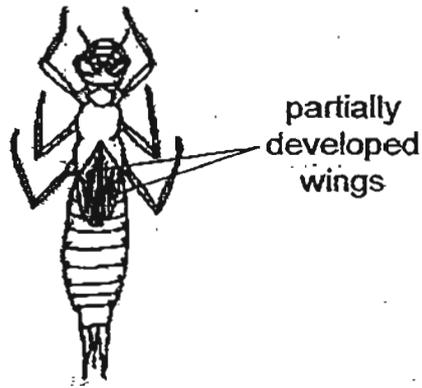
(b) Predict what would happen to the fully submerged plants in the muddy lake. Explain your prediction. [1]

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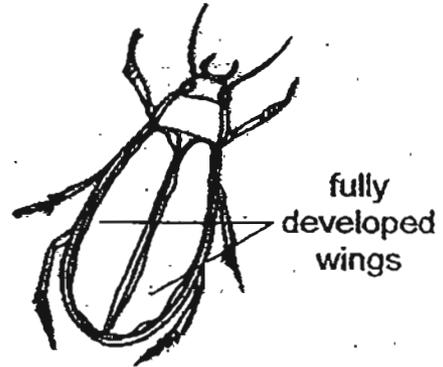
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40. The diagram below shows two organisms, X and Y, which are commonly found underwater in a pond community.



Organism X



Organism Y

- (a) Which organism can move through water more easily? Why?

[1]

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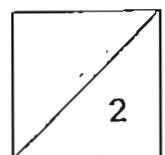
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- (b) Which organism, X or Y, has a higher chance of survival when the pond becomes very polluted? Why?

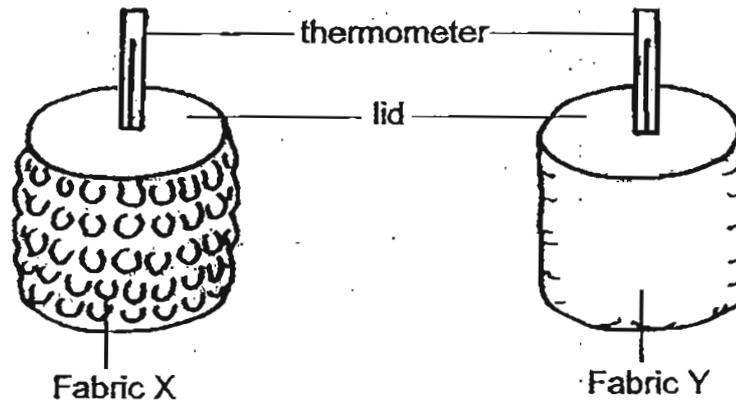
[1]

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41. Sarah wanted to know which fabric, X or Y, would be more suitable to make a sweater. She used the set-up shown below for her investigation. She wrapped one layer of each fabric around two identical cans respectively. Then, she poured the same amount of hot water into each can and covered both with a lid that had a thermometer through its centre. She observed the set-up for 30 minutes.



- (a) Based on the set-up above, what property should the fabric have if it is more suitable to make a sweater? [1]

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- (b) What should Sarah measure to find out which fabric would be more suitable to make a sweater? [1]

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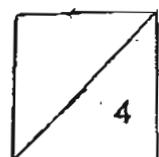
- (c) A grizzly bear grows a thick coat of fur during winter. Like a sweater, the thick coat of fur keeps the grizzly bear warm during winter. Explain how its fur keeps the bear warm. [2]

