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**CONVENT OF THE HOLY INFANT JESUS  
(COMBINED SCHOOLS PAPER)**

**PRELIMINARY EXAMINATION  
2008**

**SCIENCE**

**BOOKLET A**

Date : 21 AUGUST 2008 (Friday)

NAME : \_\_\_\_\_ ( )

CLASS : Primary 6 \_\_\_\_\_

Total time for Booklets A & B: 1 hour 45 minutes

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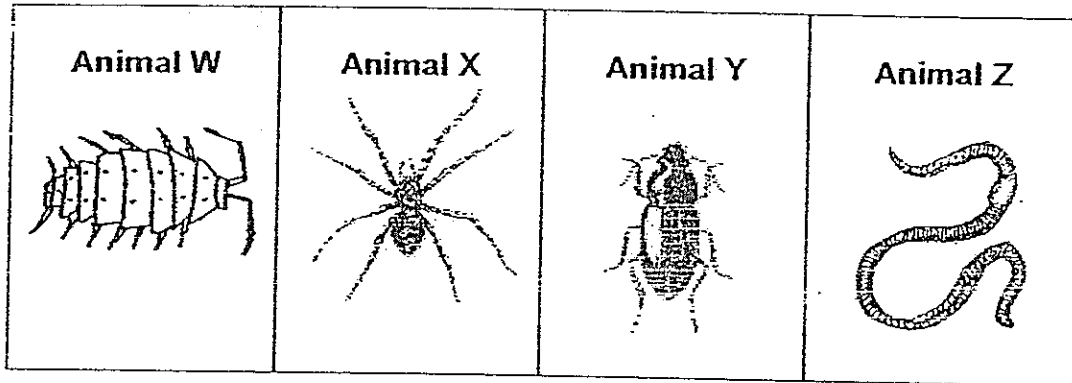
**INSTRUCTIONS TO CANDIDATES**

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

**Section A (30 x 2 marks = 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 provided.

1. Study the pictures of the four animals and their information in the table below.

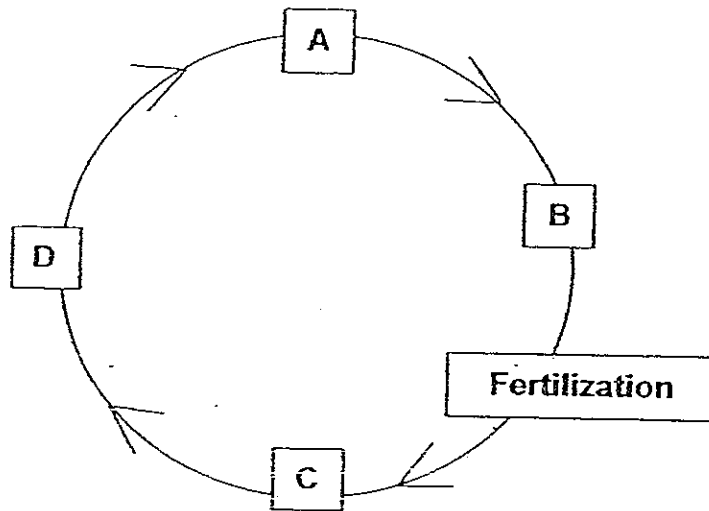


Animals \ Characteristics	W	X	Y	Z
	Feelers	Yes	Yes	Yes
8 or more legs	Yes	Yes	No	No
More than 3 body parts	Yes	No	Yes	Yes

Which one of the four animals is **incorrectly** represented in the table above?

- (1) Animal W
- (2) Animal X
- (3) Animal Y
- (4) Animal Z

2. The diagram below shows the life cycle of a mosquito and the point at which fertilization occurs.



Which one of the following shows the correct stages of the life cycle?

	A	B	C	D
(1)	Egg	Larva	Pupa	Adult
(2)	Larva	Pupa	Adult	Egg
(3)	Adult	Egg	Larva	Pupa
(4)	Pupa	Adult	Egg	Larva

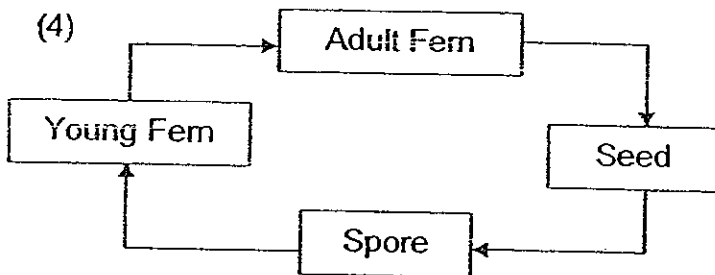
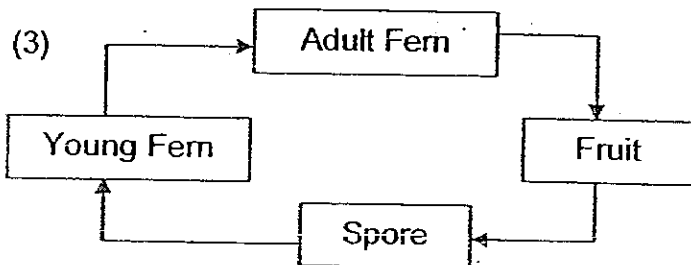
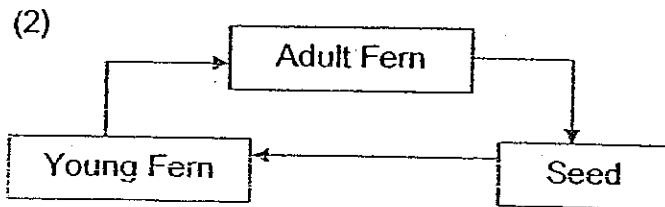
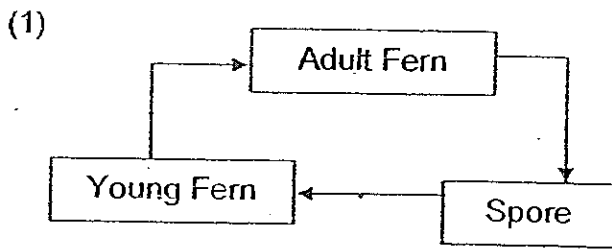
3. Which one of the plant parts below does not perform the function described next to it?

	Plant part	Function
(1)	Leaf	Gives off excess water.
(2)	Flower	Germinates and grows into seedling.
(3)	Root	Holds the plant firmly to the ground.
(4)	Stem	Transports water and nutrients to other parts of the plant.

4. Which one of the following statements is true about a pollen grain?

- (1) A pollen grain is produced by the stigma.
- (2) A pollen grain fuses with the seed during fertilization.
- (3) Only the pollen grain passes traits of the parent to the offspring.
- (4) When a pollen grain lands on the stigma of a flower of the same species, pollination takes place.

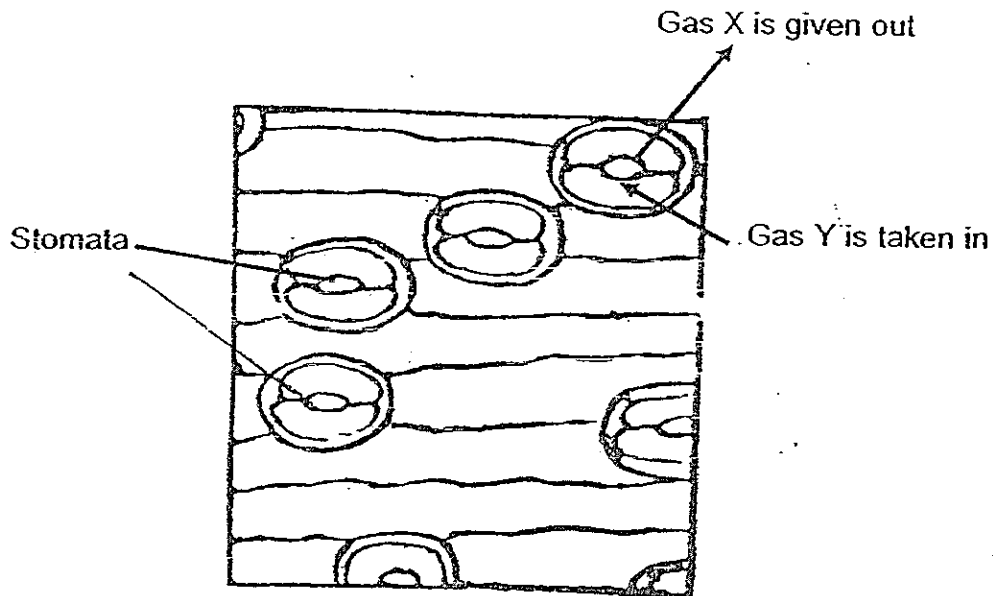
5. Which one of the following life cycles best represents the development of a bird's nest fern?



6. Which one of the following statements about decomposition is true?

- (1) Oxygen is produced during decomposition.
- (2) Water vapour is produced during decomposition.
- (3) Decomposition breaks down food into smaller substances.
- (4) Decomposition is carried out by bacteria, caterpillars and fungi.

7. The picture below shows the stomata on the lower surface of a leaf during the day when the plant is photosynthesizing.



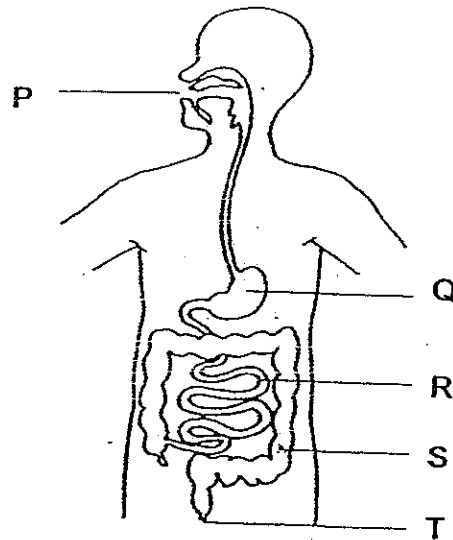
During photosynthesis, substance Z is produced and transported to P.

Which of the following statement(s) is/are true?

- A P could be the root.
- B Substance Z is glucose.
- C Gas X is also produced during the night.
- D Gas Y is needed by the leaf during the night.

