CATHOLIC HIGH SCHOOL
PRIMARY 5
SEMESTRAL EXAMINATION 1
2008

SCIENCE

Name:_____( )

Class : Primary 5 _____

Date : 8 May 2008

BOOKLET A

30 Questions
60 Marks

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

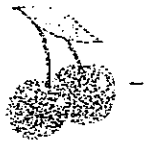
Instructions to Candidates

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 correct answer. Make your choice (1, 2, 3 or 4) on the Optical Answer Sheet.

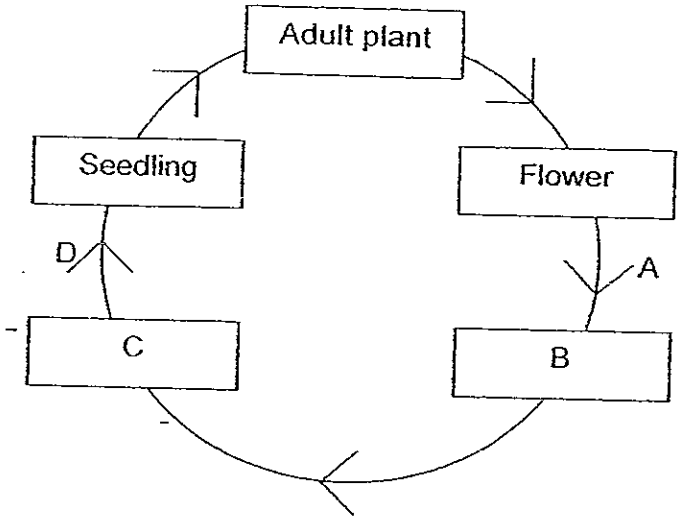
1. The fruits shown below are classified according to their methods of dispersal.

Group A	Group B	Group C
 fruit of spear grass	 lalang	 nipah
 cherry	 angsana	 pong pong

Which one of the following sets of fruits has been classified correctly?

	Group A	Group B	Group C
(1)	tomato	rubber	balsam
(2)	coconut	love grass	water lily
(3)	mimosa	kapok	lalang
(4)	chilli	shorea	lotus

2. The diagram below shows the stages of growth of a plant.



Which one of the following shows the correct representation of A, B, C and D?

	A	B	C	D
(1)	Germination	Fruit	Seed	Dispersal
(2)	Fertilisation	Fruit	Seed	Germination
(3)	Dispersal	Seed	Fruit	Pollination
(4)	Pollination	Seed	Fruit	Fertilisation

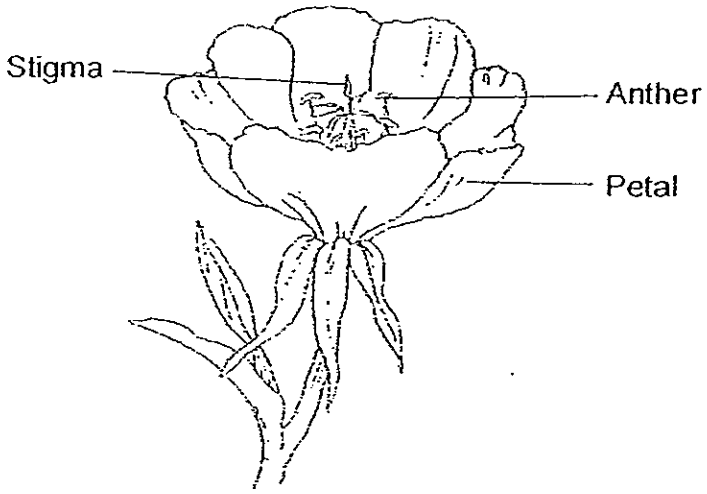
3. Jenny and her friends carried out an experiment using two shorea fruits. These were the steps they took.

A Collect two shorea fruits.
B Cut off the wing-like structure of one fruit.
C Drop both fruits from the same height and record the time taken for each fruit to reach the ground.
D Repeat the experiment three times.

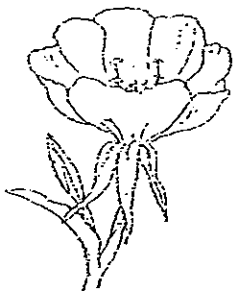
They were trying to find out _____.

(1) the strength of the wind
(2) the direction of the wind
(3) if the distance travelled by the shorea fruit depended on the wind
(4) if the wing-like structure of the shorea fruit helped it to stay in the air longer

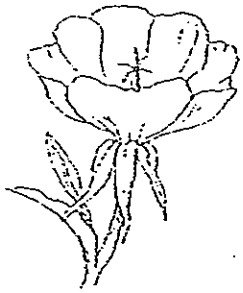
4. The diagram below shows a flower with both male and female parts.



A group of pupils wanted to find out if a fruit will develop when a certain part of the flower is removed. They removed different parts of three identical flowers, A, B and C, of the same plant as shown below.