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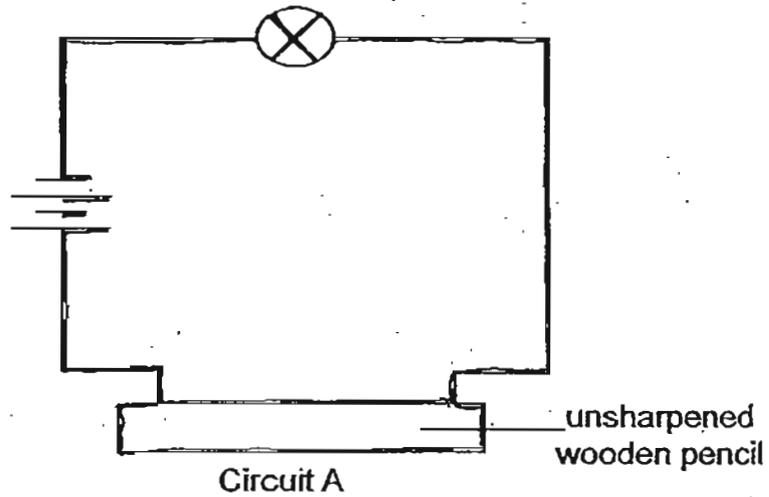
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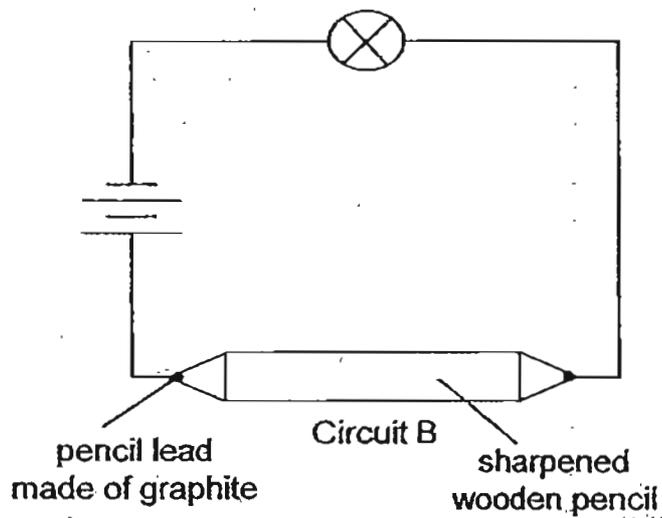
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42. Daniel wanted to investigate the electrical conductivity of materials. He constructed a set-up as shown in Circuit A below and he observed that the bulb did not light up.

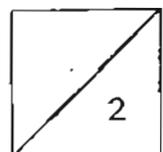


Daniel made changes to the initial set-up as shown in Circuit B below. He observed that the bulb lit up.

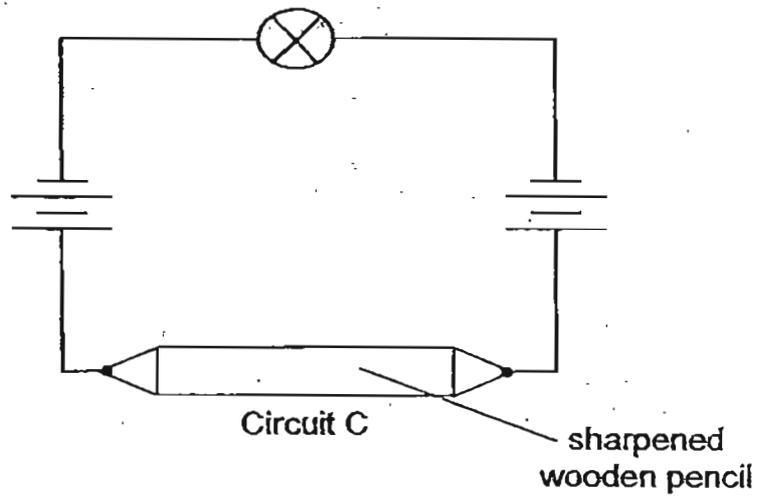


- (a) State two conclusions that Daniel can make about the electrical conductivity of **materials** based on his observations in the investigation. [2]

- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_



In an attempt to increase the brightness of the bulb, Daniel made changes to the previous set-up as shown in Circuit C below. However, he realised that the bulb did not light up.



