

CATHOLIC HIGH SCHOOL  
PRIMARY 5  
SEMESTRAL ASSESSMENT 2  
2008  
SCIENCE  
EM 1 / EM 2

Name: \_\_\_\_\_ ( )

Class : Primary 5 \_\_\_\_\_

Date : 8 October 2008

BOOKLET A

30 Questions  
60 Marks

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.

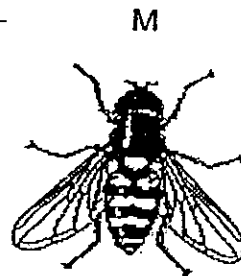
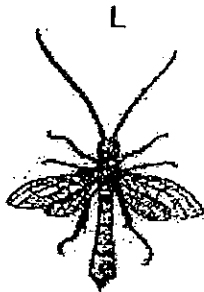
**Section A: Multiple Choice Questions (60 marks)**

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

1. Which one of the following groups are living things usually classified into?

- (1) plants, animals, fish and fungi
- (2) plants, animals, fungi and ferns
- (3) plants, animals, fish and micro-organisms
- (4) plants, animals, fungi and micro-organisms

2. Look at the two animals L and M as shown below.



Which one of the following comparisons is correct?

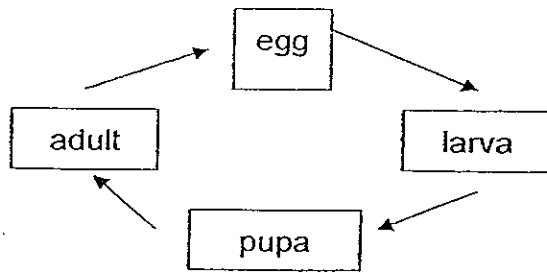
	L	M
(1)	Has 8 legs	Has 6 legs
(2)	Has 2 pairs of wings	Has 1 pair of wings
(3)	Has no feelers	Has feelers
(4)	Has an abdomen	Has no abdomen

3. Which of the following comparisons between the life cycle of a dragonfly and a mosquito are correct?

		Dragonfly	Mosquito
A	Lays egg in water	No	Yes
B	Has 3 stages in its life cycle	Yes	No
C	Has wings in its adult stage	Yes	Yes
D	Spends part of its life cycle in water	Yes	Yes

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

4. The diagram below shows the life cycle of a butterfly.



Which of the following statements is/are true?

- A The larva looks like the adult.
- B There are 4 stages in the life cycle.
- C The butterfly has the same number of stages in its life cycle as that of a housefly.

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

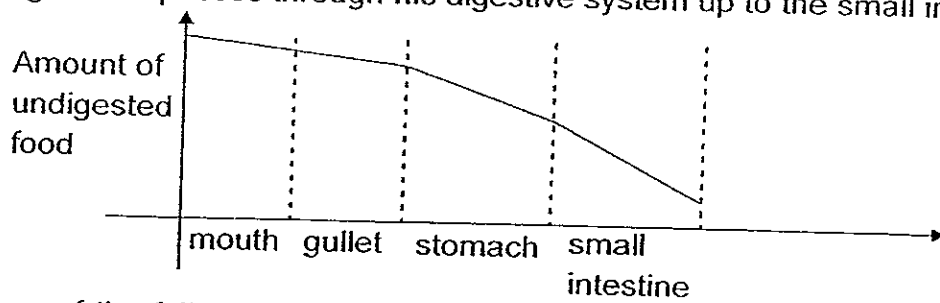
5. 4 children Jalil, Mary, Roy and Lily were asked to carry out an experiment to test for the presence of starch in a sweet potato. The sweet potato was cut into 2 pieces and then a few drops of iodine were put onto each piece. The iodine turned dark blue almost immediately for each piece of sweet potato. They then made some statements below.

- Jalil Starch is made in the green leaves of the sweet potato plant and then stored in the roots.
- Mary Sugar found in the roots changes into starch in the presence of sunlight.
- Roy Sugar is made in the leaves and is then transported to the roots and stored there as starch.
- Lily Starch is made as water interacts with chlorophyll in the presence of sunlight and is then stored in the roots.

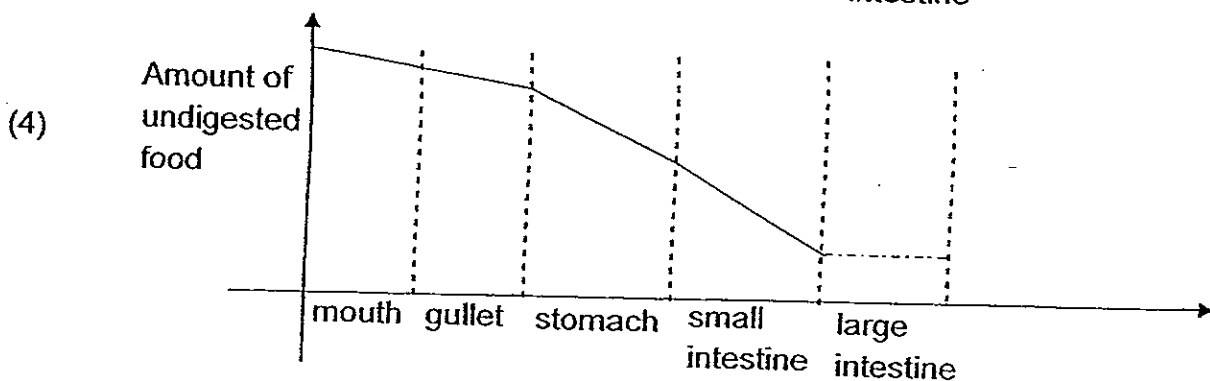
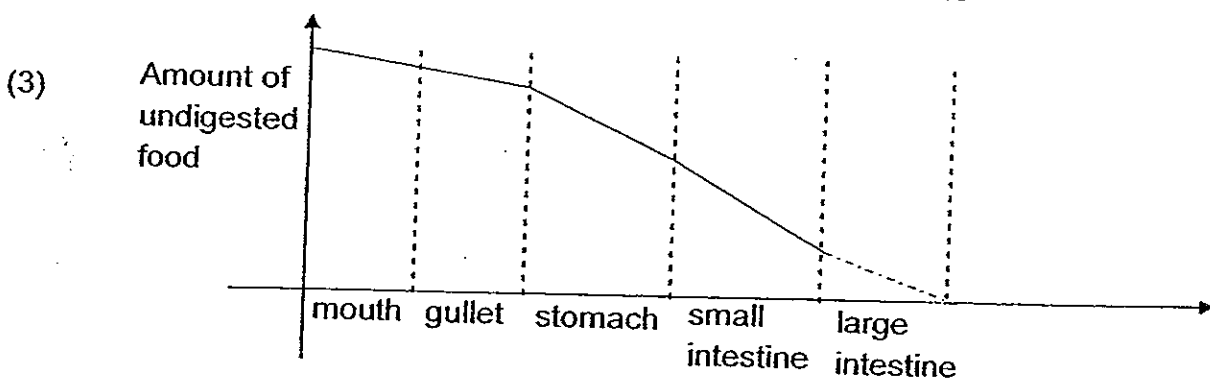
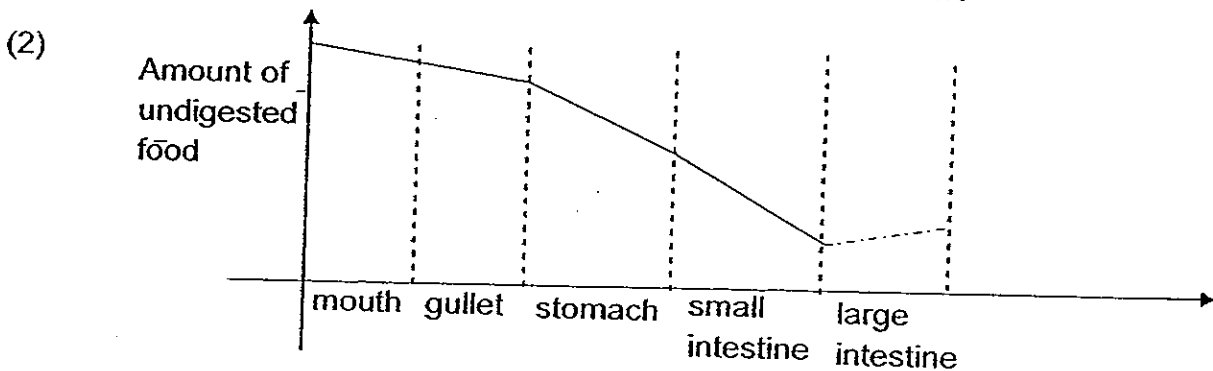
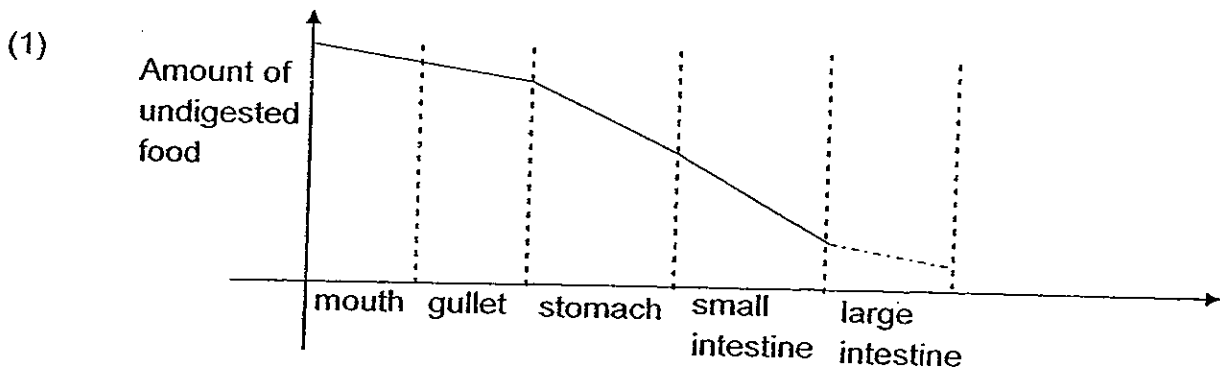
Among the four children, who gave the best explanation as to why iodine turned dark blue?