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

8. Study the diagram below that shows the human digestive system.

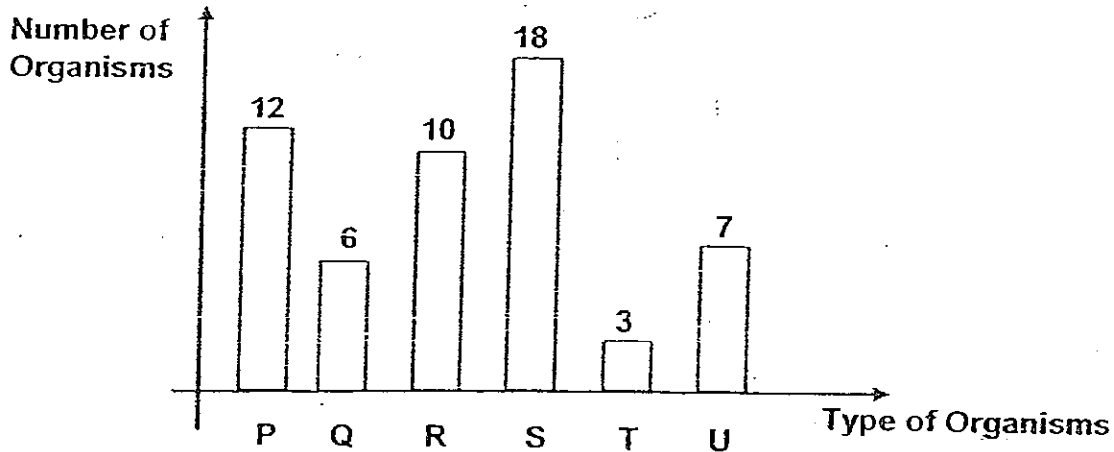


Which of the following statements about the digestive system are true?

- A Digestion of food starts at P.
- B Food that is not digested will be removed at S.
- C Digestive juices are produced at P, Q and R.
- D Water and some mineral salts are absorbed at T.
- E Food is broken down into simpler substances at S.

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

9. During an excursion, a group of pupils observed and recorded the number of plants and animals found on a tree and the results are shown below.



**Legend**

- P Ferns
- Q Flowering plants with weak stems
- R Fungi
- S Omnivores
- T Herbivores
- U Carnivores

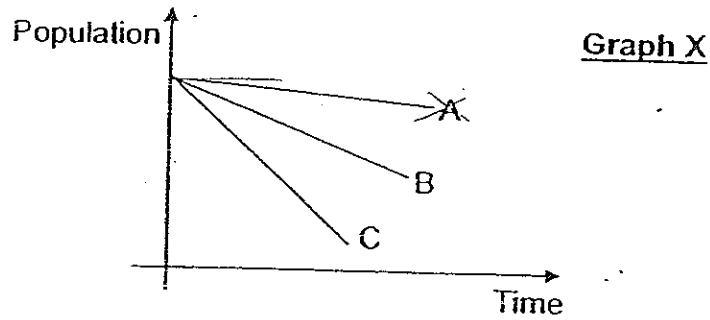
Which of the following statement(s) about the plants and animals in the habitat is/are definitely correct?

- A There are 28 types of animals.
- B There are at least 2 populations of plants.
- C There are 10 different types of decomposers.
- D Organisms P, Q and R are the food producers.

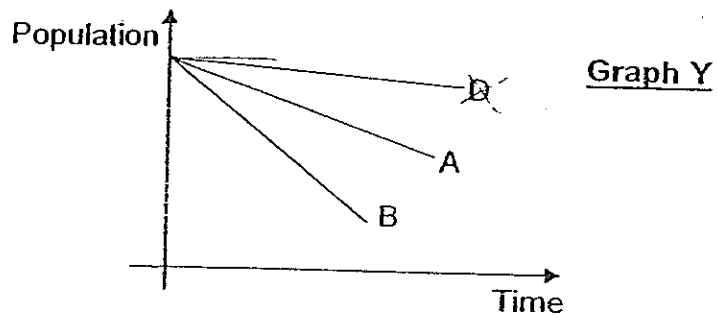
- (1) B only
- (2) A and D only
- (3) B and C only
- (4) A, B and D only

10. The two graphs below show 4 organisms, A, B, C and D.

Graph X shows the changes in the population of B and C when organisms A, B and C are put together.



Graph Y shows the changes in the populations of A and B when A, B and D are put together.



Based on the graphs above, which one of the following relationships about organisms A, B, C and D is correct?

	Prey only	Predator only	Food producer	Prey & Predator
(1)	A	C	D	B
(2)	A	B	C	D
(3)	B	D	C	A
(4)	C	D	A	B



11. Cherie wanted to find out how the temperature of the surroundings affects the growth of balsam plants. She left one pot of balsam plant near the window, another pot in the refrigerator and a third pot in the cupboard.

Which of the following must be kept the same to ensure a fair test?

- A Amount of soil in each pot.
- B Number of plants in each pot.
- C Height of the stems after 3 days.
- D Amount of water given to each pot of plants per day.

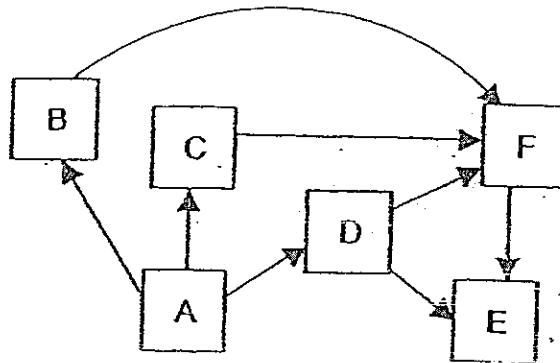
- (1) A, B and C only
- (2) A, B and D only
- (3) A, C and D only
- (4) B, C and D only

12. Which of the following correctly show the benefits of biotechnology?

- A Biotechnology improves the quality of plants for food.
- B Micro-organisms can be used in the production of food.
- C Genetically modified plants reduce the use of pesticides in farming.
- D Biotechnology enables us to breed young with desirable characteristics.

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

13. The food web below shows the relationships among 6 groups of organisms A, B, C, D, E and F.



Based on the information above, which one of the following statements is false?

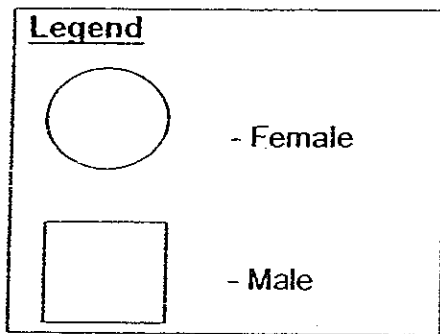
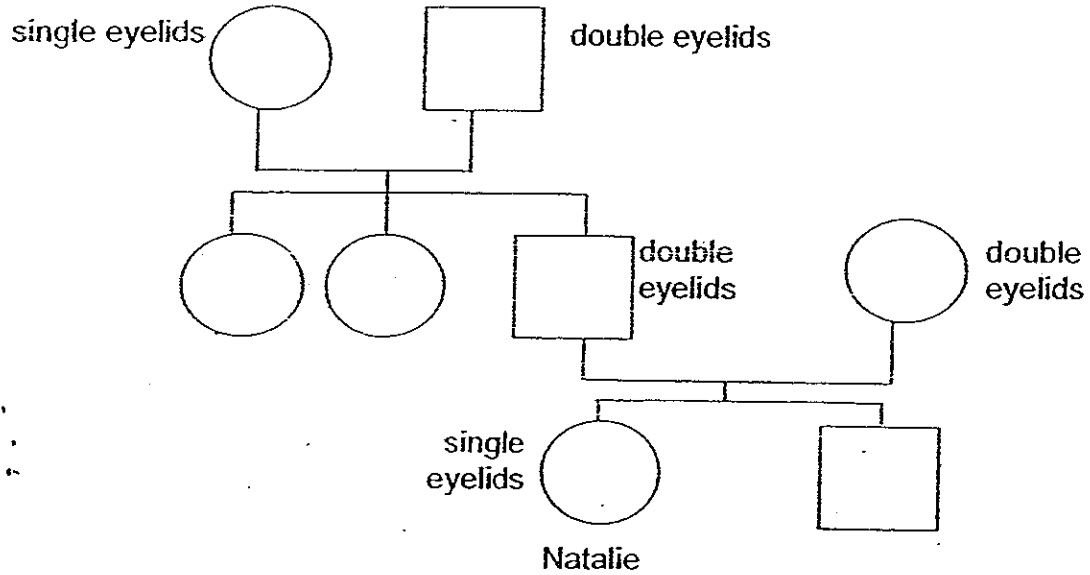
- (1) Not all the energy from Organism B is transferred to Organism F.
  - (2) Organisms E and F depend indirectly on Organism A for survival.
  - (3) Three of the organisms are herbivores and two of the organisms are carnivores.
  - (4) The populations of all the organisms will increase if Organism E becomes extinct.
14. The diagram below shows a picture of a monkey.



Which one of the following adaptations does not help the monkey to live in a tree?

- (1) It has long limbs to grasp onto branches.
- (2) Its body covering helps to camouflage it from predators.
- (3) It has hollow bones that enable it to swing from tree to tree.
- (4) It has a long and strong tail that curls firmly around tree branches.

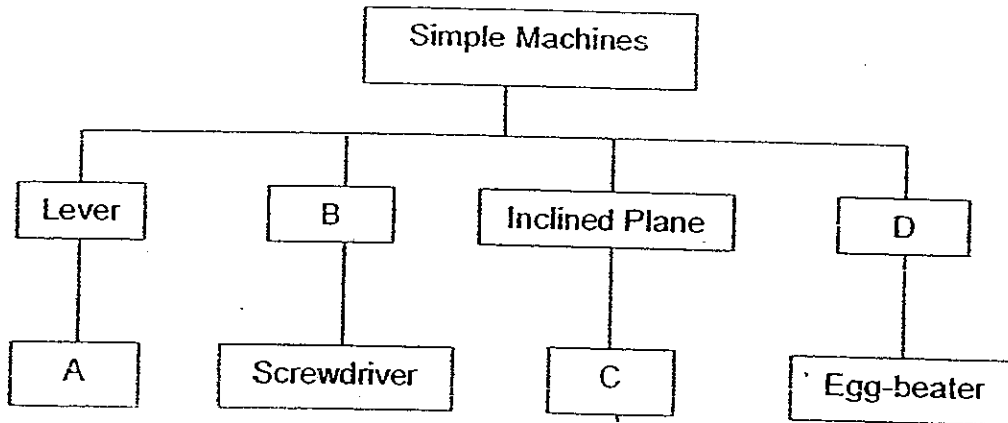
15. The diagram below shows Natalie's family tree.



Natalie has single eyelids. From whom did she inherit this characteristic?

- (1) Father
- (2) Mother
- (3) Grandfather
- (4) Grandmother

16. Study the classification chart below.



Which of the following is the correct representation of A, B, C and D in the above diagram?