- (b) Give a reason why the bulb in Circuit C did not light up. [1]

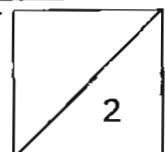
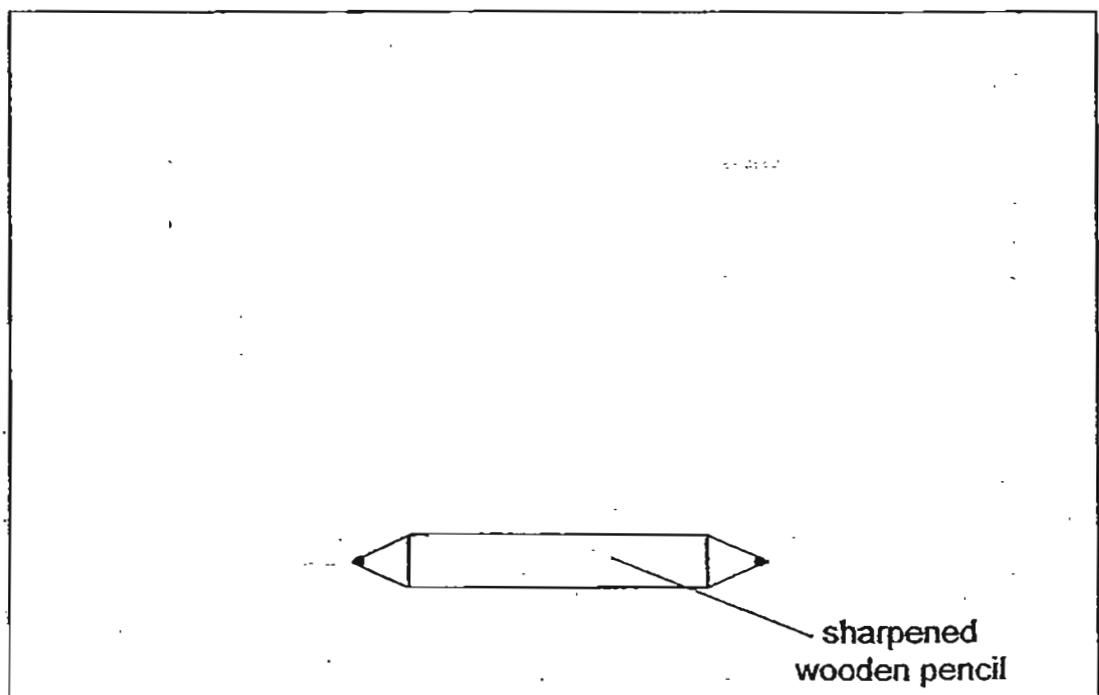
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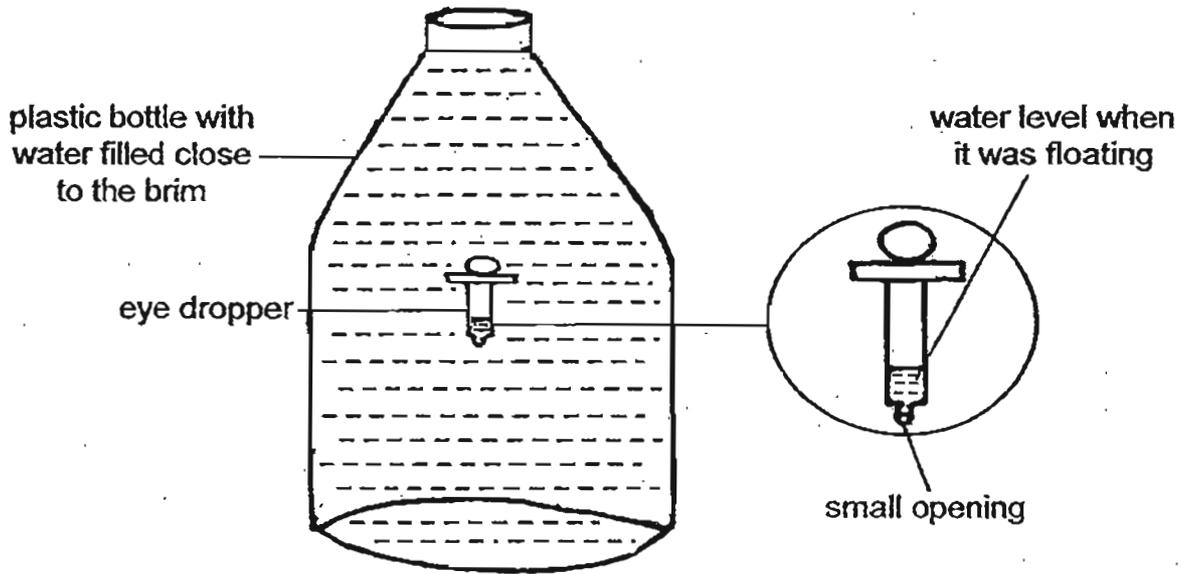
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Daniel predicted that adding one more bulb to the circuit in Circuit B would cause the brightness of the bulbs to be dimmer.