- (1) Roy
- (2) Mary
- (3) Jalil
- (4) Lily

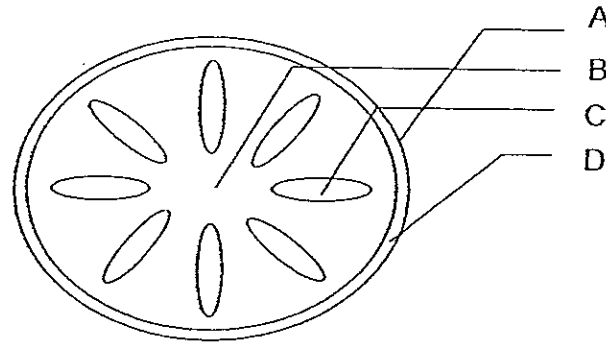
6. Michael had a meal. The graph below shows how the amount of undigested food changes as it passes through his digestive system up to the small intestine.



Which one of the following shows what happens to the amount of undigested food at the large intestine?



7. The diagram below shows the cross-section of the stem of a plant. Which part of the stem has the function of transporting food and water in the plant?



- (1) A  
 (2) B  
 (3) C  
 (4) D
8. The following are some statements made by 4 children about plants after their Science lesson.

Ali            If there are no leaves, a plant will die.  
 Basil        If there are no flowers, there will be no seeds.  
 Charlie      If there are no roots, water will not reach the leaves.  
 Dennis      If there are no stem, mineral salts cannot reach the roots.

Who has made a wrong statement?

- (1) Ali  
 (2) Basil  
 (3) Charlie  
 (4) Dennis
9. What happens to the diaphragm and ribs when we breathe out?

	Diaphragm	Ribs
(1)	Moves upwards	Move outwards and upwards
(2)	Moves upwards	Move inwards and downwards
(3)	Moves downwards	Move outwards and upwards
(4)	Moves downwards	Move inwards and downwards

10. The diagram below represents the composition of gases that has been breathed in.

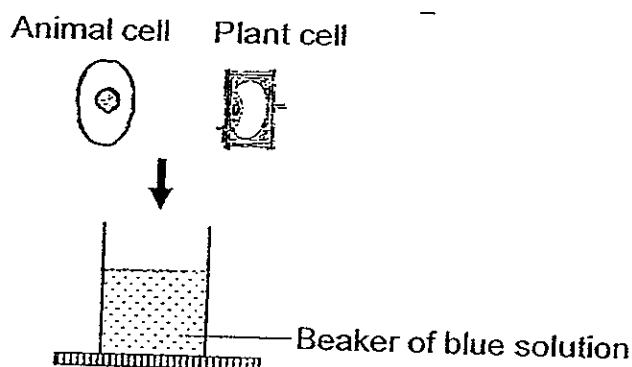


Which of the following statement(s) is/are true for air that has been breathed out?

- A Amount of oxygen increases
- B Amount of nitrogen increases
- C Amount of carbon dioxide, other gases and water vapour increases

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

11. Two different cells were placed in a beaker of blue solution for the same period of time.



It was observed that both the animal cell and plant cell turned blue. 4 pupils gave the following reasons based on the observation.

- Ali The plant cell has a cell wall to keep its shape but the animal cell does not.
- Betty The animal cell does not have chloroplasts to trap light energy but the plant cell does.
- Cindy Both the animal and plant cells have cytoplasm to fill the cell with a jelly-like substance.
- Donald Both the animal and plant cells have a cell membrane to allow the liquid to move in and out of the cell.

Who gave the correct reason based on the observation?

- (1) Ali
- (2) Betty
- (3) Cindy
- (4) Donald

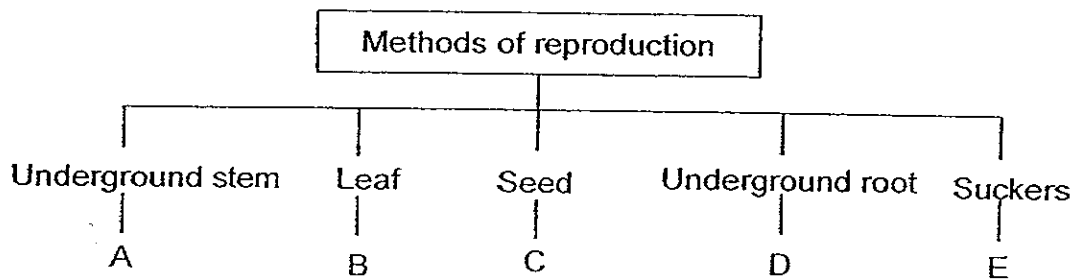
12. The table below shows the number of amoebae, a type of microscopic organism, after every splitting.

Number of splittings	Number of amoebae
1	2
2	4
3	8
4	16

Which one of the following organisms reproduces in the same way as the amoeba?

- (1) Yeast
- (2) Mould
- (3) Bacteria
- (4) Mushroom

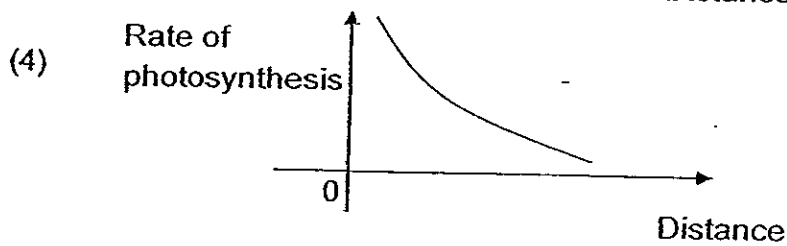
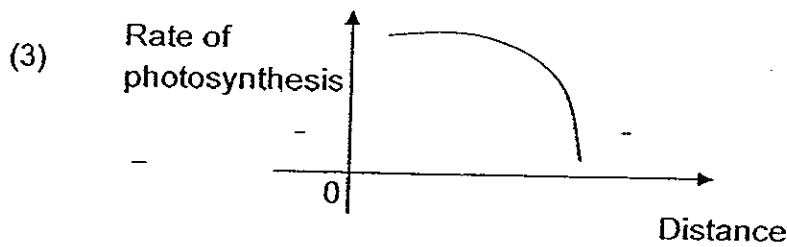
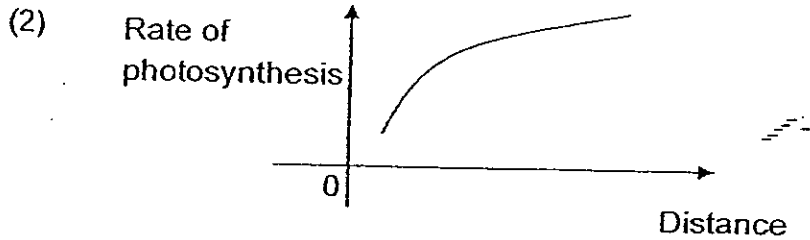
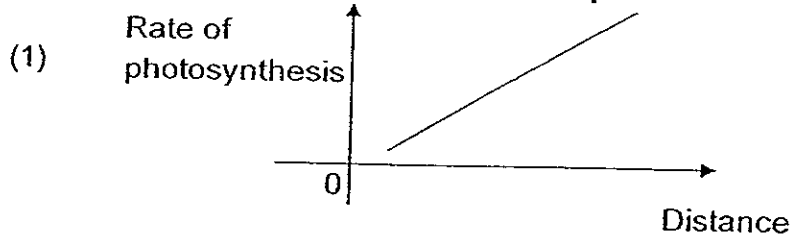
13. The classification table below shows the plant parts that plants reproduce from.



Which one of the following shows the correct plants that are grown from the plant parts?

	A	B	C	D	E
(1)	Potato	Begonia	Cucumber	Carrot	Pineapple
(2)	Onion	Bryophyllum	Sugarcane	Garlic	Bamboo
(3)	Sweet potato	African violet	Begonia	Beetroot	Banana
(4)	Carrot	African violet	Banana	Tapioca	Sugarcane

14. Which one of the following graphs shows how the rate of photosynthesis varies with the distance of the light source from the plant?



15. The diagram below shows the fruits of three plants.

Species 1  
fruit with stiff hairs



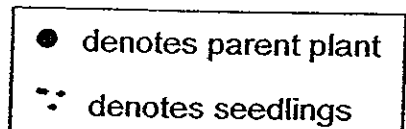
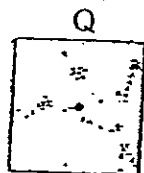
Species 2  
fruit with parachute of hairs



Species 3  
fruit with walls that split open



The dispersal patterns P, Q and R of these three plants are shown below.

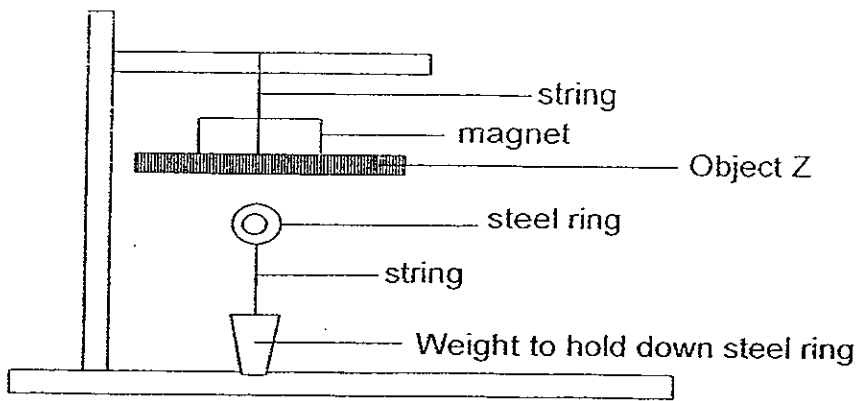


Which dispersal pattern matches Species 1, 2 and 3?

	Species 1	Species 2	Species 3
(1)	P	Q	R
(2)	R	Q	P
(3)	Q	R	P
(4)	R	P	Q



16. Look at the diagram below.

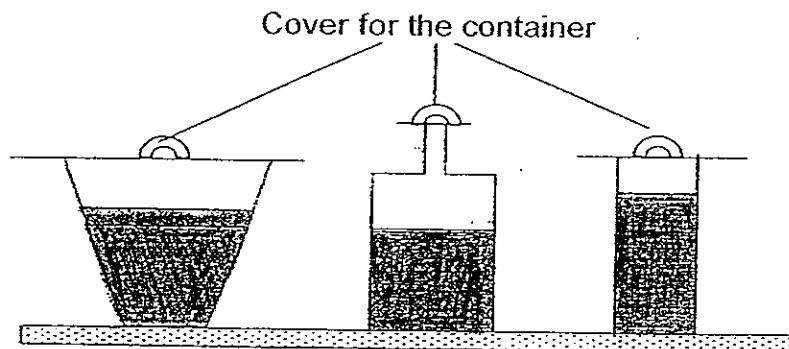


The steel ring will be in the upright position as shown on the diagram only when Object Z is a piece of \_\_\_\_\_.