	A	B	C	D
(1)	Screw	Gears	Staircase	Pulley
(2)	Wheelbarrow	Wheel & Axle	Screw	Gears
(3)	Staircase	Lever	Crowbar	Gears
(4)	Crowbar	Wheel & Axle	Staircase	Pulley

17. When the water in the dam is released,  A  energy of the water is changed into  B  energy, which is used to turn a water turbine. The water turbine in turn spins a generator, which produces  C  energy.

Which one of the following options correctly describes the conversion in energy?

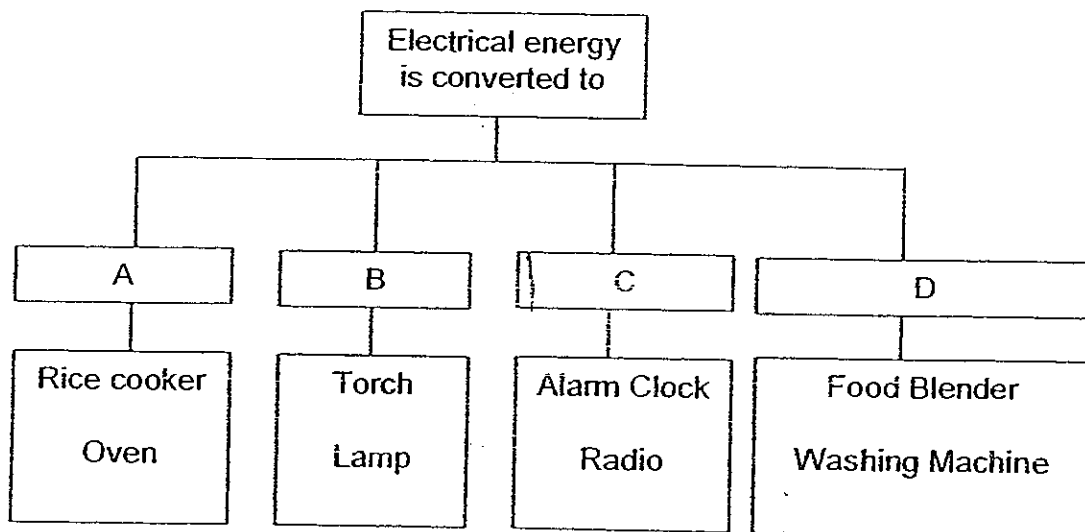
	A	B	C
(1)	Chemical Potential	Kinetic	Electrical
(2)	Gravitational Potential	Kinetic	Electrical
(3)	Gravitational Potential	Heat	Electrical
(4)	Chemical Potential	Heat	Kinetic

18. Which of the following materials are conductors of electricity?

- A Iron
- B Lead
- C Water
- D Cotton
- E Styrofoam

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

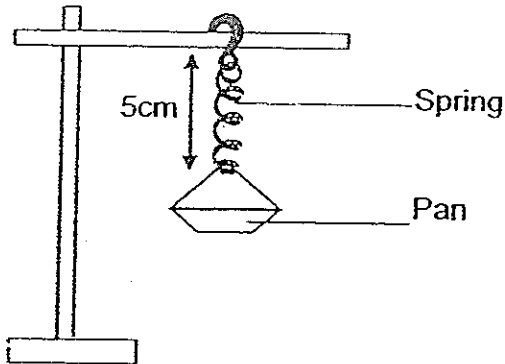
19. The diagram below shows how electrical energy, required in various types of appliances, can be converted into different forms of useful energy, A, B, C and D.



In which group would you put the electric drill?

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

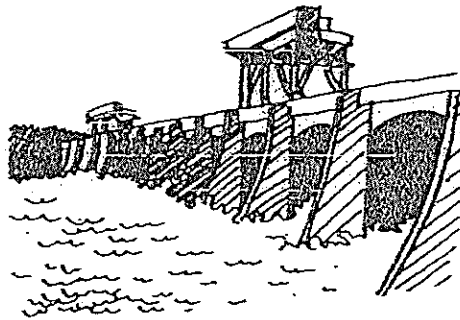
20. An experiment was conducted to determine how much a spring would extend when objects of different masses were placed in the pan, as shown below.



Object placed in the pan	Length of spring (cm)
300g mass	7
A pen	6.5
A packet of sugar	11
A bunch of keys	9
An eraser	6

Which one of the objects has a mass of about 600g?

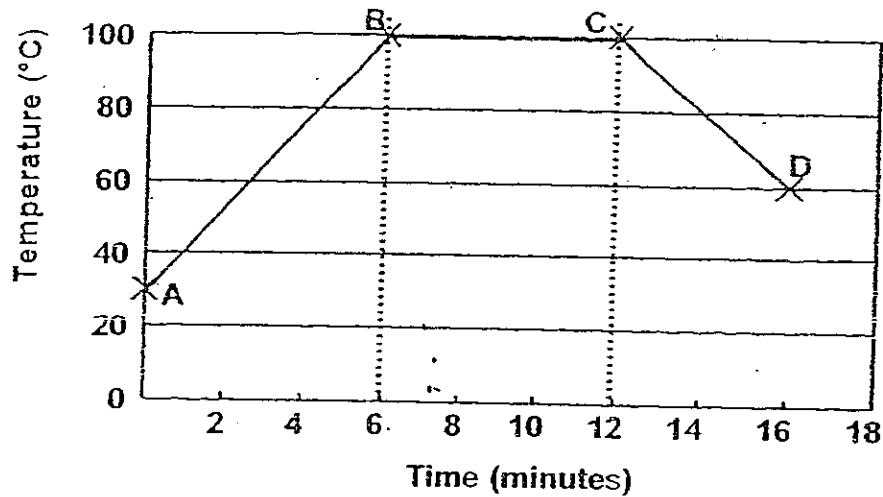
- (1) A pen
  - (2) An eraser
  - (3) A bunch of keys
  - (4) A packet of sugar
21. A dam is constructed across a river, as shown below, to produce hydroelectricity.



Which one of the following correctly shows the positive impact and the negative impact on the environment when this method is used to produce electricity?

	Positive Impact	Negative Impact
(1)	Natural habitats are protected.	It could lead to flooding.
(2)	The cost of construction is low.	Natural habitats are destroyed.
(3)	Hydroelectricity is a form of renewable energy.	Electricity generated will cause pollution.
(4)	It does not produce greenhouse gases.	It could disrupt the surrounding aquatic ecosystem.

22. Wendy heated some water in a beaker until it boiled. It was then left on the kitchen table to cool. She recorded the results in the graph as shown below.

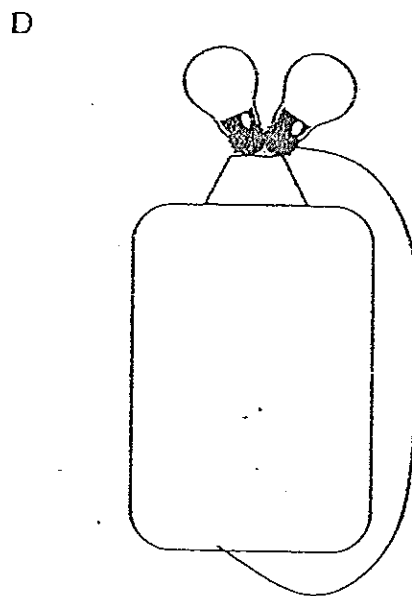
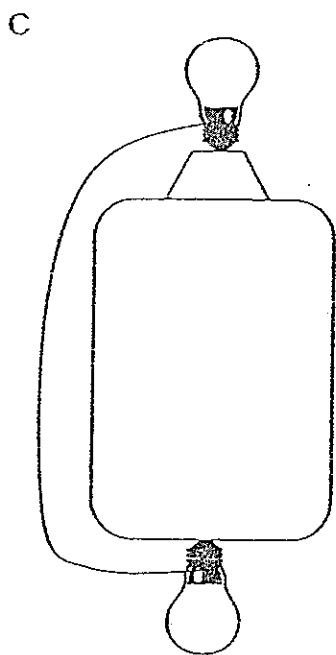
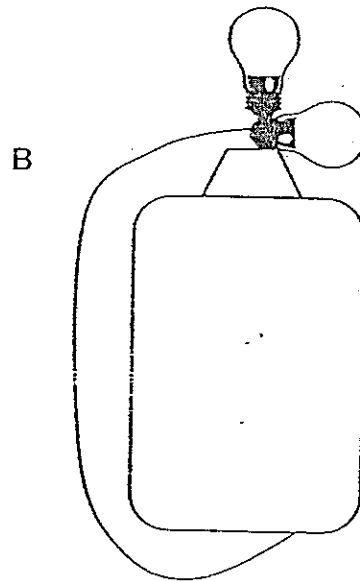
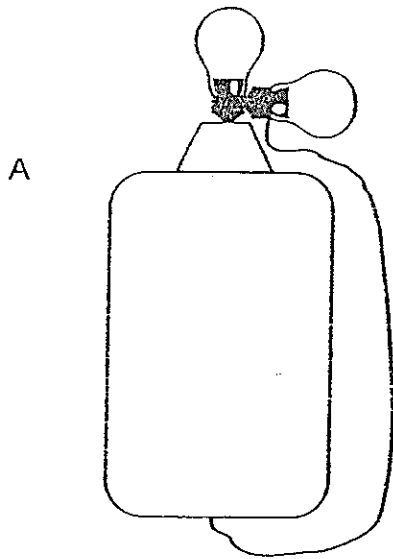


Which of the following statements correctly show what had happened to the water at the different stages?

- A Evaporation takes place only at CD.
- B There is heat loss during period BC.
- C Water has been heated for 12 minutes.
- D Water exists in 2 different states during period AB.

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

23. Study the 4 electrical set-ups below carefully.

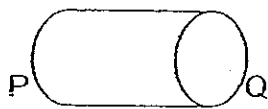


Which of the set-ups above will enable both bulbs to light up?

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



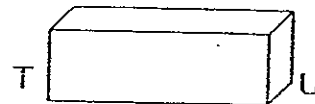
24. Look at the pictures of objects X, Y and Z below. Their ends are labelled as shown.



Object X



Object Y



Object Z

Jenny placed the ends of objects X, Y and Z close to one another and recorded her observations in the table below.