Flower A



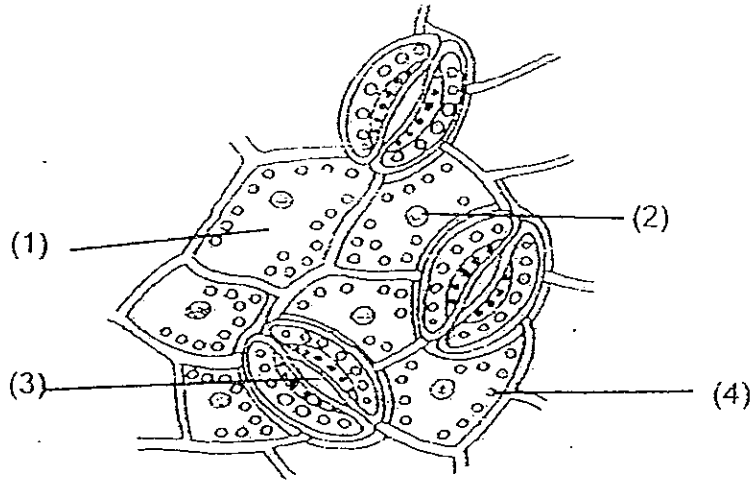
Flower B

Flower C

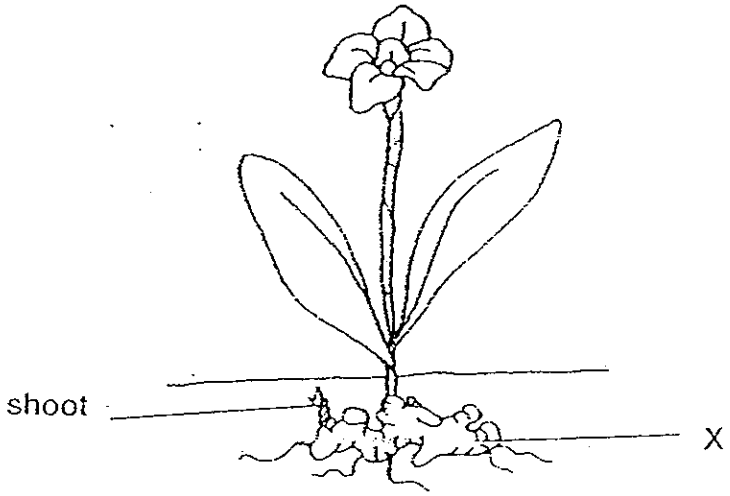
They then dusted the pollen grains from the same type of flower over flowers A, B and C. They observed the flowers for two weeks. Which of the flowers will most likely develop into a fruit?

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

5. The diagram below shows a magnified picture of the underside of a leaf. Which part of the leaf allows it to exchange gases with the surroundings?



6. This is picture of a canna plant.

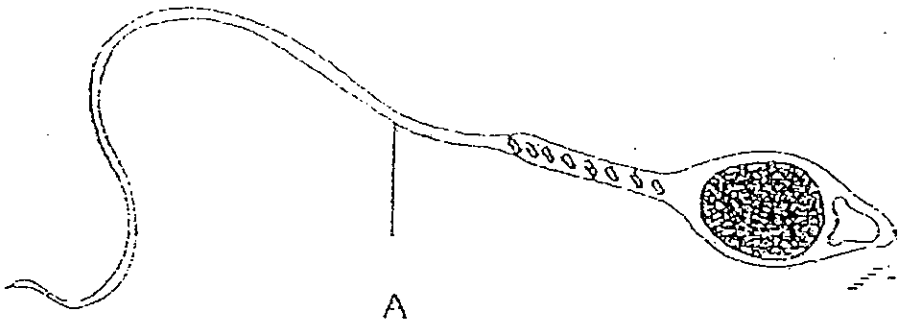


The part of the plant marked 'X' is useful to the plant because it _____.

A protects the plant
B anchors the plant
C stores food for the plant
D has buds that grow into a new plant

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

7. The diagram below shows a simplified diagram of a sperm cell.



The function of the part labelled A is to _____.

(1) protect the sperm
(2) balance the sperm
(3) help the sperm to move
(4) provide the sperm with food

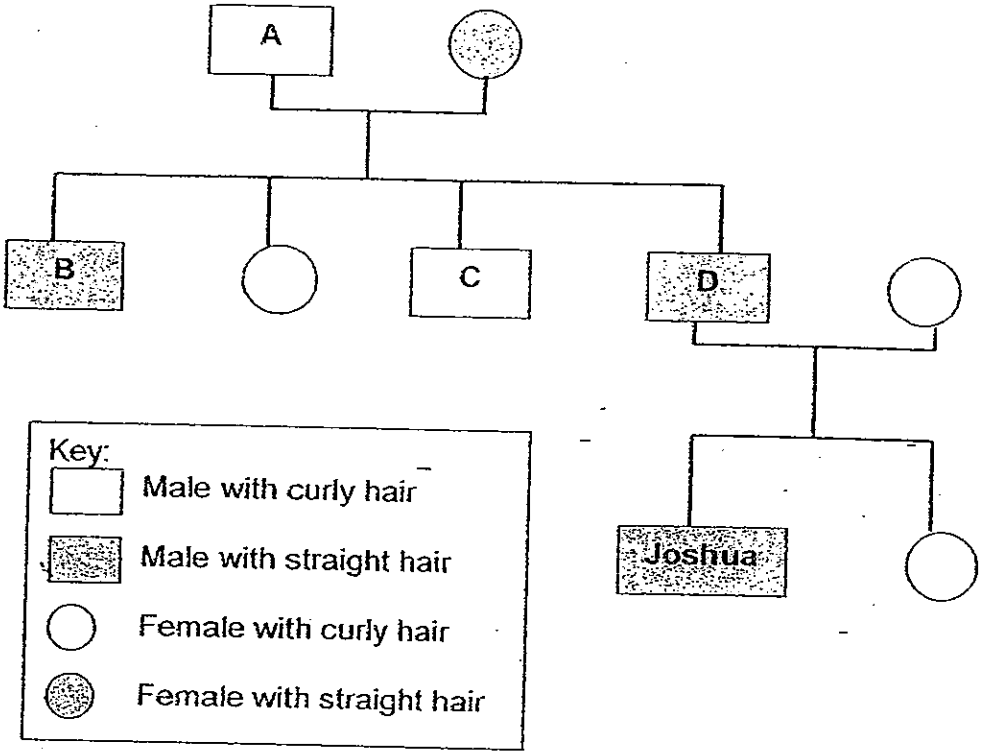
8. The following table shows the comparison between the sexual reproduction in humans and plants.