- A steel
- B nickel
- C plastic

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

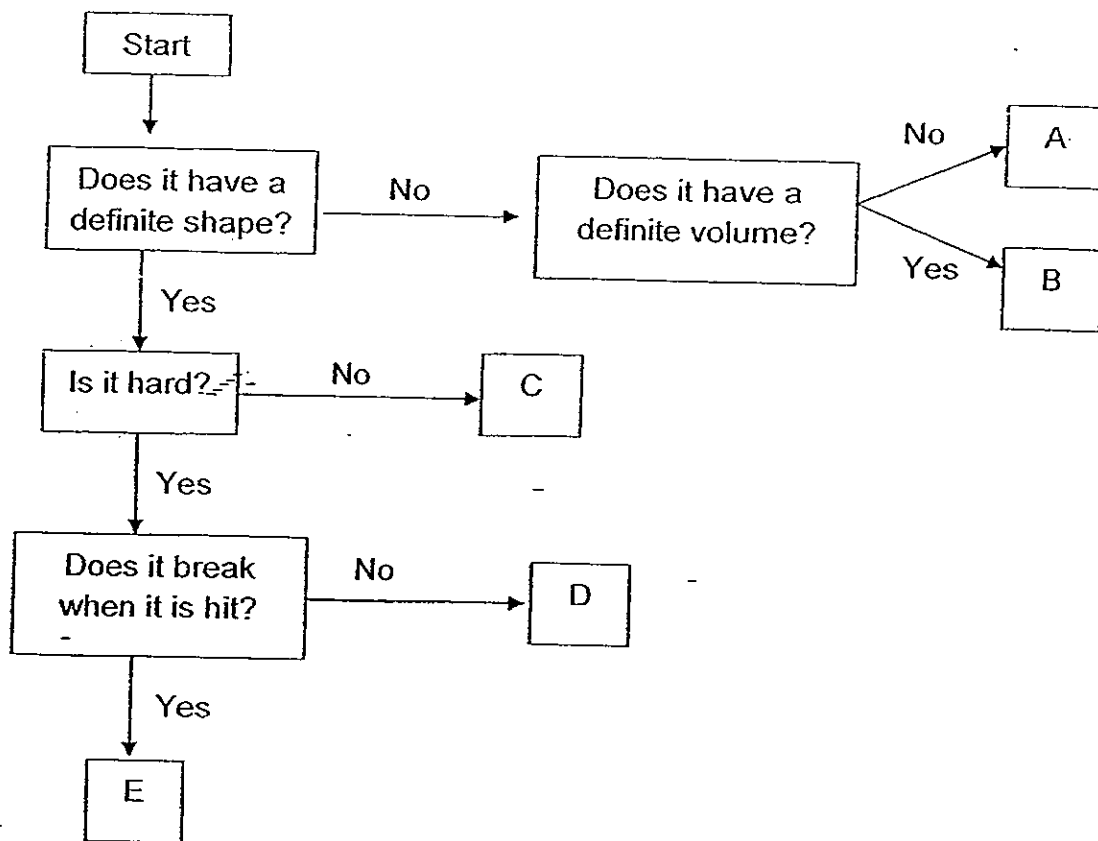
17. Harry poured equal amounts of Z into three containers as shown below and made his observation.



What is the aim of his experiment?

- (1) To find out if Z can be compressed.
- (2) To find out the state of Z at room temperature.
- (3) To find out if Z takes the shape of the container.
- (4) To find out if the rate of evaporation is affected by the exposed surface area of Z.

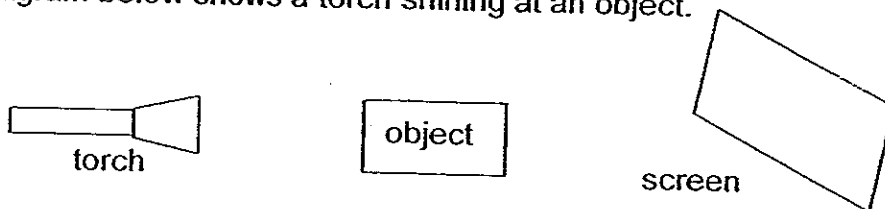
18. Look at the flow chart carefully.



Which pair of letter represents “steel ruler” and “oxygen” respectively?

	Steel ruler	Oxygen
(1)	C	B
(2)	D	A
(3)	E	C
(4)	B	E

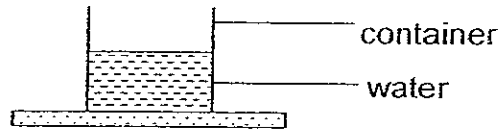
19. The diagram below shows a torch shining at an object.



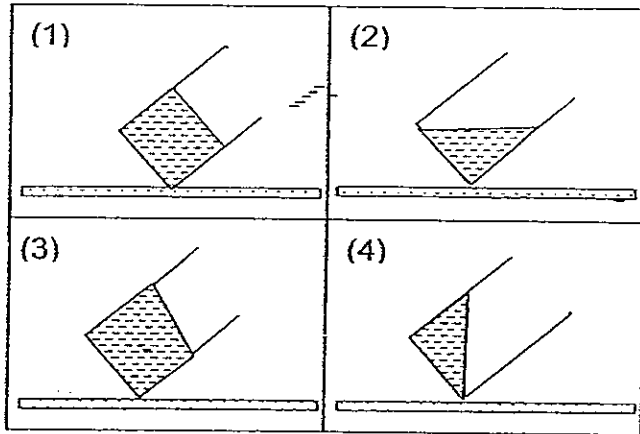
Which one of the following objects would cast the darkest shadow when a torch is shining at the object?

- (1) metal tray
- (2) frosted glass
- (3) glass beaker
- (4) tracing paper

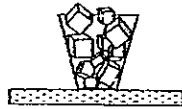
20. Some water is poured into a container as shown below. It is then tilted to one side.



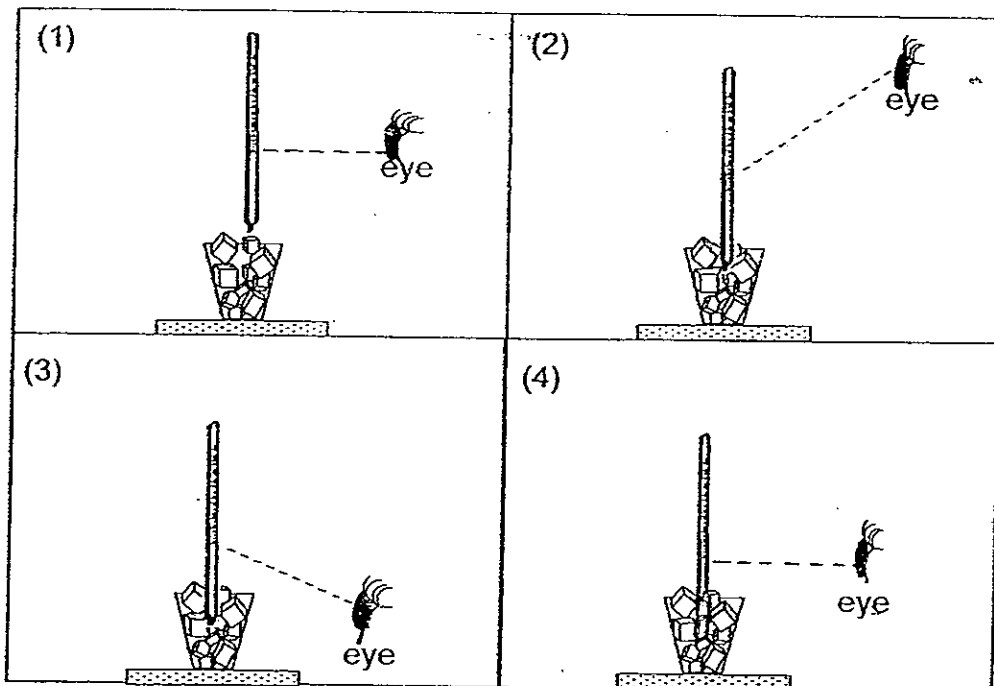
Which one of the following diagrams below shows how the water in the container should look like when the container was tilted?



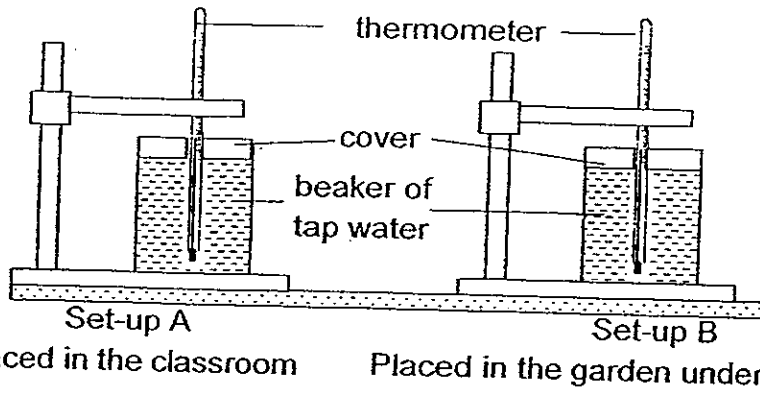
21. Ah Seng wants to find out the temperature of the beaker of ice as shown below.