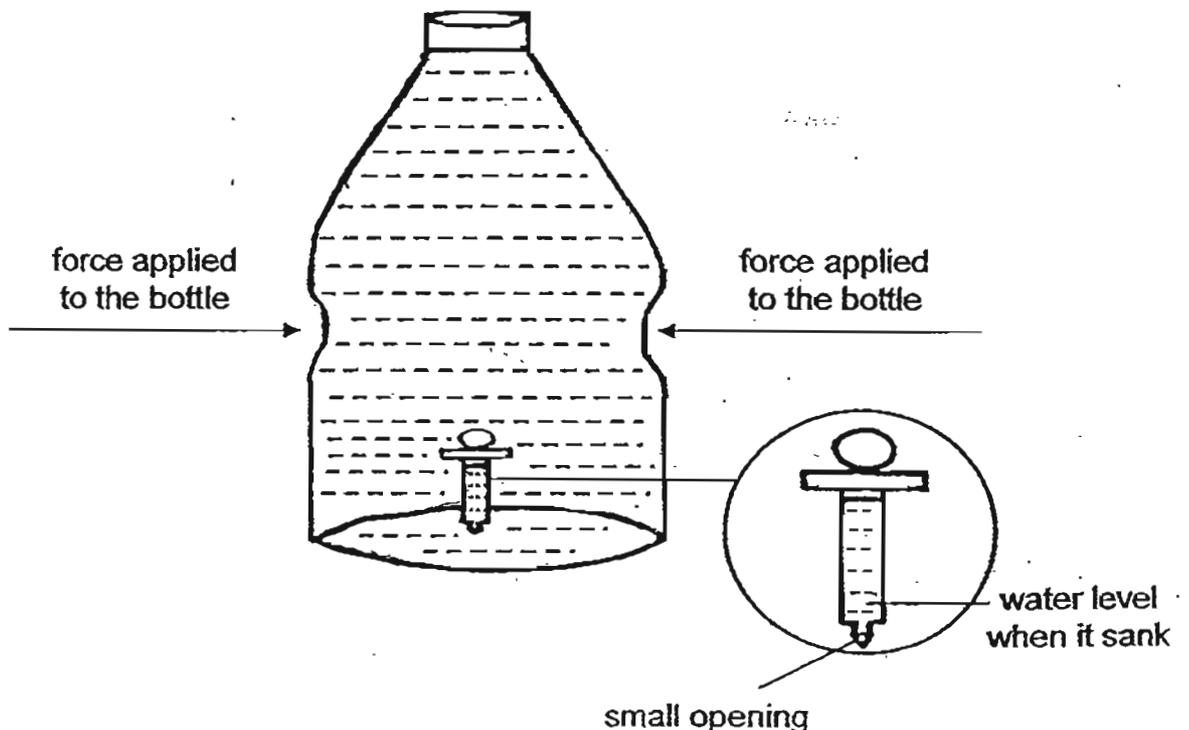
- (c) Using two bulbs, two batteries and some wires, complete the circuit diagram below to prove that Daniel's prediction is correct. [1]



43. Danny created a toy. He filled a plastic bottle with water close to the brim and dropped an eye dropper that was filled with some water into the plastic bottle. The eyedropper has a small opening at its tip. Danny then capped the plastic bottle tightly. The eye dropper was floating in the middle of the bottle as shown in the diagram below.