	Plants	Humans
Female reproductive cell	X	Z
Male reproduction cell	pollen grains	sperm
After fertilization	Y	A baby is formed

What are the missing information in the table above.

	X	Y	Z
(1)	Egg	Seeds are formed	ovum
(2)	Ovary	Fruits are formed	ovary
(3)	Stigma	Fruits are formed	ovum
(4)	Egg	Seeds are formed	ovary

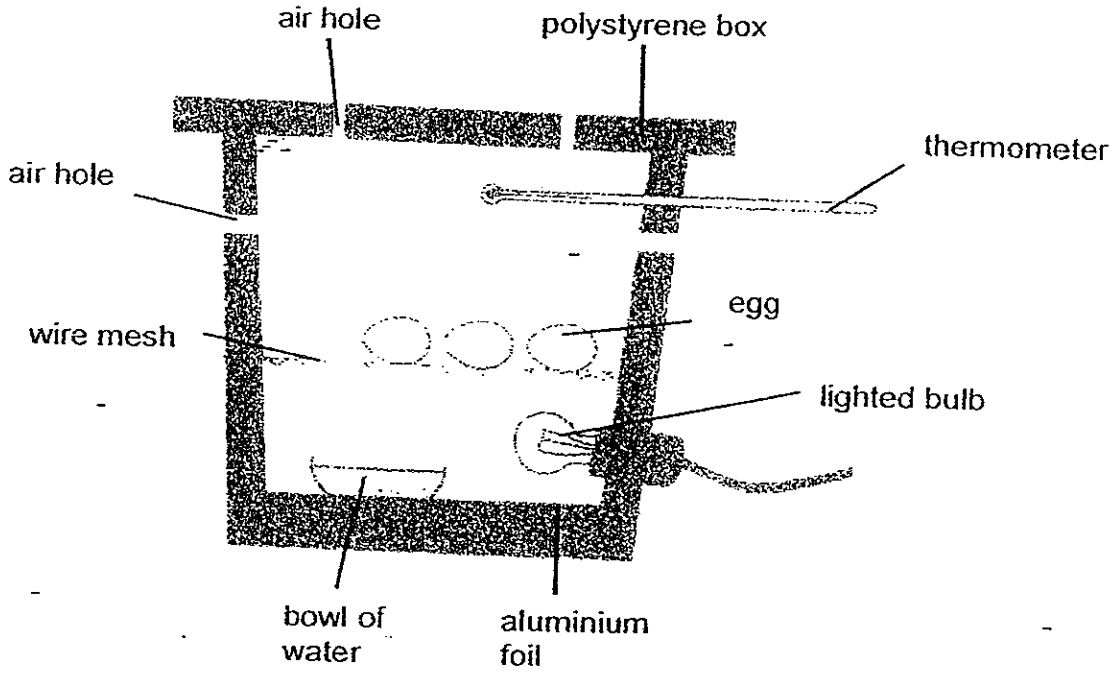
9. The diagram below shows a part of Joshua's family tree.



Which one of the following represents Joshua's uncle who has curly hair?

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

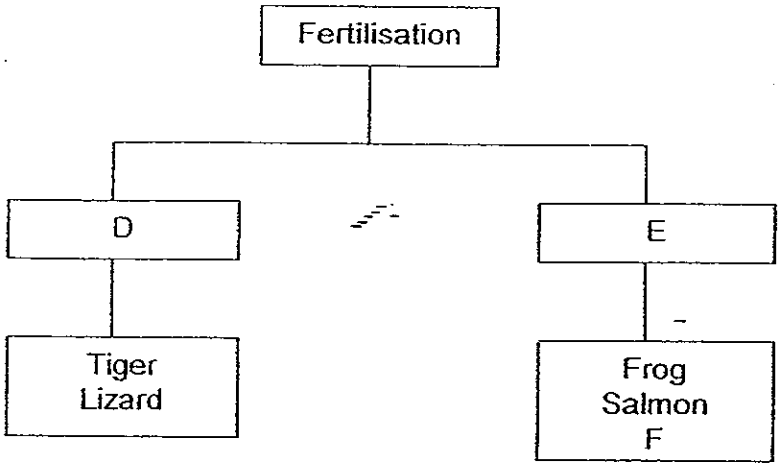
10, A few pupils constructed a simple incubator as shown in the diagram. They bought some hen's eggs from a market and placed three of them inside the incubator. They observed the eggs for 21 days. However, at the end of the period, the eggs did not hatch into chicks.



What could be the reasons why the eggs did not hatch?

(1) There is air in the incubator.
(2) The eggs were not fertilised.
(3) The temperature was just right.
(4) There is not enough water in the bowl.