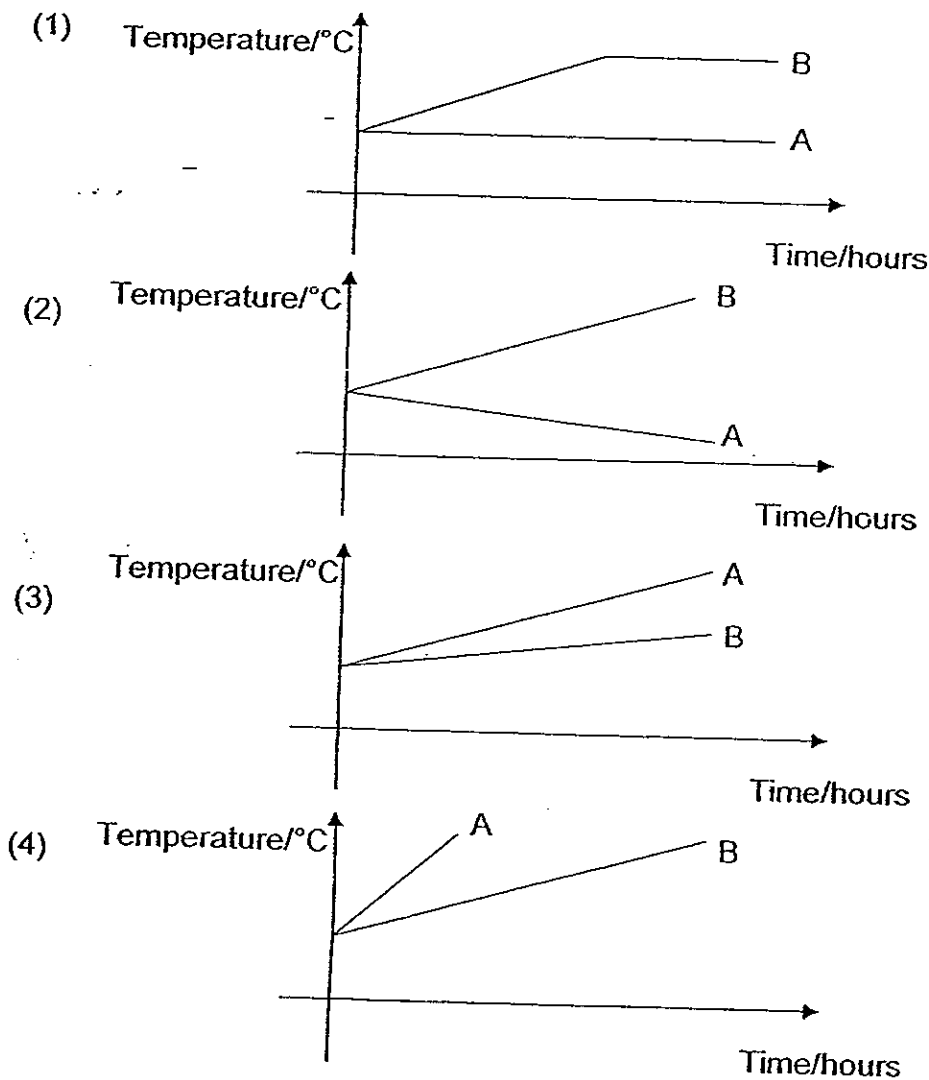
Which one of the following is the correct way to read the thermometer?



22. A thermometer was placed in each of the set-ups as shown in the diagram below. Each beaker was covered and contained equal amounts of tap water. Set-up A was left in the classroom and Set-up B was left in the garden under the hot sun. At the start of the experiment, the temperature of the tap water was taken and recorded as  $28^{\circ}\text{C}$ .



The readings of the two thermometers were recorded at regular intervals and presented in a graph. Which one of the following graphs correctly represents the temperature changes of the tap water in both set-ups?



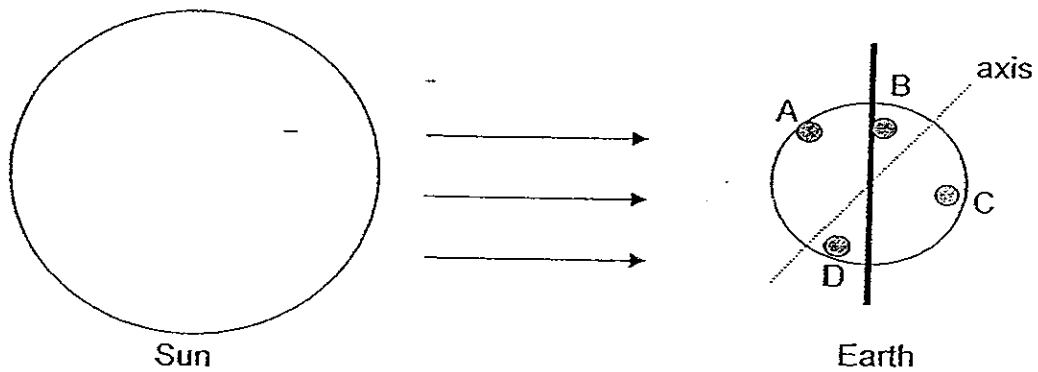
23. Study the table below.

A	B
Sun	Moon
Stars	Earth

Select suitable headings for the two groups shown above.

	A	B
(1)	Light sources	Not light sources
(2)	Satellites	Not satellites
(3)	Objects which do not give out light	Objects which give out light
(4)	Objects which move around a planet	Objects which move around a Sun

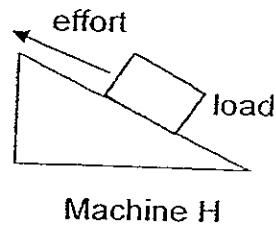
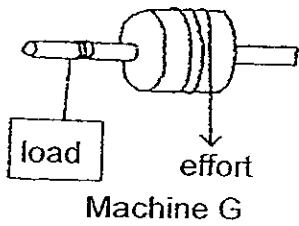
24. The diagram below shows the position of the Sun in relation to the Earth.



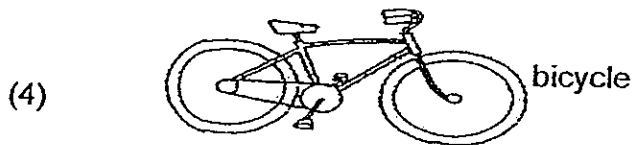
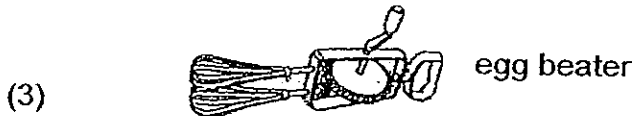
Which of the following positions A, B, C or D on Earth are experiencing night time?

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

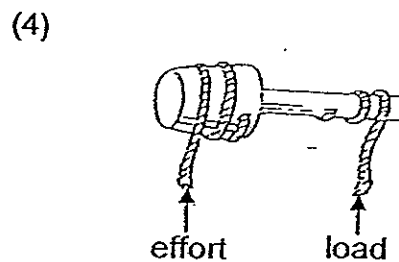
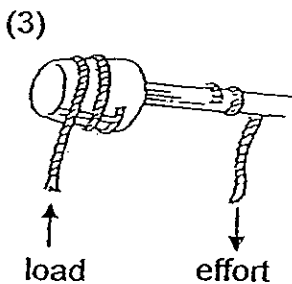
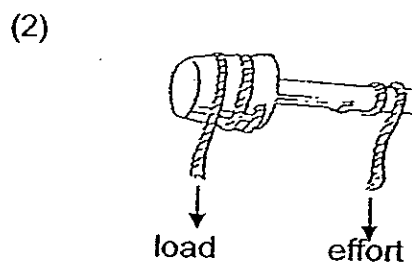
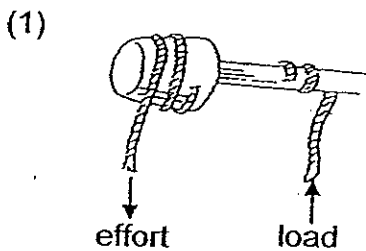
25. The diagram below shows two simple machines, G and H.



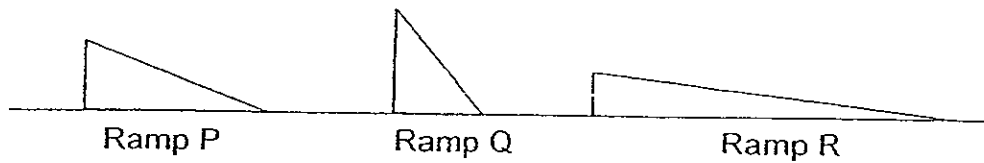
The tools that we use everyday are sometimes made up of more than one simple machines. In which one of the following tools are the two simple machines G and H used?



26. The correct use of the wheel and axle machine is shown in \_\_\_\_\_.



27. A bag of rice weighing 10kg was pulled up ramps P, Q and R.



Which one of the following correctly shows the results of the experiment?

(1)

Ramp	Effort required/kg
P	93
Q	35
R	64

(2)

Ramp	Effort required/kg
P	93
Q	64
R	35

(3)

Ramp	Effort required/kg
P	35
Q	93
R	64

(4)

Ramp	Effort required/kg
P	64
Q	93
R	35

28. Tom wants to test the three bulbs shown below for brightness.



2.5V



3.8V

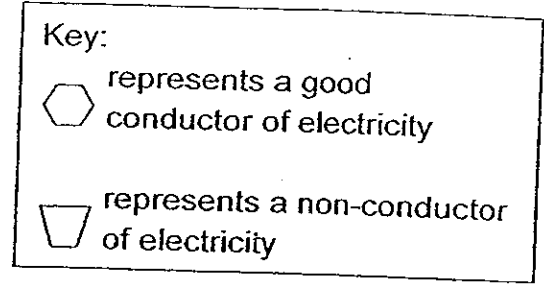
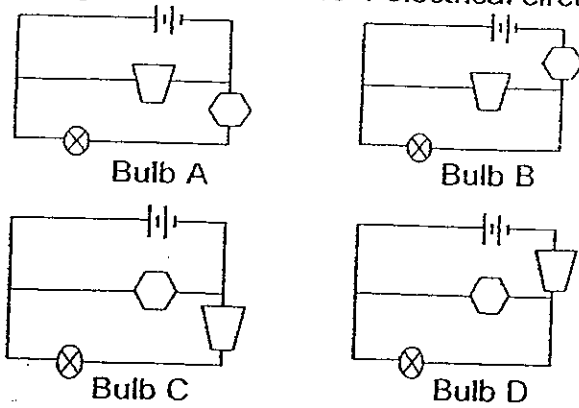


6V

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

- A Type of bulbs used
  - B Type of batteries used
  - C Arrangement of batteries
  - D Number of batteries used
- (1) A, B and C only  
 (2) A, B and D only  
 (3) A, C and D only  
 (4) B, C and D only