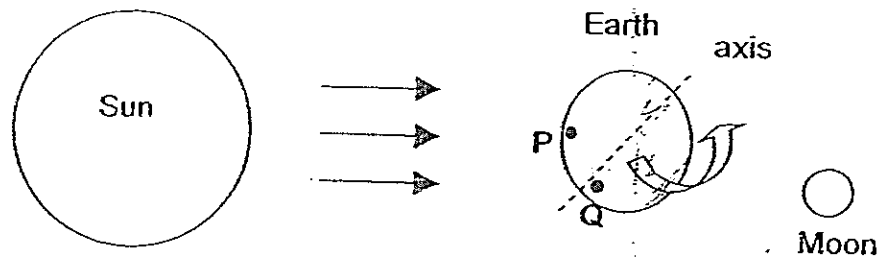
Object	Ends	Y		Z	
		R	S	T	U
X	P	Attract	Repel	Attract	Attract
	Q	Repel	Attract	Attract	Attract
Y	R			Attract	Attract
	S			Attract	Attract

Based on the results given above, which of the following statement(s) is/are definitely true?

- A X is a magnet.
- B Y is a magnet.
- C Z is made of iron.
- D Z is made of a magnetic material.

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

25. Study the diagram below.

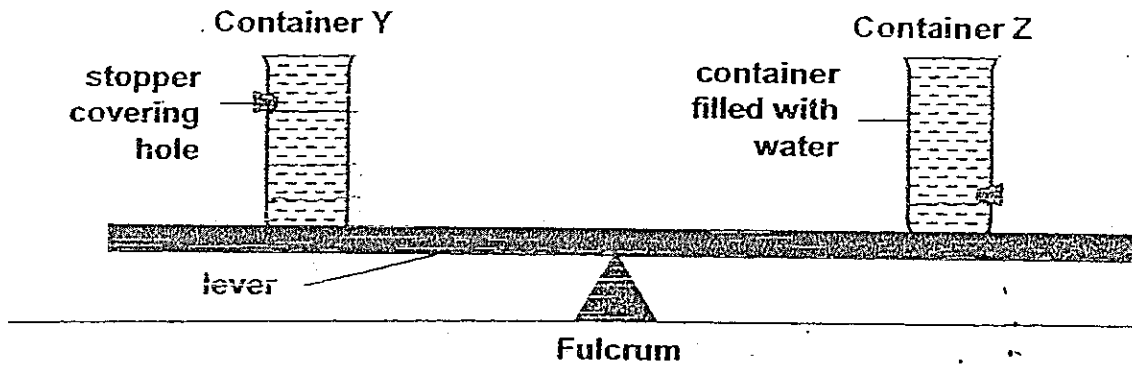


Based on the diagram above, which of the following statement(s) is/are true?

- A Q is experiencing night now.
- B The Sun's rays are more intense at P than at Q.
- C P will be experiencing night time earlier than Q.
- D The Earth rotates on its own axis from East to West.

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

26. Grace balanced 2 containers of water on a lever. The containers were of the same capacity but each had a similar hole positioned at different parts of the container. The holes were covered by stoppers. She filled the 2 containers completely with water.

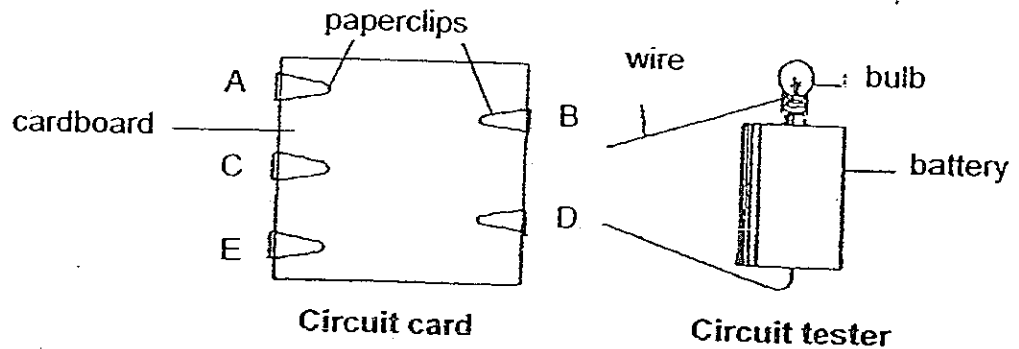


She then removed the stoppers and observed that the water flowed out. This resulted in the lever tilting to one side as the water was flowing out of the containers.

How would she be able to rebalance the lever?

- A Move Container Y towards the fulcrum.
  - B Remove some water from Container Y.
  - C Move Container Z away from the fulcrum.
- 
- (1) B only
  - (2) A and C only
  - (3) B and C only
  - (4) A, B and C

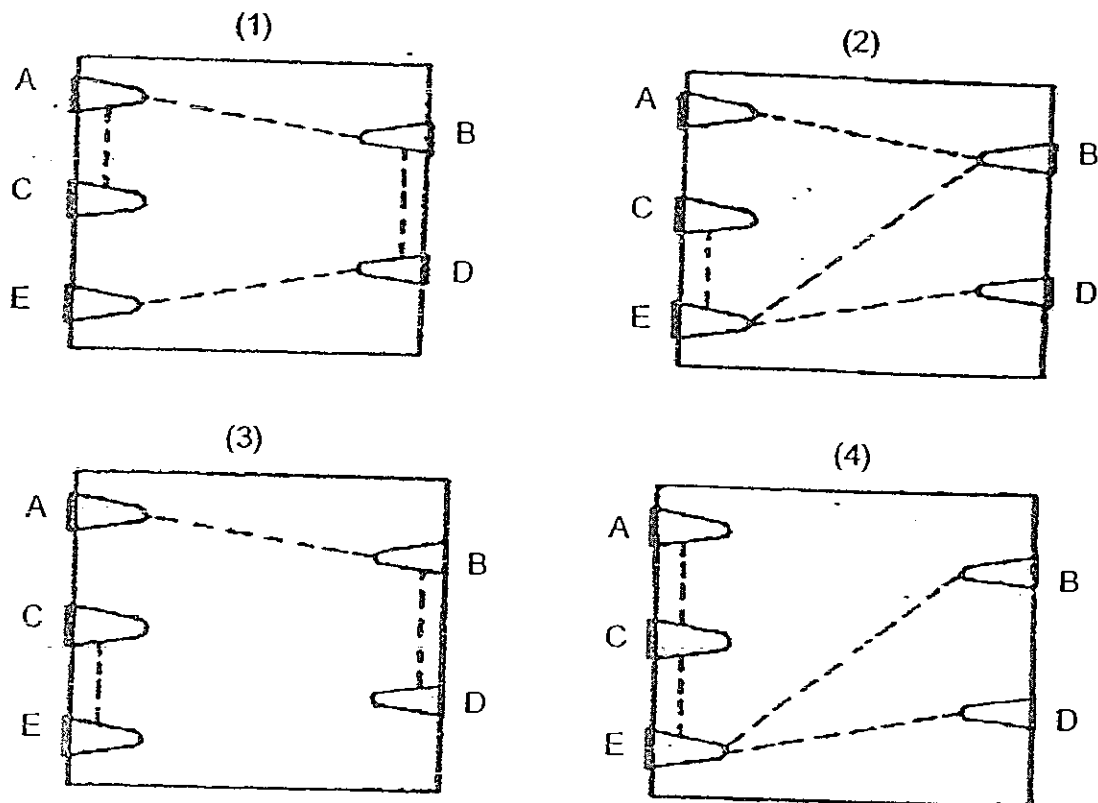
27. Debra tested a circuit card to find out which of the points (A, B, C, D or E) were joined by the hidden wire.



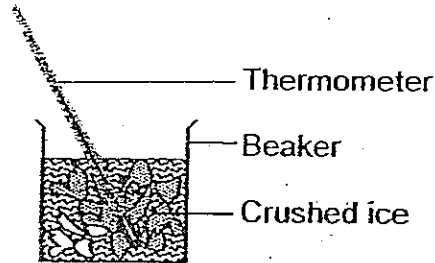
She connected the circuit card to her circuit tester and recorded her findings in the table below.

Clips	Result
A and D	Bulb lights up
A and B	Bulb lights up
E and D	Bulb does not light up
B and D	Bulb lights up
E and B	Bulb does not light up
C and E	Bulb lights up
A and C	Bulb does not light up

Based on the table above, which one of the circuit cards below correctly shows how the wires were connected?

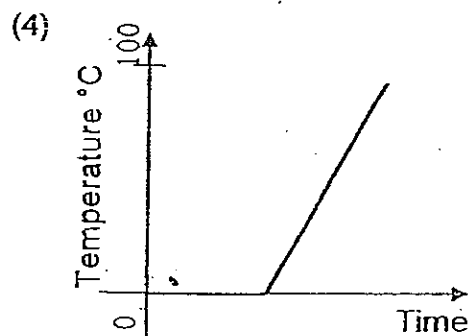
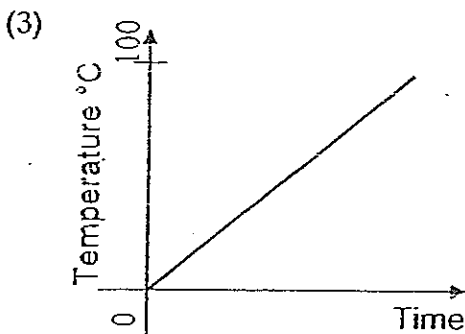
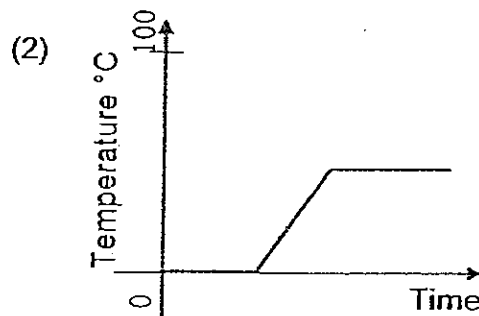
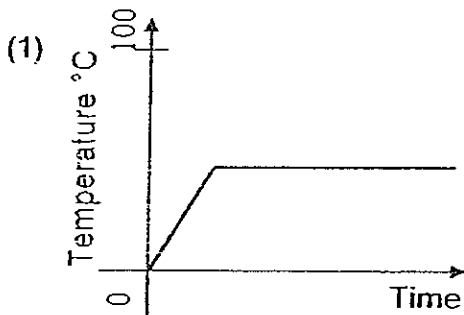


28. Amefia placed a beaker of crushed ice with a thermometer on a table as shown in the diagram below.



She left it to stand on the table. She observed the temperature of the crushed ice and recorded the readings in a graph.

Which one of the following graphs would she obtain?