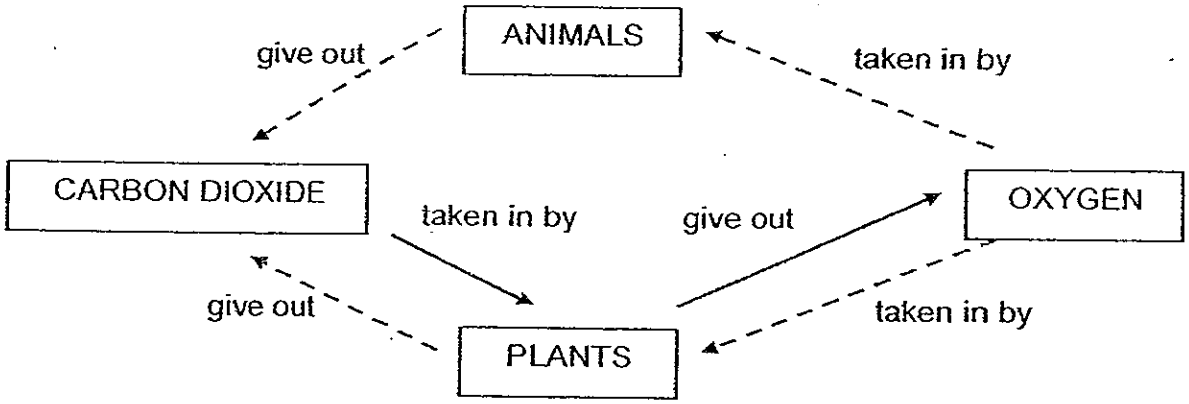
11. Study the classification table below.



Which of the following would complete the classification table?

	D	E	F
(1)	Internal	External	Toad
(2)	External	Internal	Toad
(3)	Internal	Internal	Dog
(4)	External	External	Dog

12. Study the diagram below carefully.

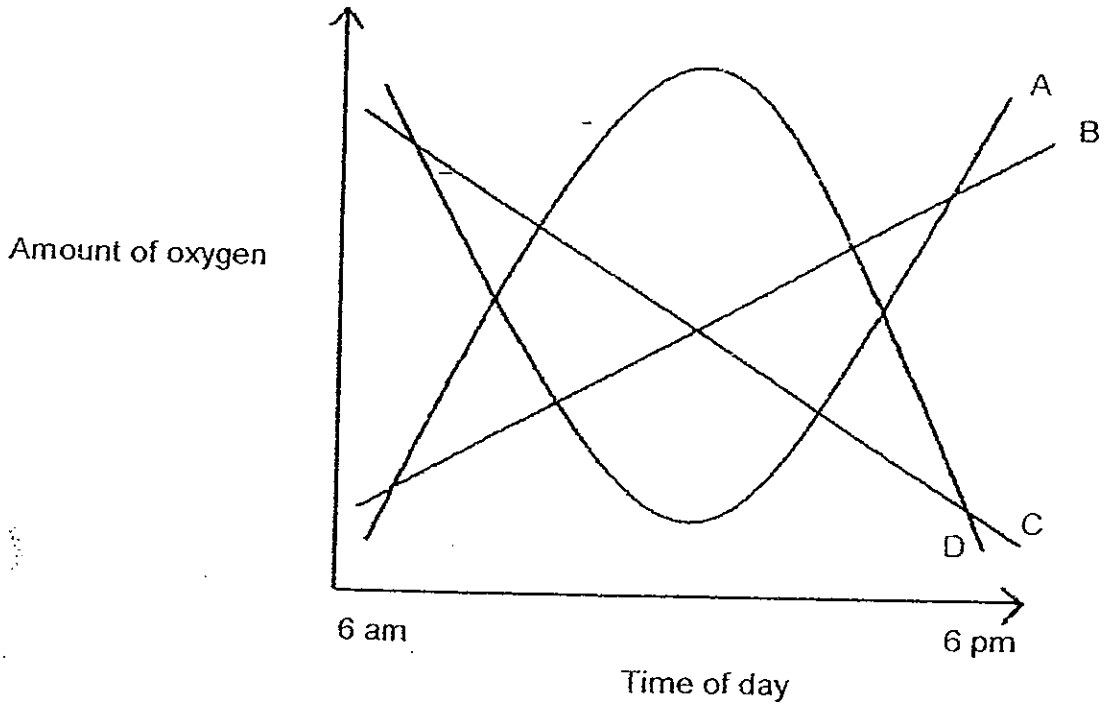


When does the process, indicated by the arrows in broken lines (- - - ▸) take place?

(1) All the time
(2) Only at night
(3) Only in the day
(4) Only in the presence of light

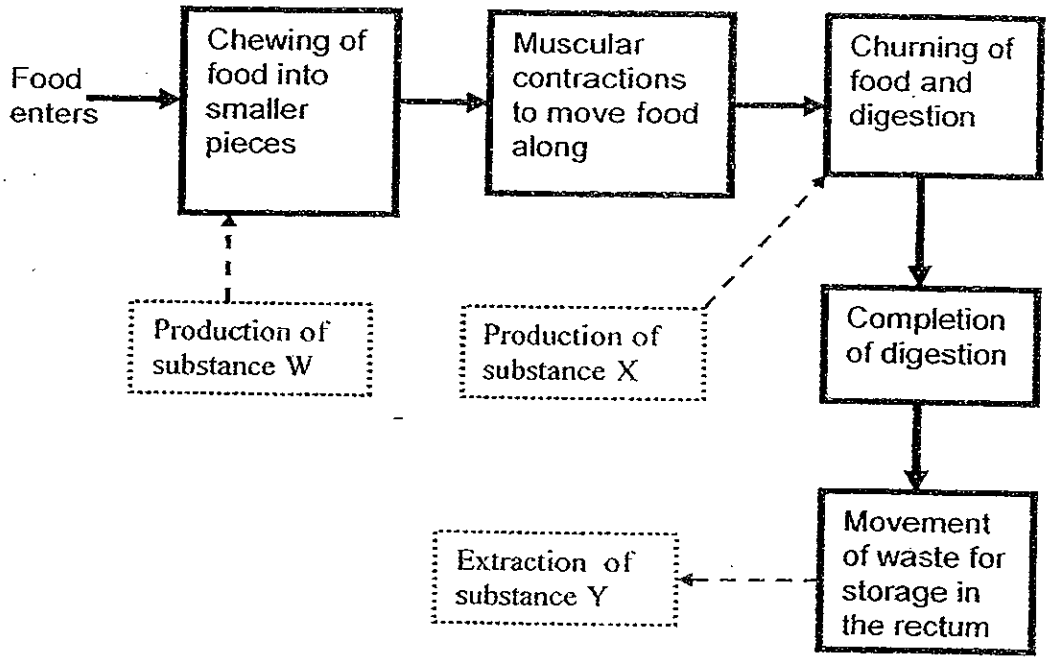
13. Some green plants were placed in a closed glass jar and left by an open window.