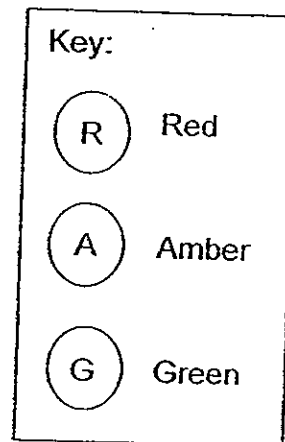
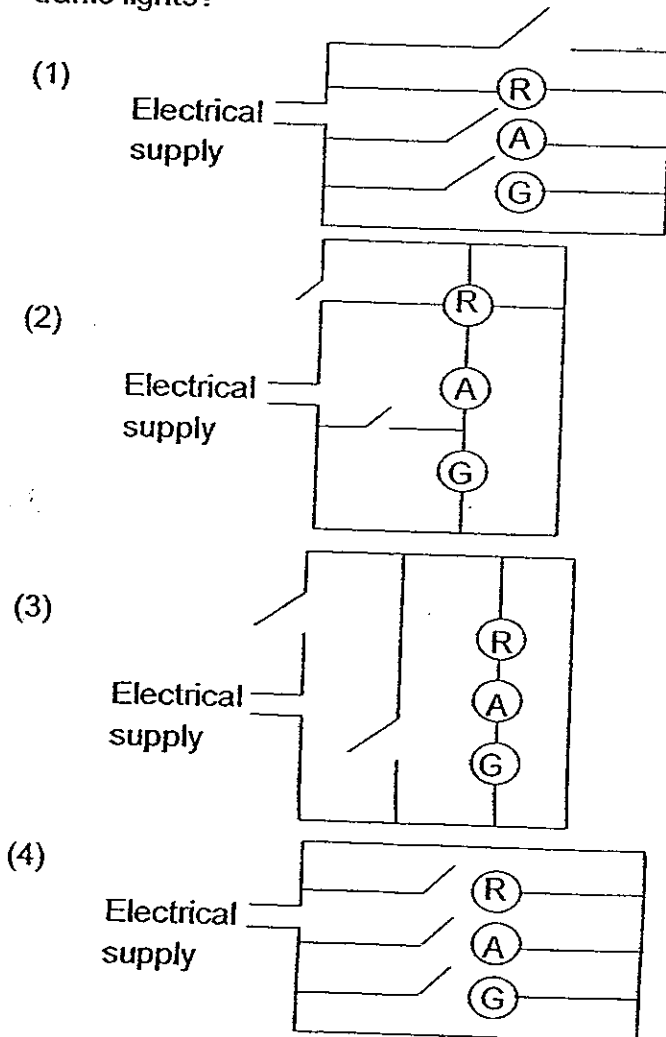
29. The diagram below shows 4 electrical circuits.



Which one of the bulbs in the circuits above will light up?

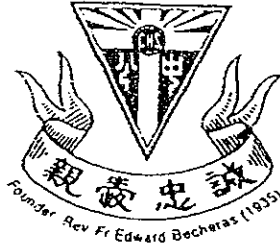
- (1) C only
- (2) A and B only
- (3) C and D only
- (4) A, B and D only

30. Which of the following circuit arrangements do you think is most likely used for traffic lights?



End of Section A





CATHOLIC HIGH SCHOOL  
PRIMARY 5  
SEMESTRAL ASSESSMENT 2  
2008  
SCIENCE  
EM 1 / EM 2

Name: \_\_\_\_\_ ( )

Class : Primary 5 \_\_\_\_\_

Date : 8 October 2008

BOOKLET B

16 Questions  
40 Marks

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

Instructions to Candidates

Follow all instructions carefully.  
Answer all questions.

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

Date: \_\_\_\_\_

Score	
Section A	60
Section B	40
Total	100

Section B: Open-Ended Questions (40 marks)

Read the following questions carefully and write your answers in the space provided. The maximum marks that can be awarded is shown at the end of each question or part-question.

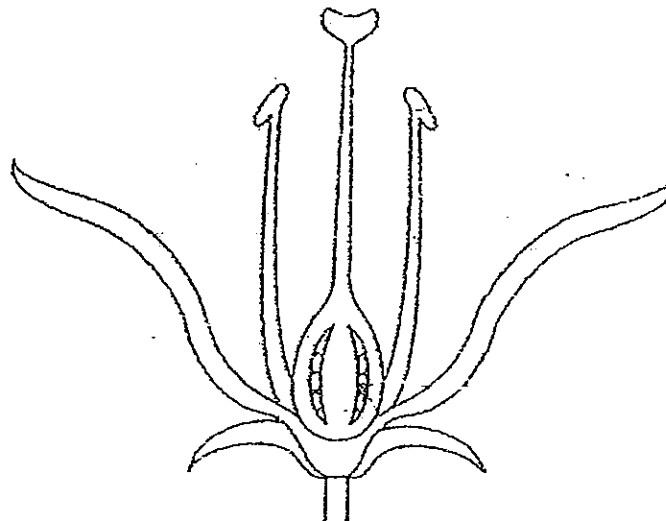
31. Study the table below.

Animals	Number of young or eggs produced each time
X	3
Y	60
Z	400

(a) Which animal above is likely to take care of its young? [1]

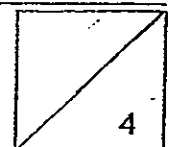
(b) Suggest a likely reason why Animal Z needs to produce so many young. [1]

32. The diagram below shows the cross section of a flower P.



(a) On the diagram above, name and label the part(s) which  
(i) produces/produce pollen grains  
(ii) will turn into seeds after pollination. [1]

(b) Looking at the diagram, Ali concluded that flower P is able to be pollinated even when the male part of the flower has been cut off. Explain why this is so. [1]



33. Rani learned that when starch is mixed with saliva, it is broken down into sugar. She wanted to test if the length of time affects this process. 4 set-ups, P, Q, R and S have been prepared as shown.

Set-ups	Amount of starch/ml	Amount of saliva/ml	Time in which starch and saliva interact/min	Temperature of mixture/°C
P	15	22	10	25
Q	10	20	15	30
R	15	20	10	25
S	15	20	10	30

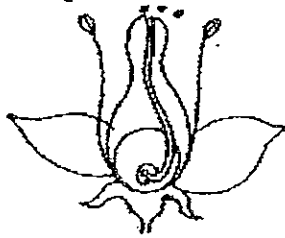
(a) Which pair of set-ups should Rani use for the experiment? [1]

(b) If Rani wants to set up a control, what is the purpose of the control for this experiment? [1]

34. The diagram below shows some organisms:



Amoeba



Flower

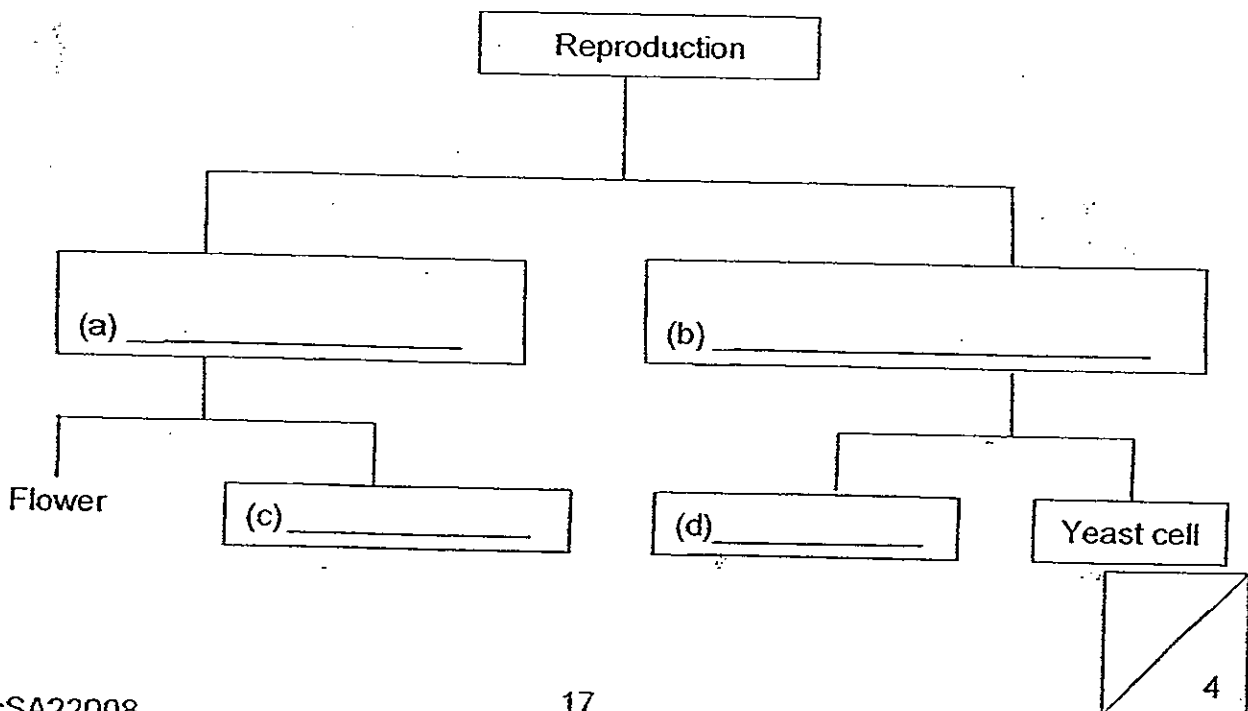


Cat

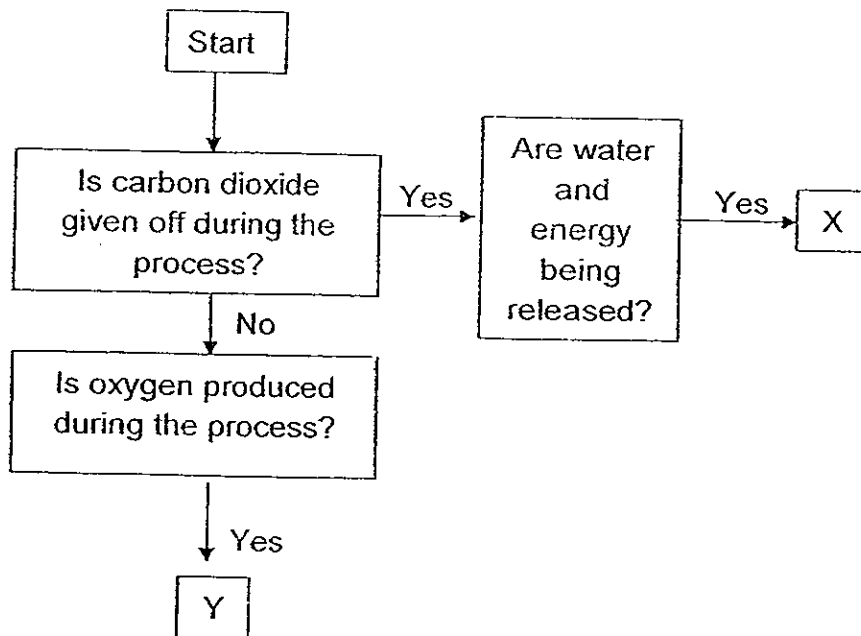


Yeast cell

Complete the classification table using the given organisms above. [2]



35. Look at the following flowchart.



(a) Name the two processes X and Y that occur in a plant. [1]