29. When an object is placed between a light source and a white screen, it casts a shadow on the screen.

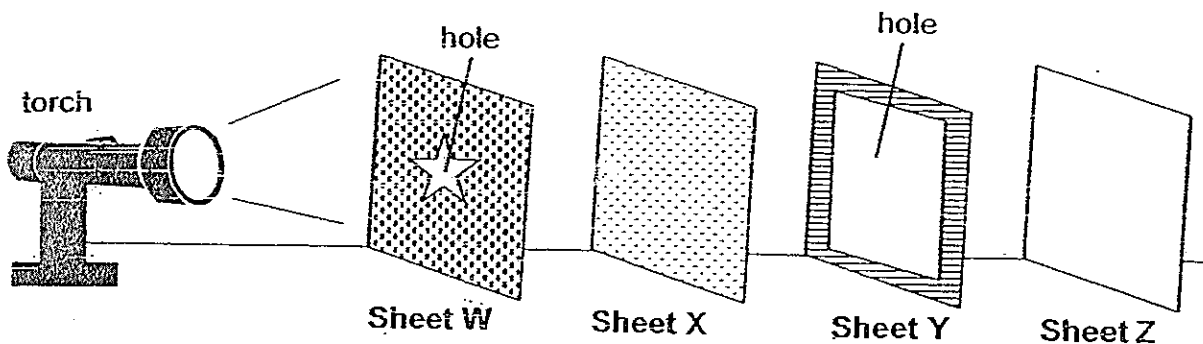
The object is then moved towards the light source.

Which of the following statements about the shadow formed are correct?

- A The shadow becomes bigger.
- B The shadow becomes darker.
- C The outline of the shadow becomes sharper.
- D The outline of the shadow becomes slightly blurred.

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

30. Sandy wanted to find out whether light can pass through some materials. She carried out the experiment shown below in a dark room.



Sheets W, X, Y and Z are arranged in a straight line. When the torch is switched on, a bright star-shaped patch of light is seen on Sheet Z only.

Which one of the following correctly describes the properties of the materials that sheets W, X, Y and Z are made of?

	Allows light to pass through	Does not allow light to pass through	Not possible to tell
(1)	None	W and Z	X and Y
(2)	Y and Z	X	W
(3)	W and X	None	Y and Z
(4)	X	W and Z	Y

– End of Section A –

Index Number

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CONVENT OF THE HOLY INFANT JESUS  
(COMBINED SCHOOLS PAPER)

PRELIMINARY EXAMINATION  
2008

**SCIENCE**

**BOOKLET B**

Date : 21 August 2008 (Friday)

NAME : \_\_\_\_\_ ( )

CLASS : Primary 6 \_\_\_\_\_

Total time for booklets A & B: 1 hour 45 minutes

**INSTRUCTIONS TO CANDIDATES**

- Do not open this booklet until you are told to do so.
- Follow all instructions carefully.
- Answer all questions and write your answers on this booklet.

BOOKLET (max. marks)	MARKS OBTAINED	PARENT'S SIGNATURE / DATE
A (60 marks)		
B (40 marks)		
Total (100 marks)		

111

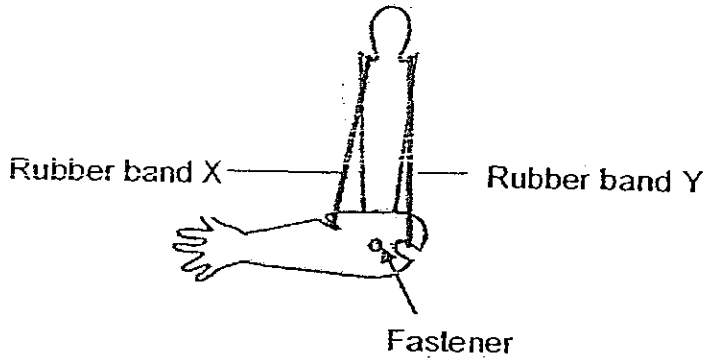
This booklet consists of 17 printed pages (excluding the cover page) and 16 questions.

**Section B (40 marks)**

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

The number of marks available is shown in brackets [ ] at the end of each question or part question.

31. The diagram below shows a model of the human arm.



(a) Which parts of our arm do the rubber bands and fastener represent? [1]

	Part of our arm
Rubber bands	
Fasteners	

(b) When you straighten the arm, the rubber band at X increases in length while the rubber band at Y decreases in length.

Use this model to explain how the human arm works.

[2]

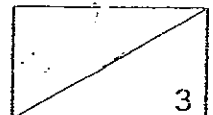
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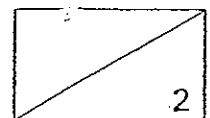
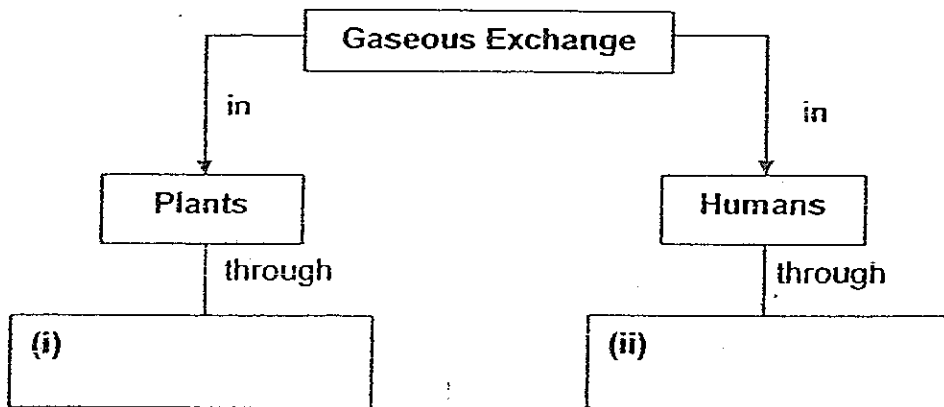
32. Compare the transport systems in plants and humans.

(a) State one similarity (in terms of the materials transported) between the transport system in plants and the circulatory system in humans. [1]

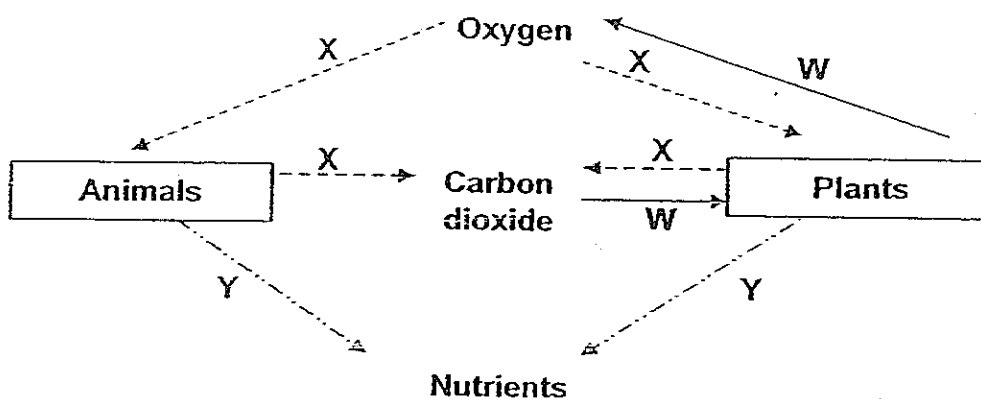
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(b) Complete the chart below by filling in the boxes with the correct parts of the plants and humans. [1]



33. The diagram below shows the interdependence of plants and animals in the environment and how these organisms interact with the environment.



The letters W, X and Y show the processes that take place in organisms.

- (a) Energy changes from one form to another.  
Identify the energy change when Process W takes place. [1]

\_\_\_\_\_ energy → \_\_\_\_\_ energy

- (b) Why is Process X important? [1]

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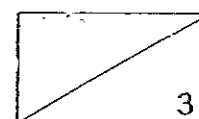
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- (c) Explain how the environment will be affected in the absence of Process Y. [1]

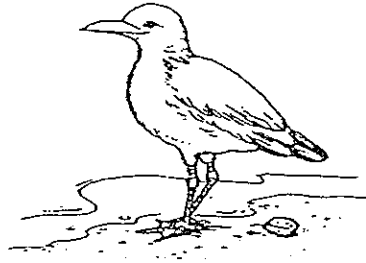
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34. The diagram below shows a type of seabird found in the Antarctic.

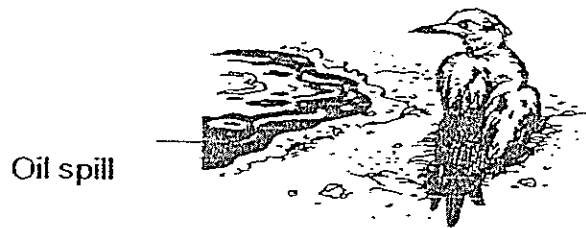


It has white feathers and it catches fish by diving into the water from flight.

- (a) Based on the information above, infer two structural adaptations that help the seabird to swim and catch fish in the water. Explain your answer. [2]

	Adaptation	Explanation
(i)		
(ii)		

- (b) When an oil spill from ships pollutes the sea, the seabird is affected, as shown in the diagram below.