Which one of the following graphs will show the amount of oxygen found in the glass jar from 6 am to 6 pm?



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

14. The flow chart below shows the processes involved in the human digestive system.

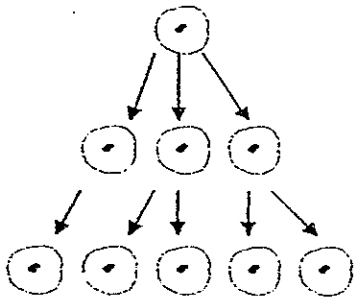


Based on the information above, what are substances W, X and Y respectively?

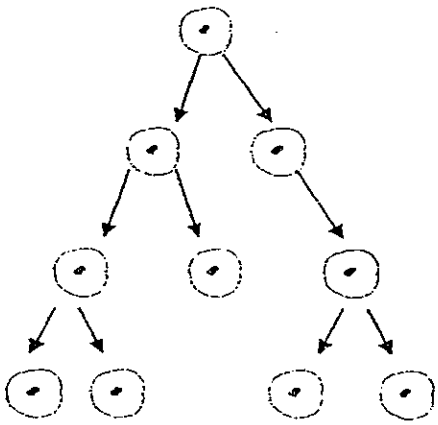
	Substance W	Substance X	Substance Y
(1)	digestive juice	saliva	water
(2)	digestive juice	saliva	nutrients
(3)	saliva	digestive juice	nutrients
(4)	saliva	digestive juice	water

15. Which one of the diagrams shows the correct division of a healthy cell to form new cells?

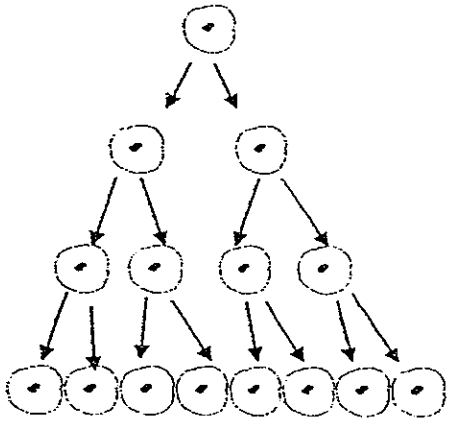
(1)



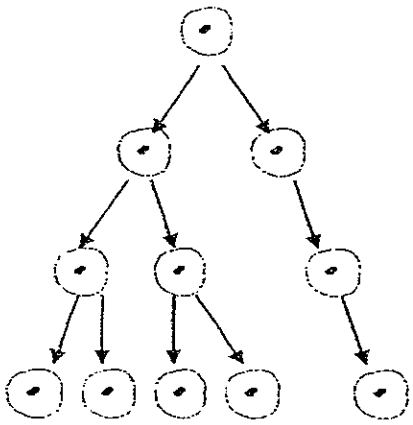
(2)



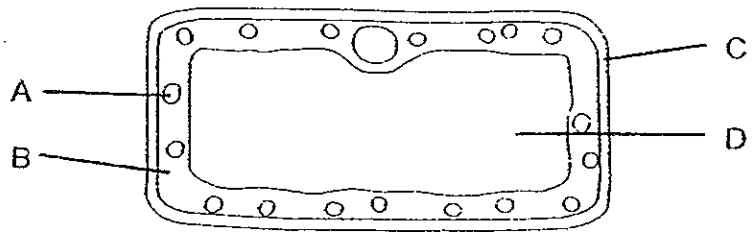
(3)



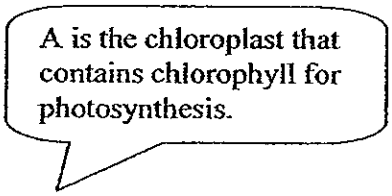
(4)



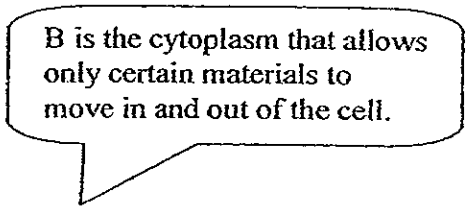
16. Ben, Simon, Maggie and Jenny were asked to study the diagram of a cell below.



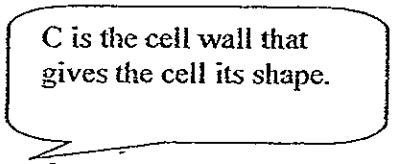
Each child selected a labelled part of the cell and gave a comment on the part. Who made the correct comment(s)?