X \_\_\_\_\_

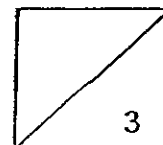
Y \_\_\_\_\_

(b) What are the raw materials required for Y to take place? [1]

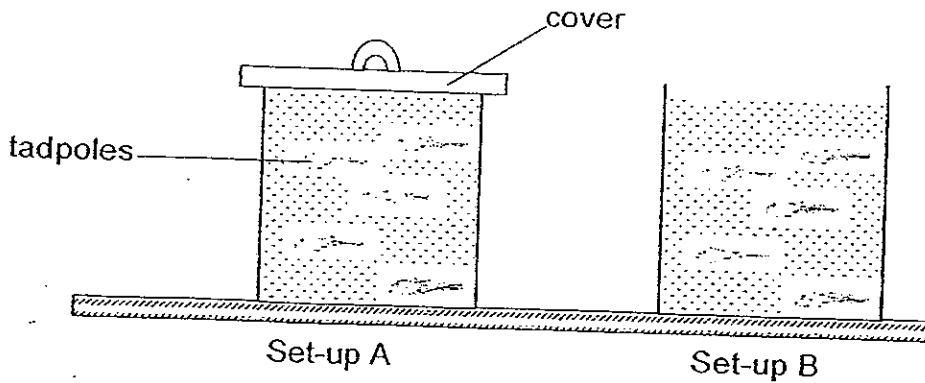
\_\_\_\_\_

(c) Based on the flow chart above, what is one difference between these two processes? [1]

\_\_\_\_\_



36. Jaswinder had the following set-ups in her experiment. Both set-ups were given the same amount of food, water and placed in the same location near the window.



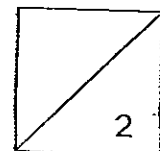
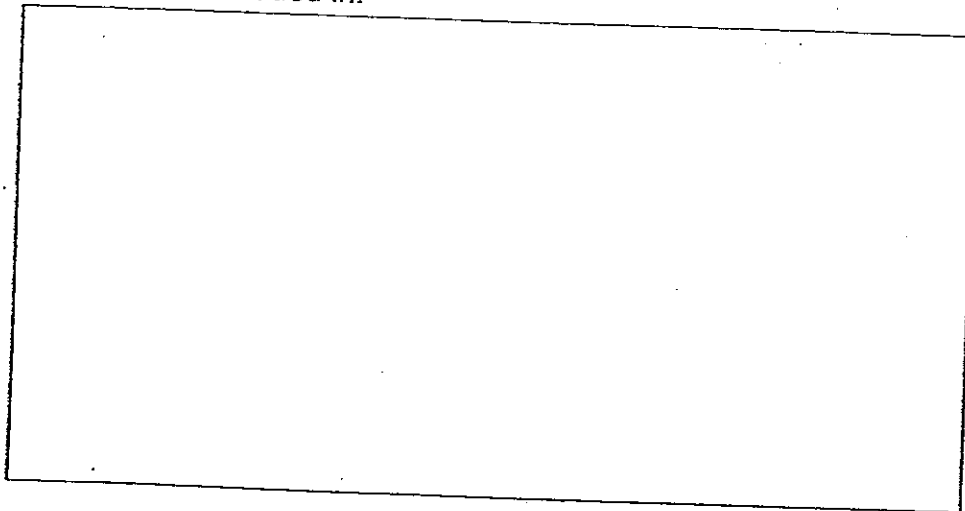
(a) If the tadpoles in Set-up A died faster than those in Set-up B, what is the conclusion in this experiment?

[1]

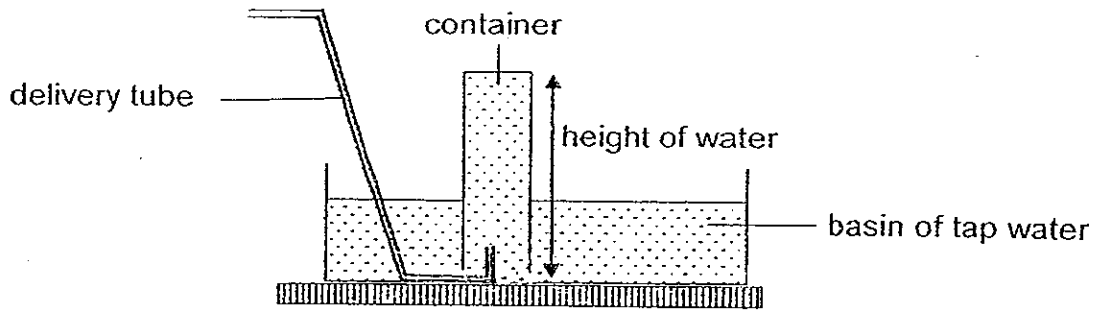
(b) After all the tadpoles had died in Set-up A, Jaswinder added new tadpoles again and an organism. She observed that all the organisms grew well in the improved Set-up A.

In the box below, draw and label the diagram to show the improved Set-up A when the organism was added in-

[1]



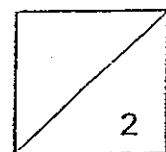
37. Mukesh and Nasreen filled a basin with tap water. They then each took a deep breath and blew into the delivery tube as shown in the set-up below.






The results of the experiment are as follows

	Height of water in the container /cm
Mukesh	3.5
Nasreen	4.8

- (a) What is the main reason why the water level in the container goes down when Mukesh and Nasreen blew into the delivery tube? [1]
- \_\_\_\_\_
- (b) Given that Mukesh and Nasreen used the same delivery tube and container for the above experiment, state 2 more variables that must be kept the same. [1]
- (i) \_\_\_\_\_
- (ii) \_\_\_\_\_



38. The following are some cells as seen under a microscope and their main comparison as shown in the table below.

Cell type	Nucleus	Cell Wall	Cytoplasm
Cell X 	Present	Absent	Present
Cell Y 	Absent	Absent	Present
Cell Z 	Absent	Present	Absent

(a) Which of the above cell types are animal cells? [1]

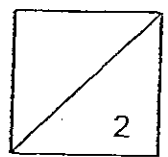
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(b) Explain your answer in (a). [1]

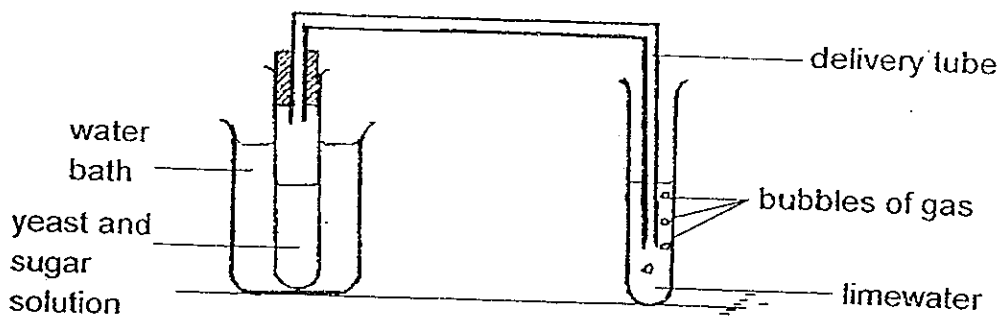
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39. A large test tube containing yeast and sugar solution was set up as shown below. The bubbles of gas produced are passed through a delivery tube into a test tube of limewater.

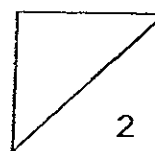
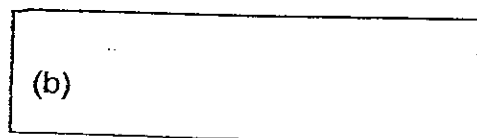
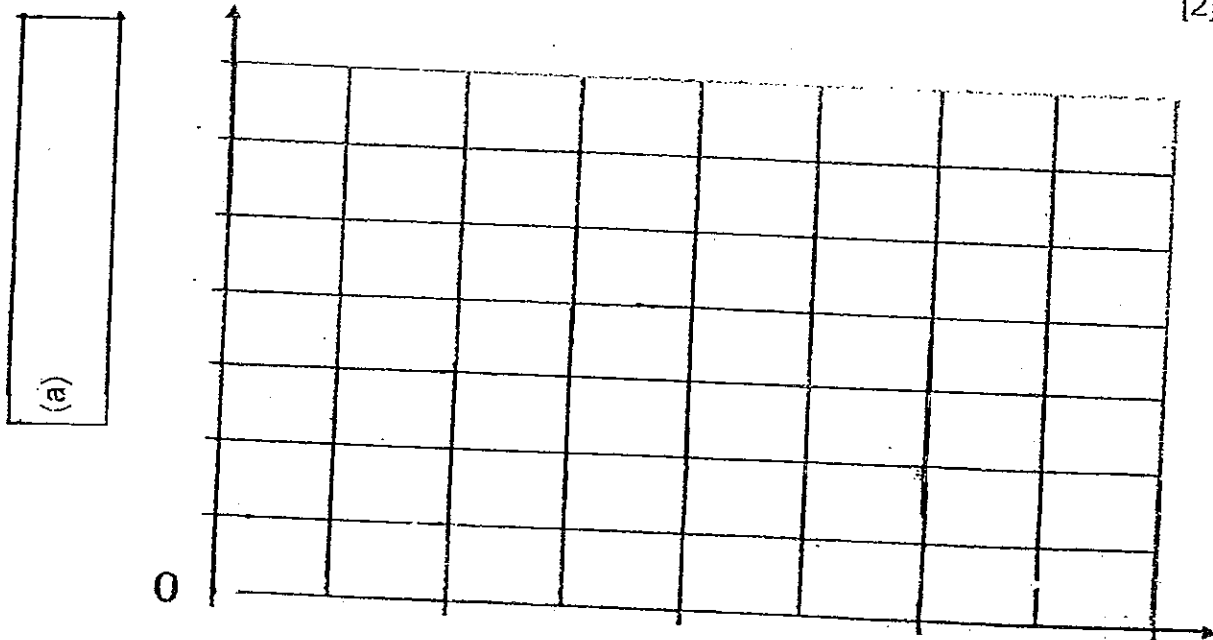


The number of bubbles of gas produced by the water bath of different temperatures was counted and recorded in the table below.