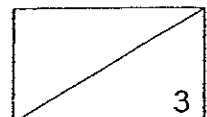


How does the oil spill affect the ability of the seabird to cope with its cold surroundings? [1]

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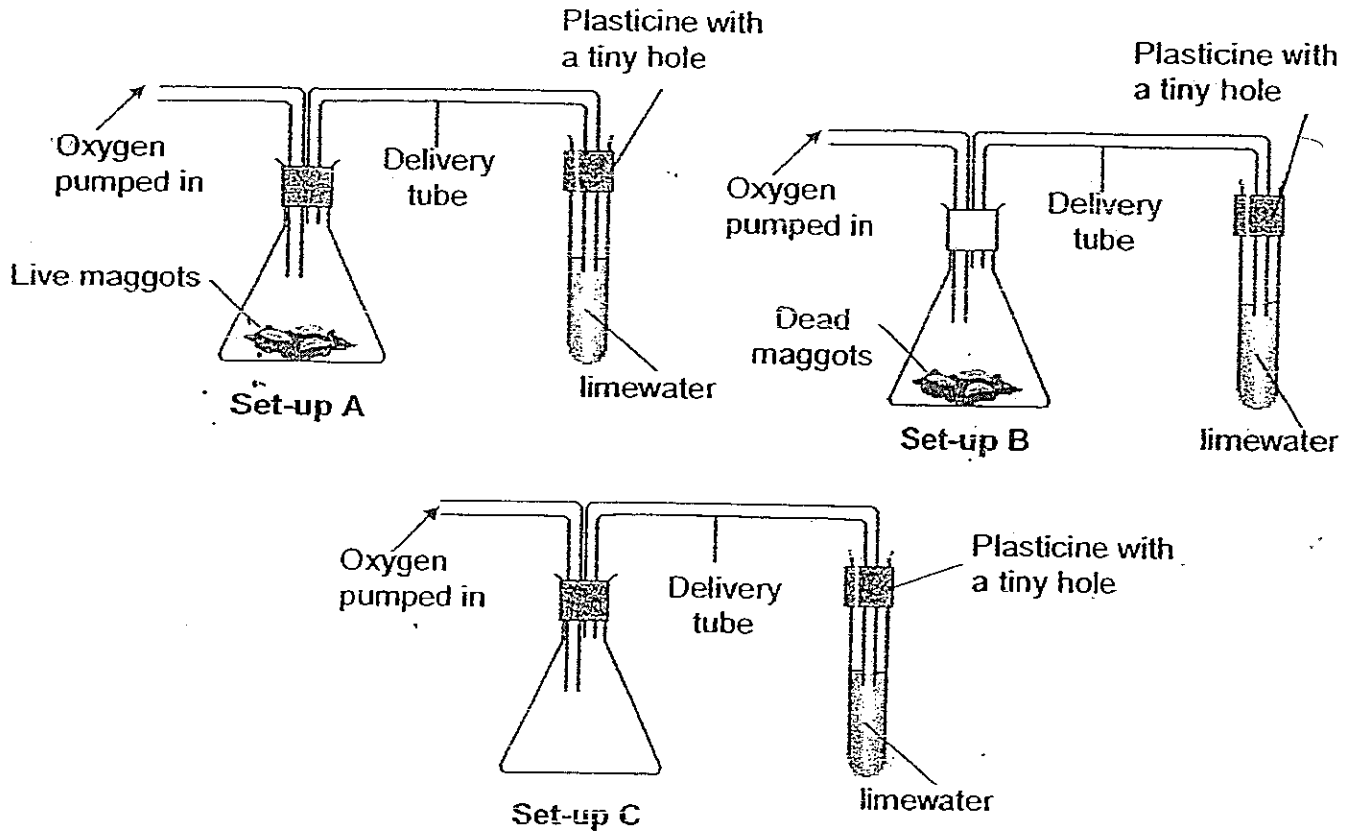


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35. Venise set up an experiment as shown below.

She placed 3 live maggots in the flask in set-up A and 3 dead maggots in the flask in set-up B. For each set-up, a delivery tube was attached, linking the flask to a test-tube of limewater.



- (a) After some time, Venise observed that the two test tubes of limewater in set-up A and set-up B turned chalky. Based on the observations above, state the two processes that had taken place. [1]

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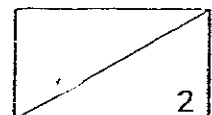
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- (b) Explain the purpose of having set-up C in the experiment. [1]

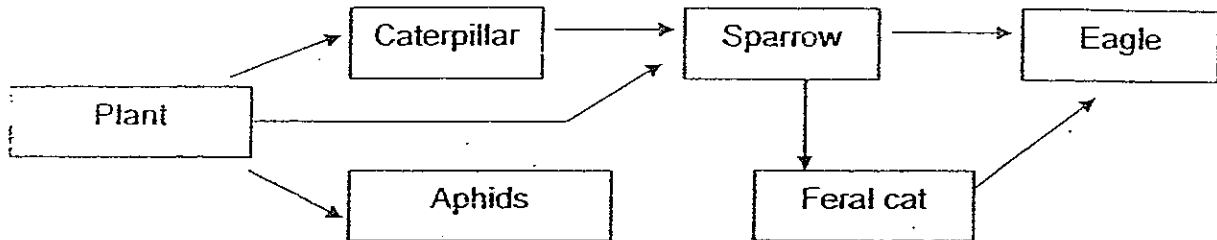
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36. The food web below represents a community of organisms living close to a farm.



(a) Farmers in this farm used insecticides to get rid of caterpillars.

Based on the information provided, give two reasons why the population of eagle would also start to decrease later. [1]

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(b) Without the use of insecticides, suggest a natural way to get rid of the aphids. [1]

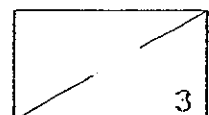
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(c) Explain what will happen to the population of plants if the farmers continue using insecticides without any control. [1]

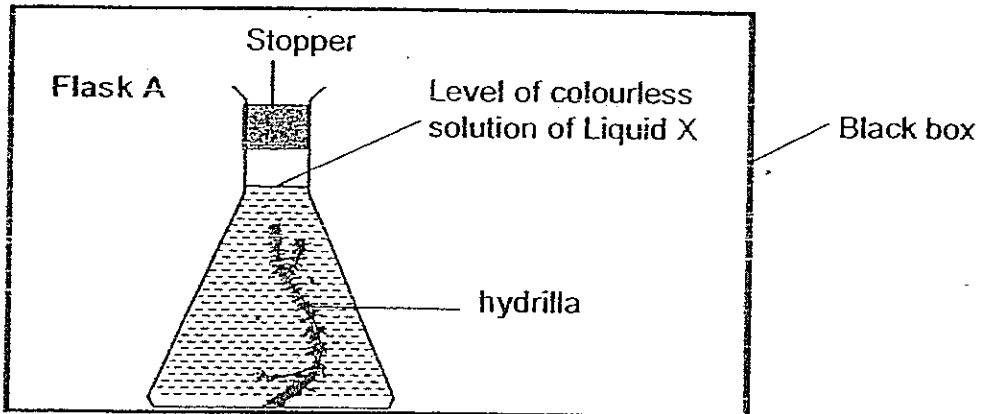
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37. Liquid X turns from violet to colourless when carbon dioxide is present.

Natalie wants to show that carbon dioxide is required by hydrilla during photosynthesis. She puts liquid X in Flask A. Using a rubber tubing, she blows bubbles into the liquid until it was colourless. Then she set up an experiment in a laboratory, near a light source, as shown below.



(a) Natalie's teacher tells her that her set-up will not achieve the aim of her experiment. What should she do? [1]

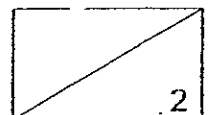
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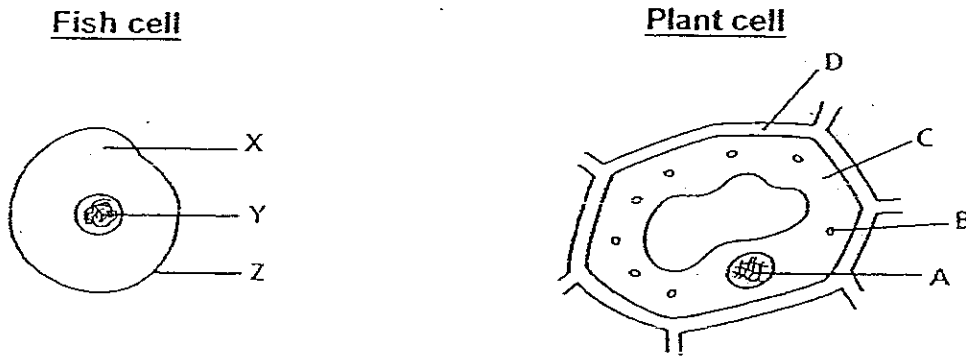
(b) After making the necessary change, what would happen to the colour of Liquid X? Give a reason for your answer. [1]

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38. A group of biotechnologists obtained some cells from a fish and a plant, as shown in the diagrams below.



Using the two cells above, they hoped to create a new species of fish that contain vitamins of plants.

- (a) Based on the information above, identify the type of biotechnology technique involved. [1]

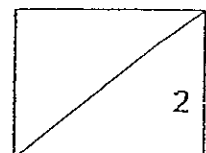
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- (b) Which of the parts labelled above did the biotechnologists focus their research on? Explain your answer. [1]

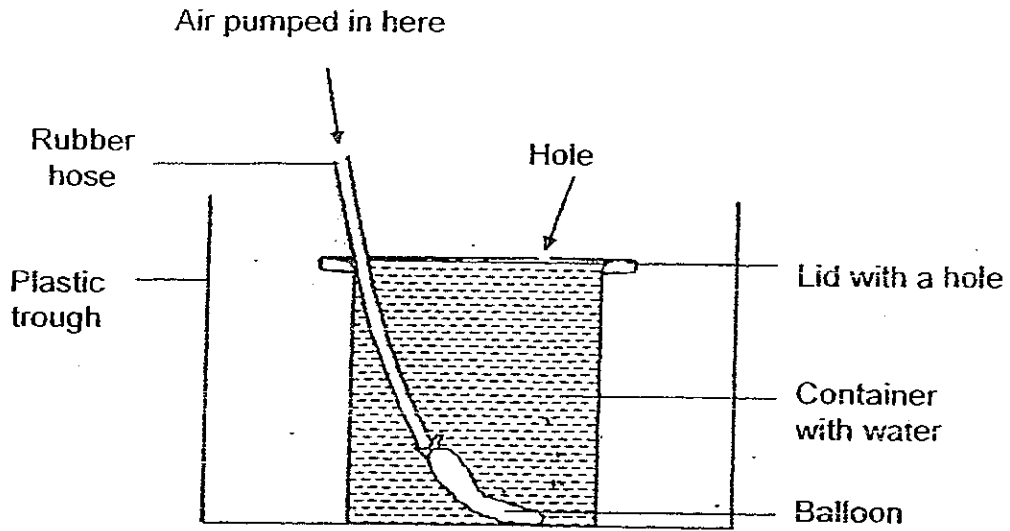
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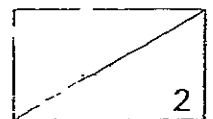
39. The diagram below shows a glass jar filled to the brim with water.



Suggest two possible observations you would make when some air is pumped into the balloon. Explain your answer. [2]

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

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





40. Study the diagrams below carefully.

In Diagram A, angle X was formed when the switch was closed.