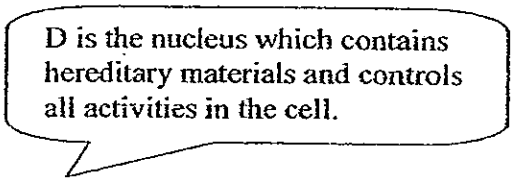
Ben



Simon



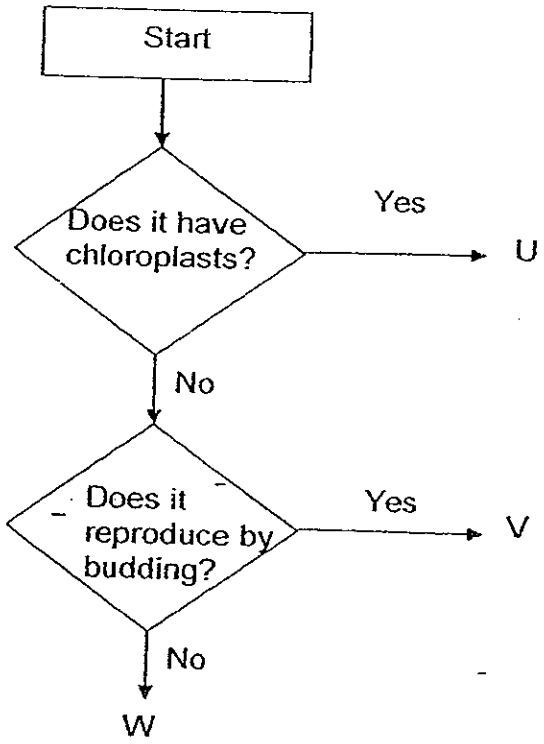
Maggie



Jenny

(1) Ben only
(2) Ben and Simon only
(3) Ben and Maggie only
(4) Jenny and Maggie only

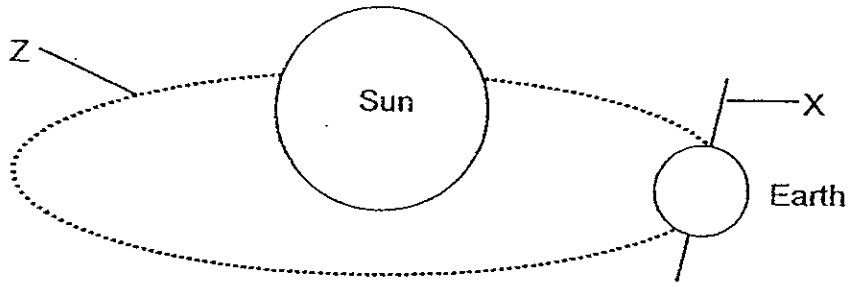
17. Study the flowchart provided below.



Which of the following options best represents U, V, W respectively?

	U	V	W
(1)	Moss	Amoeba	Bacterium
(2)	Fern	Yeast	Algae
(3)	Cactus	Yeast	Amoeba
(4)	Mushroom	Yeast	Paramecium

18. The diagram shows a model of the Sun and the Earth.



If Earth had completed one round along path Z, it would have made _____ turns about X.

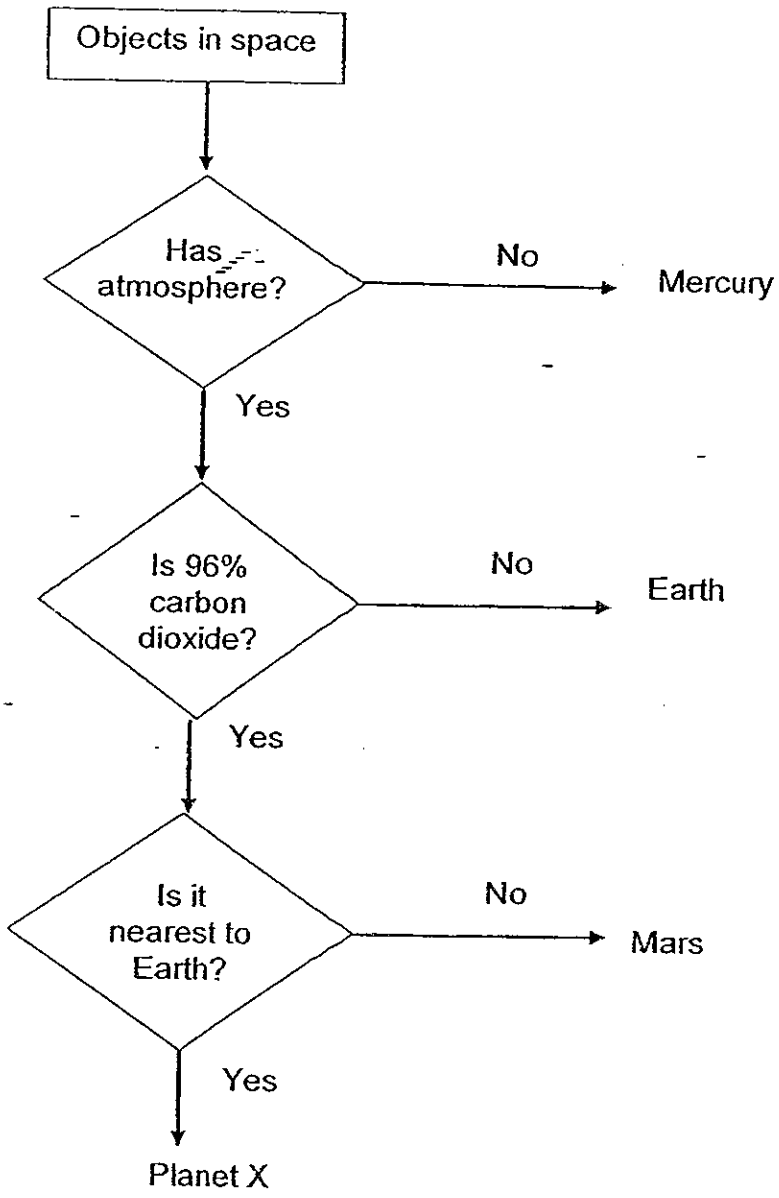
(1) 1
(2) 24
(3) 28
(4) 365

19. Which of the following statements about the Sun is / are true?

A The Sun is the only star in space.
B The Sun is made up of burning gases.
C The Sun's gravity keeps the planets in orbit.