Temperature/ $^{\circ}\text{C}$	Number of bubbles/minute
10	5
20	10
30	15
40	20
50	15
60	10

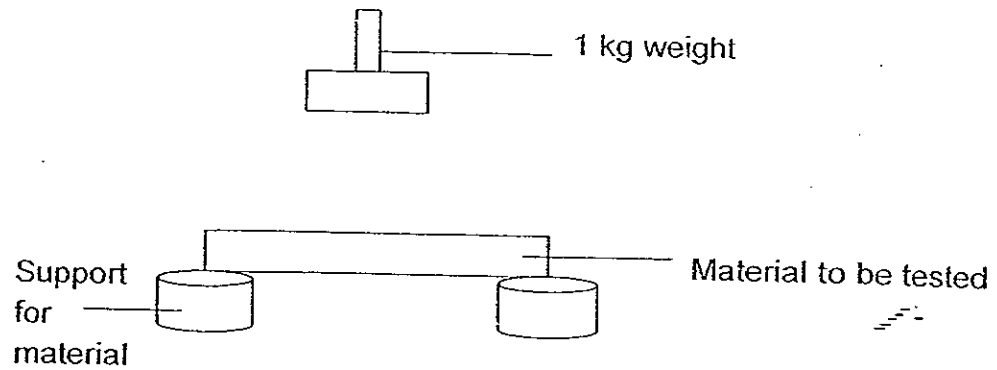
Label the axes on the graph below and plot a line graph based on the observations given above.

[2]





40. Tom dropped a 1 kg weight on 5 different materials from a fixed height as shown in the diagram below.



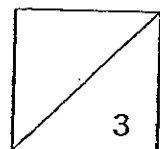
He noted the number of times the weight was dropped before the materials broke into 2 pieces. The results are as shown below.

Material tested	Number of times the weight was dropped
P	48
Q	37
R	64
S	23
T	51

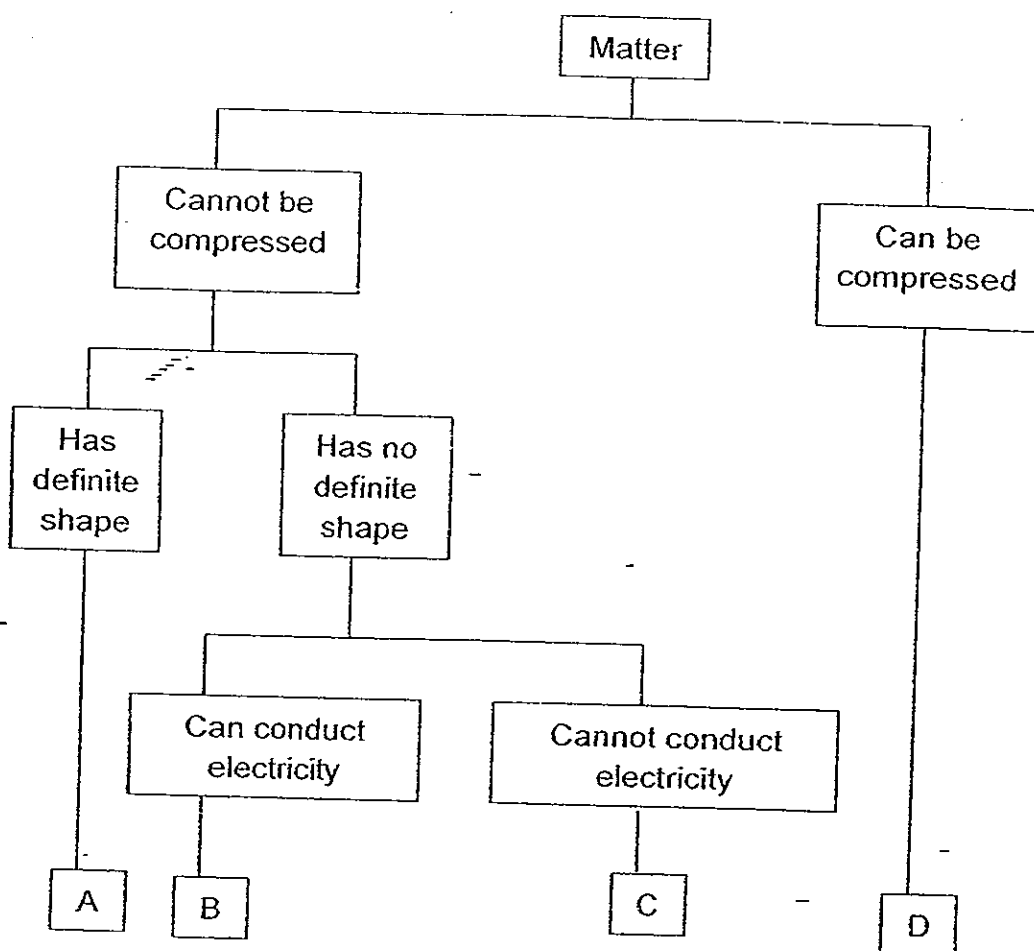
- (a) What was Tom trying to find out? [1]
- 

- (b) Some statements were made based on the above experiment. Put a tick ( $\checkmark$ ) under the correct heading to indicate if the statements are True, False or Not possible to tell in the table below. [2]

	Statements	True	False	Not Possible To Tell
(i)	Material T is a metal.			
(ii)	Material P is stronger than Material R.			
(iii)	Material T is hard enough to scratch material Q.			
(iv)	Material S would be the first one to break if a 2 kg weight is used to repeat the experiment.			



41. Look at the following table.



(a) Which of the following letters A, B, C or D can represent

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

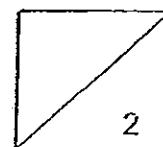
[1]

(ii) iron nail \_\_\_\_\_

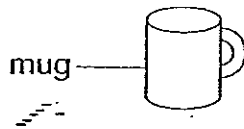
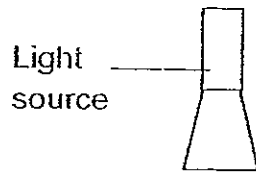
(b) A 1-litre bottle contains  $800 \text{ cm}^3$  of Substance D (as described in the table above) and  $200 \text{ cm}^3$  of oil. If another  $100 \text{ cm}^3$  of Substance D is added to the bottle, what is the volume of Substance D in the bottle now?

The new volume of Substance D is \_\_\_\_\_  $\text{cm}^3$ .

[1]

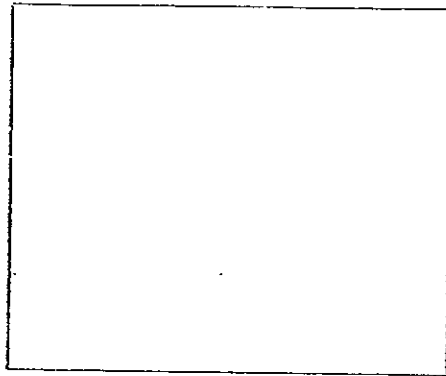


42. A mug was placed directly below a light source to cast a shadow as shown below.



(a) Draw the shadow of the mug in the box provided below.

[1]

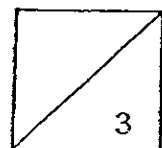


(b) The light source is now moved nearer to the mug. How would the shadow formed now be different from the shadow formed in part (a)?

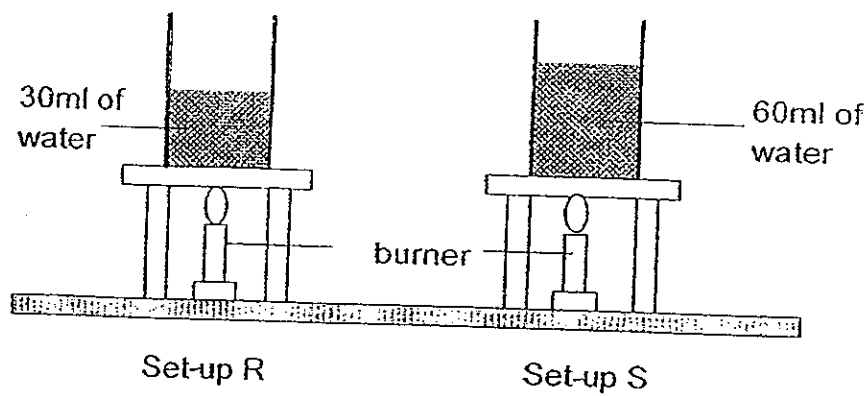
[1]

(c) How is a shadow formed on the screen?

[1]



43. An experiment was carried out as shown below.



The water in both beakers is heated at the same time and left to boil.

(a) What is the similarity in the temperature of water for both set-ups? [1]

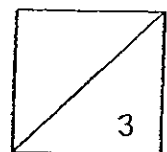
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(b) What is the difference in the amount of heat energy in the water for both set ups at the end of the experiment? [1]

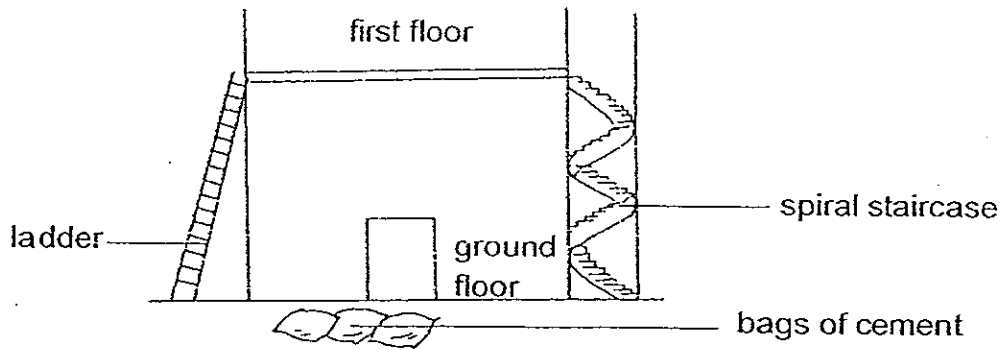
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(c) Explain your answer in (b). [1]

---



44. Ah Meng has to carry some bags of cement from the ground floor to the first floor as shown in the picture below.



(a) To complete the task of carrying the bags of cement more easily, should Ah Meng use the ladder or the spiral staircase? [1]

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(b) Give a reason for your answer in (a). [1]