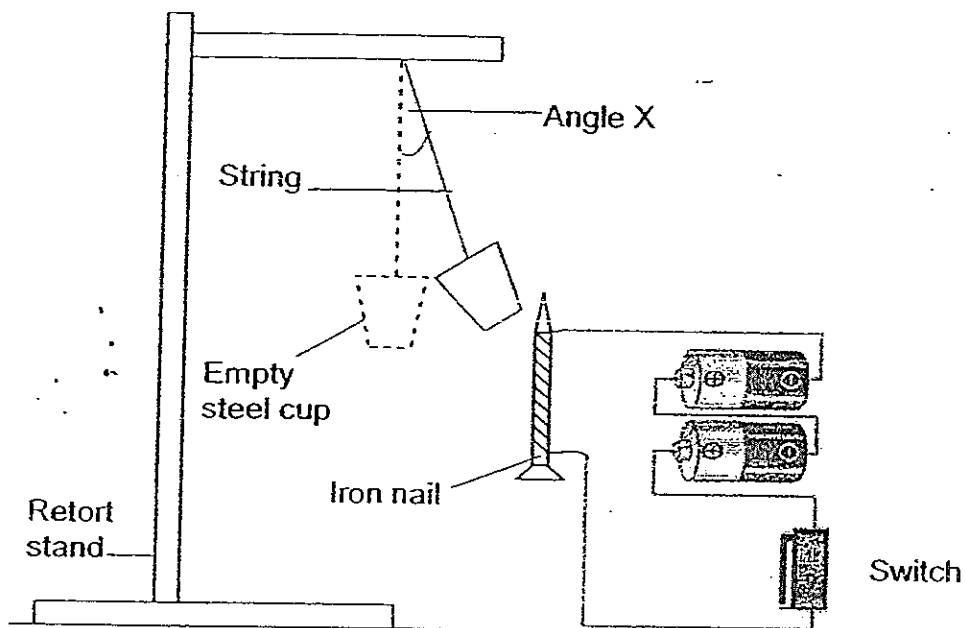


Diagram A

In Diagram B, the empty steel cup was replaced with an empty aluminum cup.

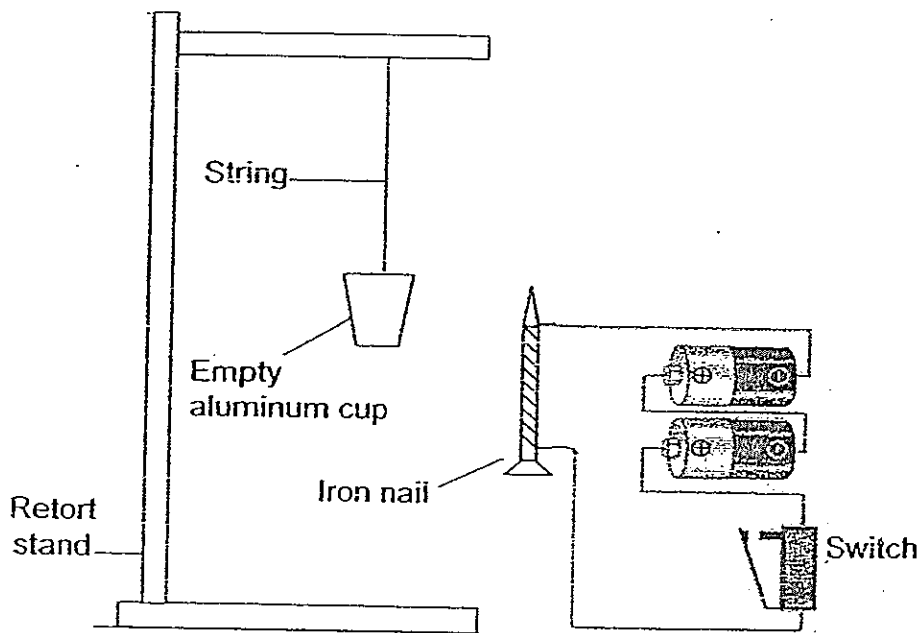


Diagram B

- (a) Explain why angle X was formed in Diagram A when the switch was closed. [1]

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- (b) Without removing any parts of the set-up, suggest a way to increase the value of angle X in (a) when the switch is closed.

Explain your answer.

[1]

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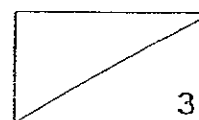
- (c) Predict the value of angle X when the switch is closed in Diagram B.

Explain your answer.

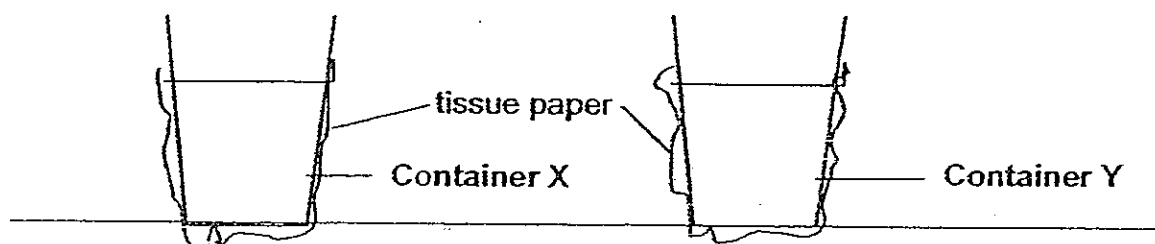
[1]

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41. Jane poured 50 ml of cold water into one container and 50 ml of boiling water into another similar container. She then wrapped each container with 2 similar pieces of tissue paper.



- (a) Without using other apparatus, what observations can be made from the tissue paper to conclude that the cold water is poured into Container X instead of Container Y?  
Explain your answer. [1]

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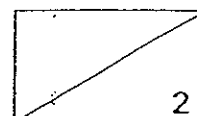
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- (b) What would happen to your observations in (a) if the cold water is poured into a similar container made of metal? Explain your answer. [1]

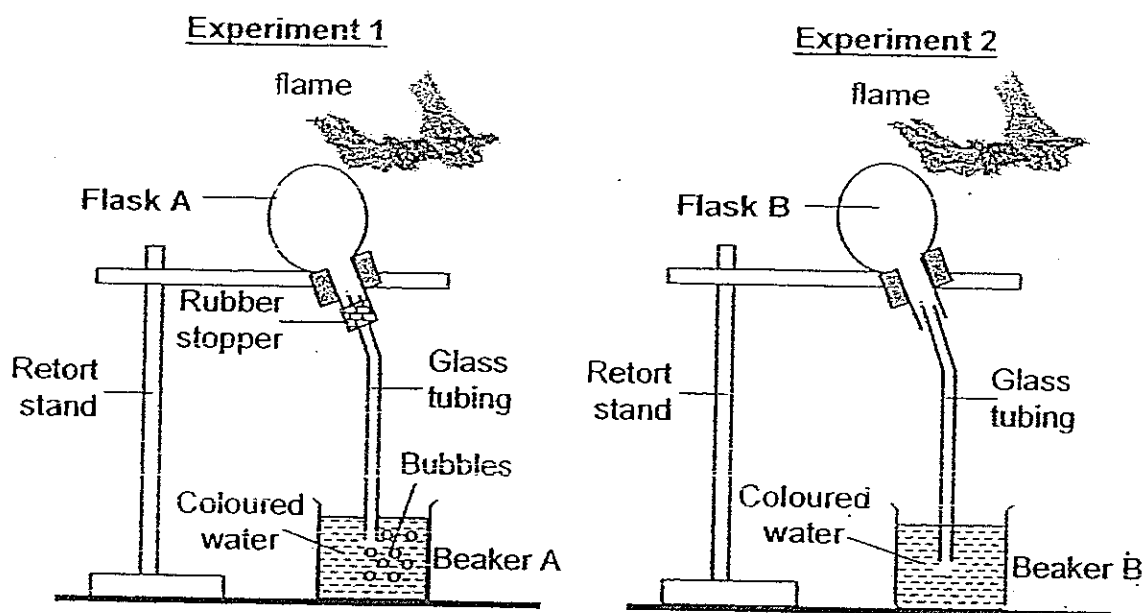
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42 Reena set up the two experiments as shown below.



She heated Flask A gently with a flame. After some time, she observed some bubbles in the coloured water of Beaker A in Experiment 1.

(a) How were the bubbles formed? [1]

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(b) What would Reena observe if she removed the flame in Experiment 1 and allowed the Flask A to cool? [1]

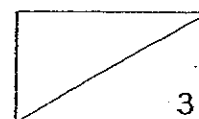
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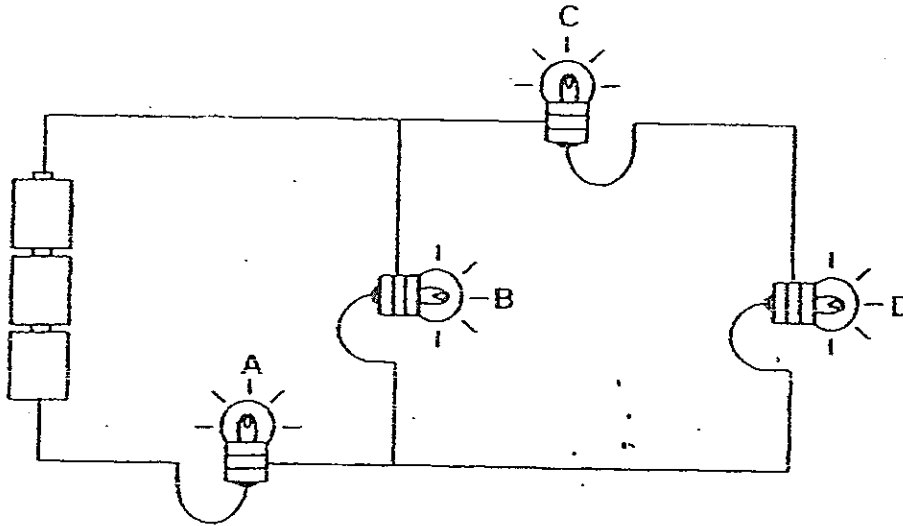
(c) Later, Reena carried out Experiment 2. However, she could not see any bubbles coming out from the glass tubing. Explain why. [1]

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43 The diagram shows four lighted bulbs A, B, C and D in a circuit.



(a) A switch is to be installed so that all the bulbs can be switched on or off at one time.