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

20. Study the flow chart below.

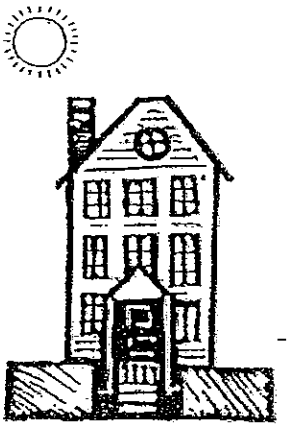


Which one of the statements best describes the Planet X?

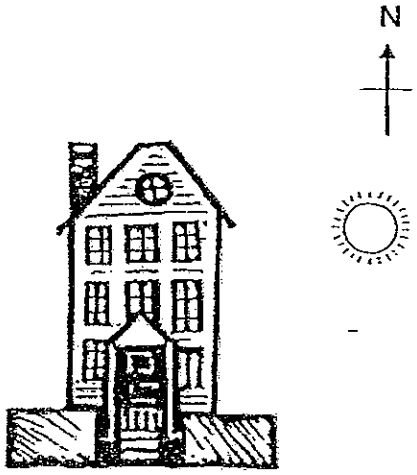
(1) It is a big planet.
(2) It has no atmosphere.
(3) It is completely covered by carbon dioxide.
(4) It is the closest planet in distance to Earth.

21. Which one of the following shows the position of the Sun at 4pm?

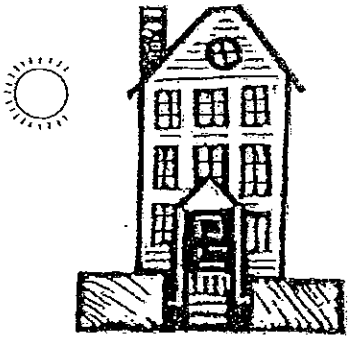
(1)



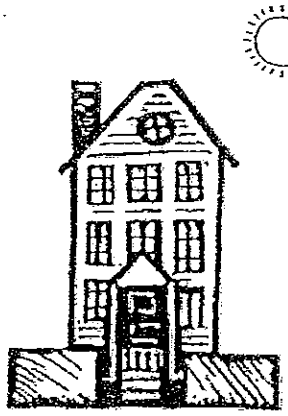
(2)



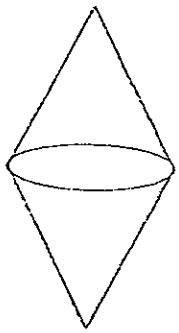
(3)



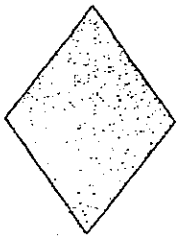
(4)



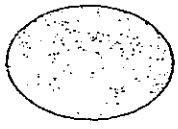
22. The diagram below shows an object formed by sticking two plastic cones at their base.



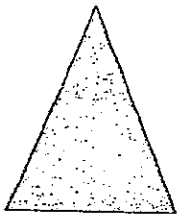
Which of the following shadows can be formed by the object when a torch is shone from different directions?