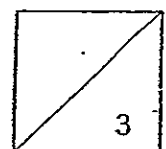
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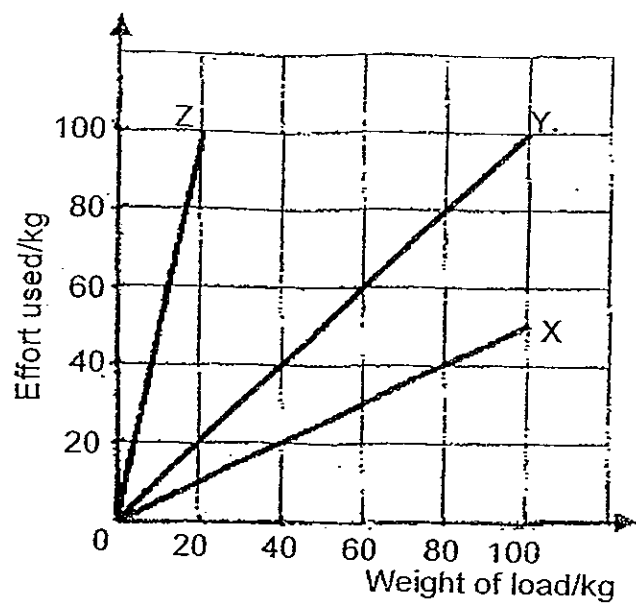
(c) What is one disadvantage of using the spiral staircase to carry the bags of cement? [1]

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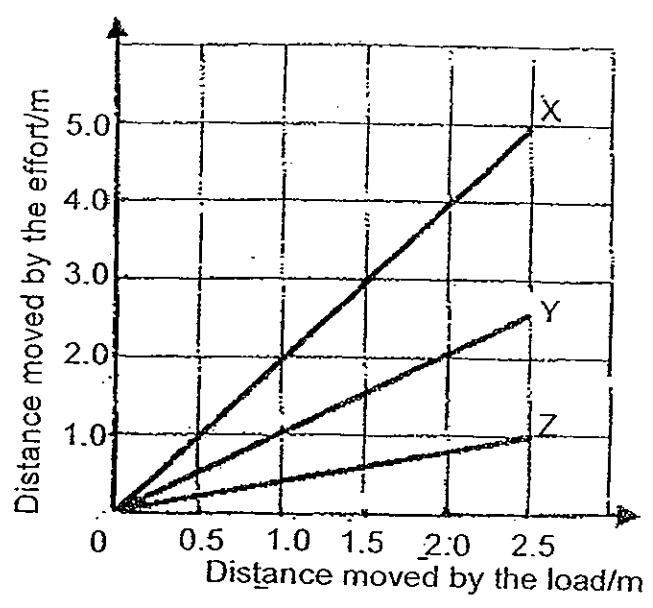
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45. Ismail used three different simple machines X, Y and Z to move different loads. He recorded the weight of the load, the amount of effort used and the distances moved by the effort and load. Then he plotted the following graphs.



Graph J



Graph K

(a) Give an example of a simple machine that Y could be. [1]

\_\_\_\_\_

(b) Based on Graph J, compare the amount of effort when Machines X and Y were used to move the different loads. [1]

\_\_\_\_\_

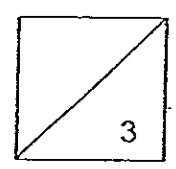
\_\_\_\_\_

\_\_\_\_\_

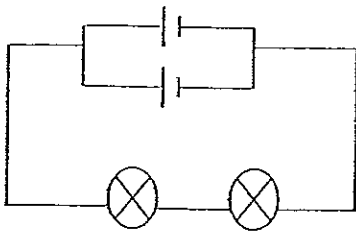
(c) Which one of the above simple machines would Ismail use [1]

(i) to work faster Machine \_\_\_\_\_

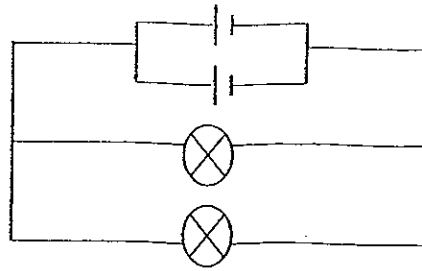
(ii) to carry heavy loads Machine \_\_\_\_\_



46. Two circuits A and B have been set up as follows.

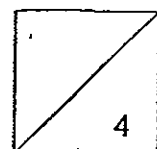
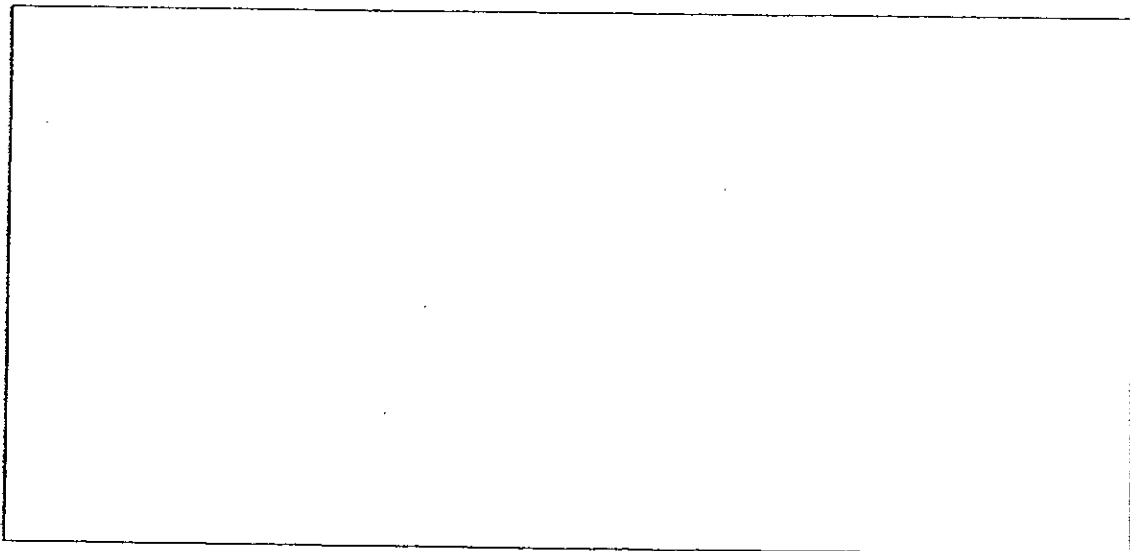


Circuit A



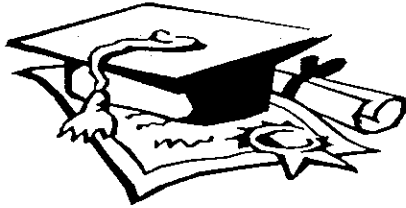
Circuit B

- (a) What is one similarity between Circuit A and B in terms of their arrangement? [1]
- 
- (b) What is one differences between Circuit A and B in terms of their brightness? [1]
- 
- (c) What is one disadvantage Circuit B has over Circuit A? [1]
- 
- (d) Using the same items and arrangement of bulbs as in Circuit A above, draw a circuit diagram in the box provided below to show how the brightness of the bulb can be increased. [1]









# ANSWER SHEET

EXAM PAPER 2008

SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL  
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA 2

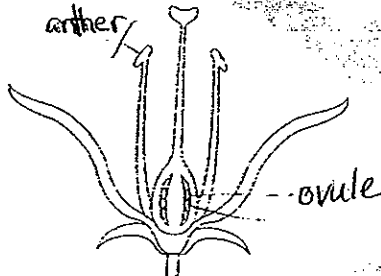
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
4	2	4	4	1	4	3	4	2	2	4	3	1	4	3	3	3

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

31)a)X

b)Some of the young may not survive.

32)a)



b)Other plants of the same kind have anther to produce pollen grain for flower P.

33)a)Q and S

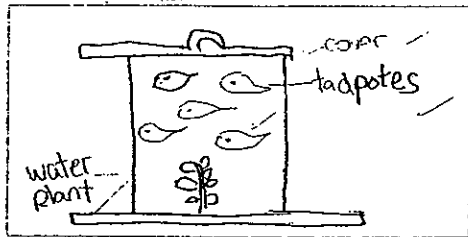
b)IT is to find out if the length of time affects the process in which starch and saliva interact.

34)a)Sexual    b)Asexual    c)Cat    d)Amoeba

- 35)a)X: Respiration  
 Y: Photosynthesis  
 b)Carbon dioxide and water.  
 c)Carbon dioxide is given out during respiration but it is not given out during photosynthesis.

36)a)tadpoles need oxygen to survive.

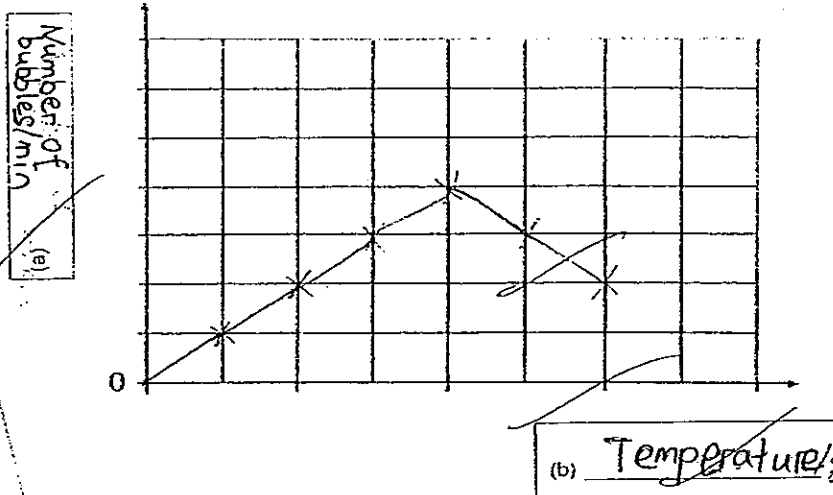
b)



- 37)a)Air takes up the space in the container.  
 b)i)Same amount of water in the container.  
 ii)Same basin.


- 38)a)Cell X and Y.  
 b)They have no cell wall and no fixed shape.

39)



- 40) a) He was trying to compare the strength of the different materials.  
 b) i) Not possible to tell.  
 ii) False.  
 iii) Not possible to tell.  
 iv) True.

- 41) a) i) B    ii) A  
 b) 800

- 42) a) 

- b) It would be bigger.  
 c) It is formed when light is blocked by an opaque object.

- 43) a) The temperature of water for both set-ups is  $100^{\circ}\text{C}$ .  
 b) The amount of heat energy for set-up S is twice that for set-up R.  
 c) Both set-ups have the same temperature but the volume of water in set-up S is twice that in set-up R.

- 44) a) Spiral staircase.  
 b) Ah Meng would use less effort.  
 c) The effort has to move a longer distance.

- 45) a) A fixed pulley.  
 b) The amount of effort used was the same as the load when machine X was used but the amount of effort used was half the load when machine Y was used.  
 c) i) Z    ii) X

- 46) a) Their batteries are in parallel.  
 b) Circuit B is brighter than circuit A.  
 c) The batteries in circuit B will be used up faster than circuit A.  
 d)