When Danny applied a force to the sides of the bottle by squeezing it gently as shown in the diagram below, he noticed that the eye dropper had sunk to the bottom of the bottle. He also observed that the water level in the eye dropper had risen when the bottle was squeezed.



(a) Why did the amount of water in the eye dropper increase when a force was applied to the bottle on both sides? Explain your answer. [2]

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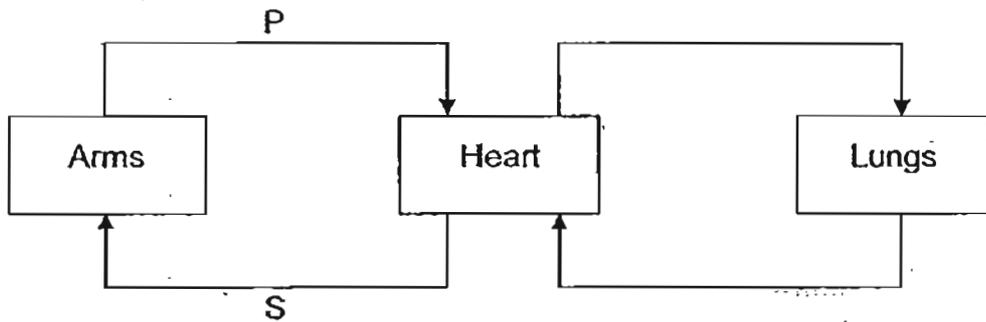
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(b) Explain why the eye dropper sank when a force was applied to the bottle on both sides. [1]

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44. The diagram below shows how blood flows in certain parts of the body.



The blood at S contains a greater amount of a certain gas than the blood at P. Identify this gas and explain your answer. [2]

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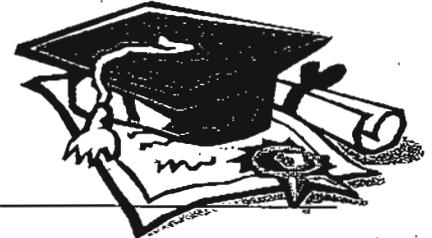


# ANSWER SHEET

**EXAM PAPER 2011**

**SCHOOL : HOKKIEN  
SUBJECT : PRIMARY 6 SCIENCE**

**TERM : PRELIMINARY**



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

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

31)a) Muscular system.      b) Gives the body its shape.

32)a) The roots hold the plant firmly to the ground.  
b) Pare the seed leaves that contain a source of food or provide food for the growing seedling.

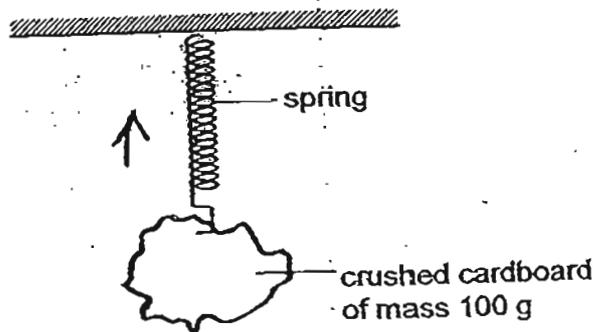
33)a) 8 food chains.  
b) When the population of lizards increase, more lizards will feed on millipede, causing the population of millipede to decrease. With less millipedes, the spiders will have less food thus, the population of spiders will decrease eventually.