Mark an "X" on the circuit in the above diagram to show where the switch should be placed. [1]

(b) What will happen to the other three bulbs if Bulb B is fused? Explain your answer. [1]

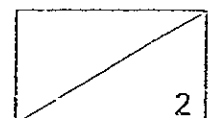
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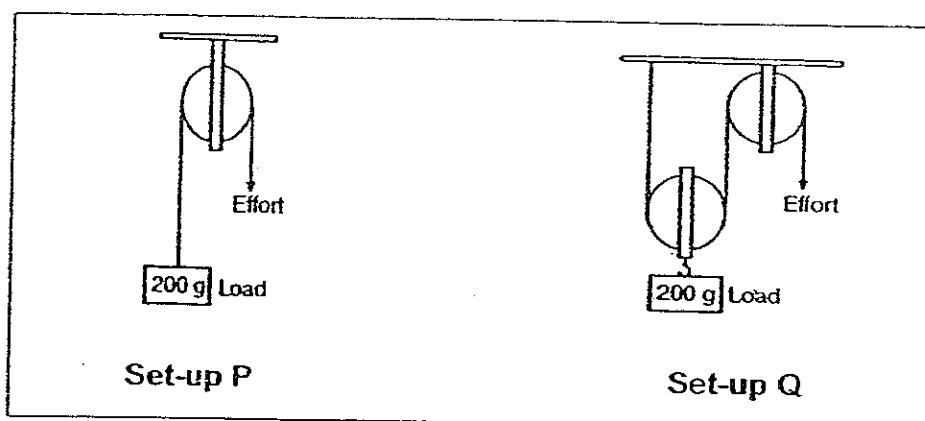
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44. Compare the two pulleys in the diagram below.



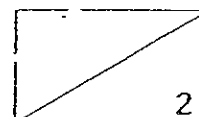
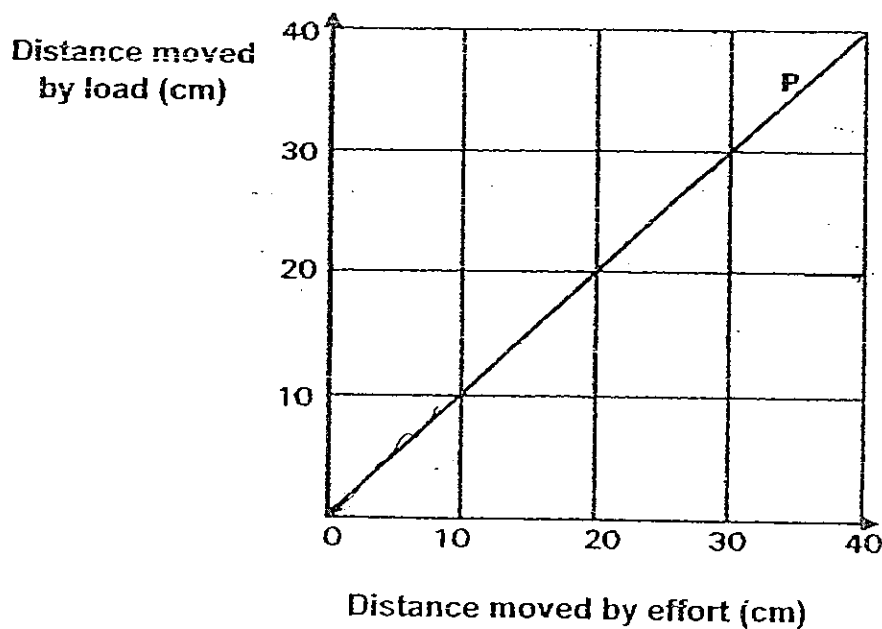
(a) Which of the above set-ups (P or Q) requires less effort to raise the load? Explain your answer.

[1]

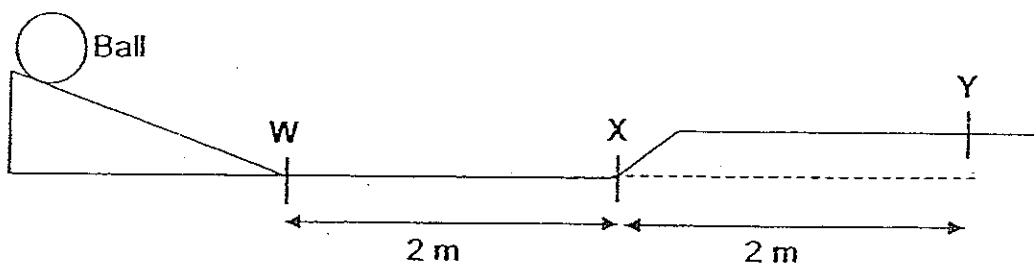
(b) The graph below shows the relationship between the distance moved by the effort and the distance moved by the load in set-up P.

In the same graph, draw and label a straight line to represent set-up Q.

[1]



45. Sharon released a ball, made of material P, from a ramp as shown in the diagram below.



The ball rolled down and travelled along a track from W to Y and beyond Y.

- (a) Compare the speed of the ball from W to X and from X to Y. Explain the difference in the speed of the ball. [1]

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Using the same set-up, Sharon repeated the same experiment with another 2 similar balls which are made of different materials, Q and R.

She measured and recorded the time taken for each ball to come to a complete stop. Then she repeated the experiment several times.

- (b) Based on the results recorded, what observation must she make to conclude that Material Q has the roughest texture? [1]

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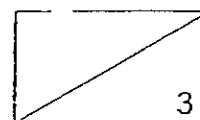
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- (c) Explain your answer in (b). [1]

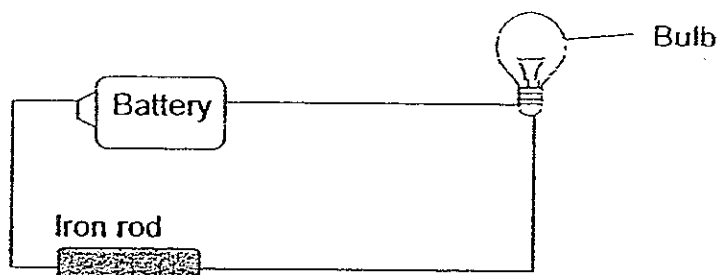
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46. Chermame set up a circuit with some identical wires, a battery, a bulb and an iron rod as shown below.



She measured and recorded the brightness of the bulb using a datalogger. Next, she carried out the same steps using more similar batteries arranged in series. The batteries used in this experiment were new.

Later, she repeated the whole experiment thrice and the results of her experiment are shown in the table below.

Number of batteries	0	1	2	3
Average light intensity (Lux)	0	0	30	60

- (a) Based on the table above, what was the most likely reason for the average light intensity reading with 1 battery used? [1]

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Using two batteries arranged in series, a bulb and wires in the experiment above, she conducted another experiment with a few iron rods of different lengths.

Each time as she placed an iron rod in the circuit, she measured the brightness of the bulb using a datalogger. She then compared the results for all the iron rods.

- (b) What was Chermame trying to find out in this experiment? [1]

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- (c) State another variable that must be kept the same throughout the experiment. Explain your answer. [1]

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~ End of Paper ~





**CHIJ Primary School**  
**Primary 6 Science SA2 Exams (2008)**

**Answer Keys**

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

Qn no.	Ans
11	2
12	4
13	4
14	3
15	4
16	2
17	2
18	1
19	4
20	3

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

- 31a. Rubber bands --- triceps or biceps  
 Fasteners --- joint
- 31b. When we straighten our arm the triceps will contract while the biceps would relax vice-versa.
- 32a. Both systems transport water and food/carbon dioxide/oxygen/air/nutrients/minerals.
- 32b(i). Stomata (ii) lungs
- 33a. Light energy  $\longrightarrow$  chemical potential energy.
- 33b. It enables the organisms to release the energy in the food to carry out life processes.
- 33c. The dead matter will pile up on earth/the soil will not be enriched with nutrients
- 34a(i). It has long beak --- to catch the fishes.  
 (ii). It has webbed feet --- to enables to swim in water with less difficulty.
- 34b. The feathers will be coated with oil and cannot fly. Hence, when the environment gets cold it cannot migrate to cope with its cold surroundings.
- 35a. Respiration and decomposition.  
 35b. They act as a control to show that respiration and decomposition give off carbon dioxide.
- 36a. Some eagles were killed as they were poisoned by its food (sparrow/feral cats)  
 36b. Introduce predators that feed on aphids.  
 36c. It will decrease as too much pesticide is harmful to the plants. The pesticides get washed into the soil and are absorbed by the plants, killing them.
- 37a. Replace the black box with a transparent box.  
 37b. Liquid X will turn violet. Hydrilla takes in carbon dioxide to make food.
- 38a. Genetic engineering  
 38b. Part A and as the nucleus carries genes that contain informal which are passed from parents to offspring

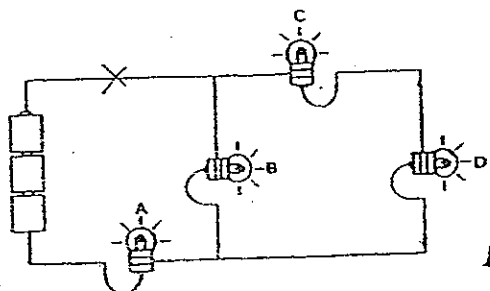
- 39(i) The water would flow out of the container with water to the plastic trough. The balloon occupies space cause water to flow out of the hole to the plastic trough.
- (ii) Water escapes from the hole as the inflated balloon takes up space in the water. She should take the different in the 2 volume of water collected.
- 39b.

- 40a. The steel cup will be attracted to the magnetized iron nail.
- 40b. Increase the number of batteries to make the iron nail a stronger electromagnet.
- 40c. 0°C. The aluminum cup is not made from magnetic material.

- 41a. The tissue paper that is wrapping container X will be wet. Condensation took place water droplets are formed.
- 41b. More water droplets would appear. The metal loses heat very so the water droplets would appear to become more.

- 42a The air inside the flask A expanded when heated and escaped through the glass tubing into the beaker A of coloured water as air bubbles
- 42b. She would notice water in the glass tubing.
- 42c. The air has escaped as there is no rubber stopper.

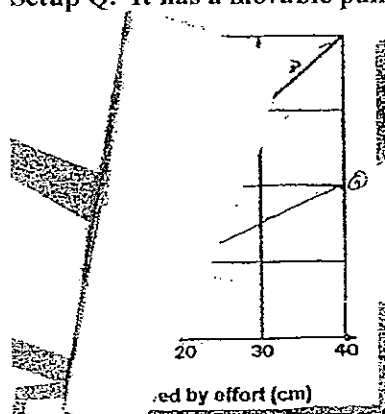
43a.



- 43b. All the 3 bulbs will remain lighted up. There is a closed circuit for the current to flow through.

44a. Setup Q. It has a movable pulley in it so it reduces effort.

44b.



- 45a. The speed of the ball between X Y is slower. Some energy was also used to overcome gravity/some kinetic energy was also converted to potential energy as the ball rolled up the slope.
- 45b. The ball made of material Q will take the shortest time to stop.
- 45c. There is more friction for the roughest texture.
- 46a. There is not enough voltage.
- 46b. She was trying to find out whether the length of the iron rods affects the rightness of the bulb.
- 46c. The thickness of the iron rod. This is to ensure that any change in the brightness of the bulb is due to the length of the rod.