34)a) Some water could have evaporated which caused the decrease in the amount of water.  
b) A layer of oil could be poured into the beaker to prevent water from evaporating.

35)a) He should have stroked the iron nail with a magnet.  
b) He can increase the number of times the iron is stroked with magnet in the same direction shown.  
c) Z. Copper is a non-magnetic material and since Z is neither attracted nor repelled by the magnet, it must be non-magnetic material like copper.

36)a) The hot water vapour touches with her cooler surface, the hot water vapour loses heat and condense into water droplets.  
b) The rate at which water droplets were formed would slow down as hot water loses heat to the tap water, hot water vapour as quickly. With less water vapour, less condensation will take place.

37)a)



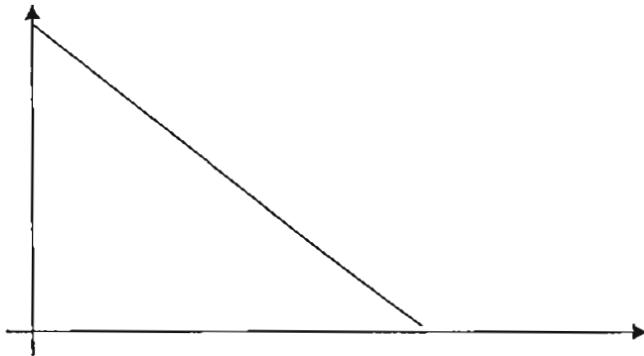
b) 2cm.

c) The steel weight has the same mass as the crushed cardboard, hence they have the same weight thus giving the same extension.

38)a) The greater the distance of the squirt bottle from the sail card, the shorter the distance moved by the card.

b) Kinetic energy  $\rightarrow$  kinetic energy  $\rightarrow$  kinetic energy

c)



39)a) After the trees were dug out, soil erosion will occur, causing the soil to flow into the lake and making the water muddy.

b) The fully submerged water plants cannot receive enough sunlight to undergo photosynthesis. Thus the plant will eventually die.

40)a) Organism X as it has a more streamlined body shape.

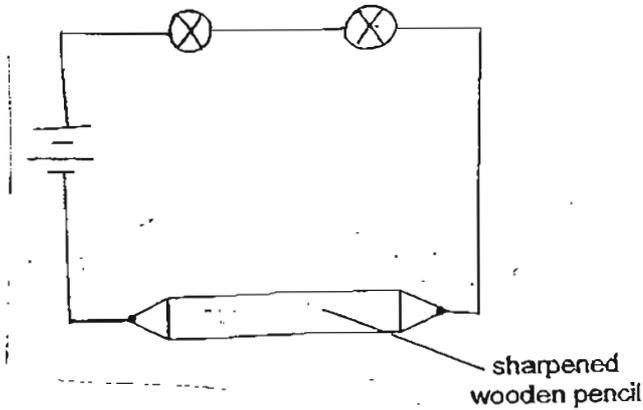
b) Organism Y as it has fully developed wings that enable it to fly away.

41)a) The fabric should retain heat better.

b) She should measure the temperature of water in the cans before and after investigation.

c) The thick coat of fur traps air that is a poor conductor of heat which slows down the heat loss from escaping quietly from the grizzly bear's body to the cold surroundings thus keeping the grizzly bear warm.

- 42)a)i)Wood does not conduct electricity.  
ii)Graphite is a good conductor of electricity.  
b)The batteries are arranged wrongly.  
c)



43)a)When a force is applied to the bottle, there is less space for the water in the bottle to occupy. Since water in the bottle cannot be compressed, some water in the bottle will enter the eyedropper.

b)With more water, the eyedropper becomes heavier, causing it to sink to the bottom of the bottle.

44)Oxygen. At S blood is richer in oxygen because the heart receives oxygen rich blood from the lungs at P, blood is poor or in oxygen because oxygen is used up by the arm for respiration.