P



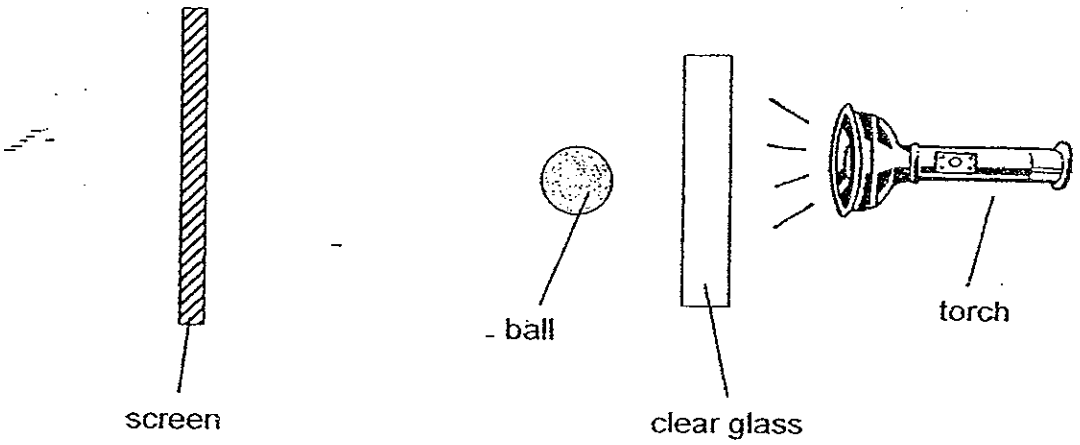
Q



R

(1) P only
(2) P and Q only
(3) P and R only
(4) P, Q and R

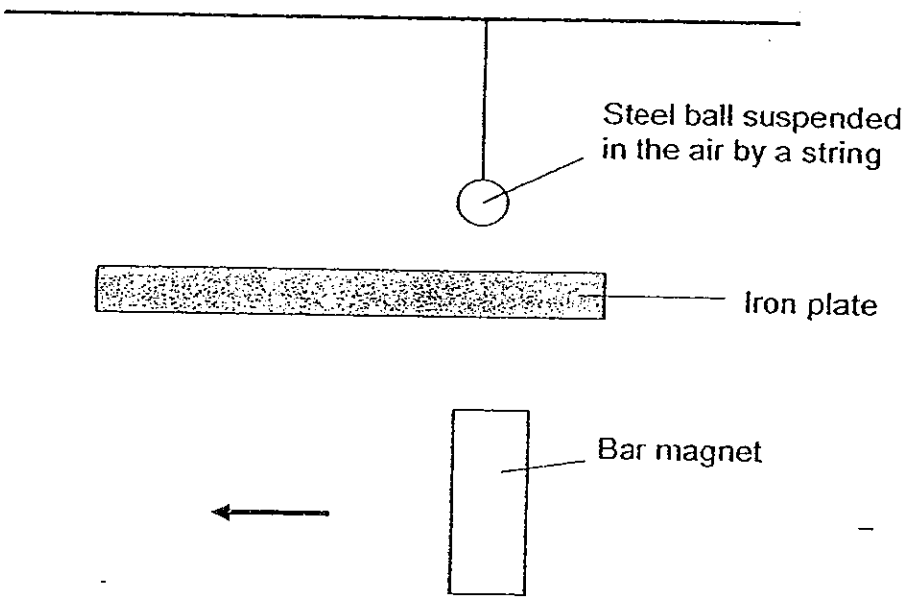
23. The diagram below shows a torch shining on a square piece of clear glass and a ball.



A shadow is cast on the screen.
What could be done to enlarge the shadow?

(1) Remove the clear glass.
(2) Move the ball nearer to the screen.
(3) Move the ball nearer to the clear glass.
(4) Move the torch away from the clear glass.

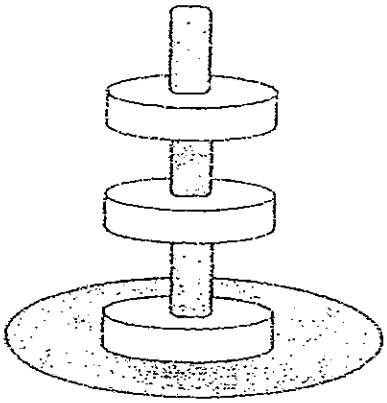
24.



Jeremy set up an experiment as shown above. As he slid a strong bar magnet under the iron plate as indicated by the arrow, the ball did not move at all. Which one of the following is the most likely reason for the observation he made?

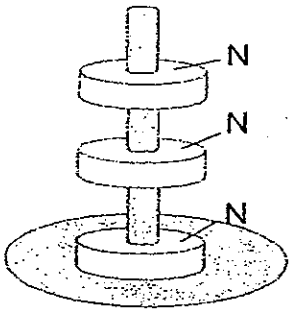
(1) The magnetic force is not strong enough.
(2) Jeremy slid the bar magnet at the wrong speed.
(3) The suspended ball is not attracted to the magnet.
(4) Magnetic forces cannot pass through magnetic materials.

25. The diagram below shows three ring magnets.

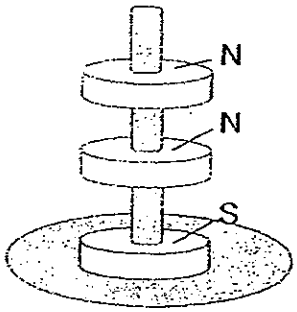


Which of the following shows the possible poles of the ring magnets?

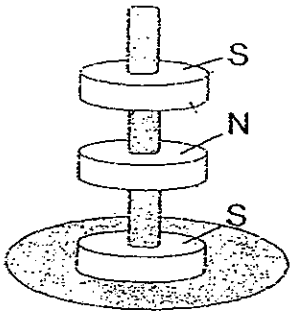
(1)



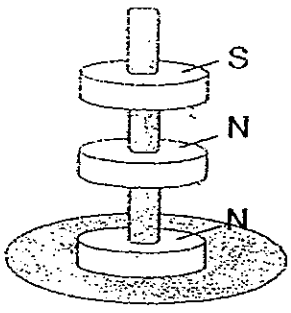
(2)



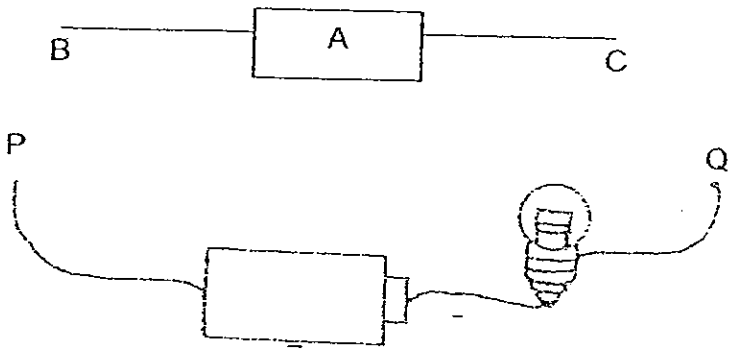
(3)



(4)



26. Box A contains an unknown object. B and C are wires joined to the object. Ryan joins wire B to P and wire C to Q as shown below. The bulb lights up.



However, when he joins ~~C~~ wire B to Q and wire ~~B~~ C to P, the bulb does not light up. Which one of the following could be in Box A?

(1)

an ice-cream stick

(2)

a bulb

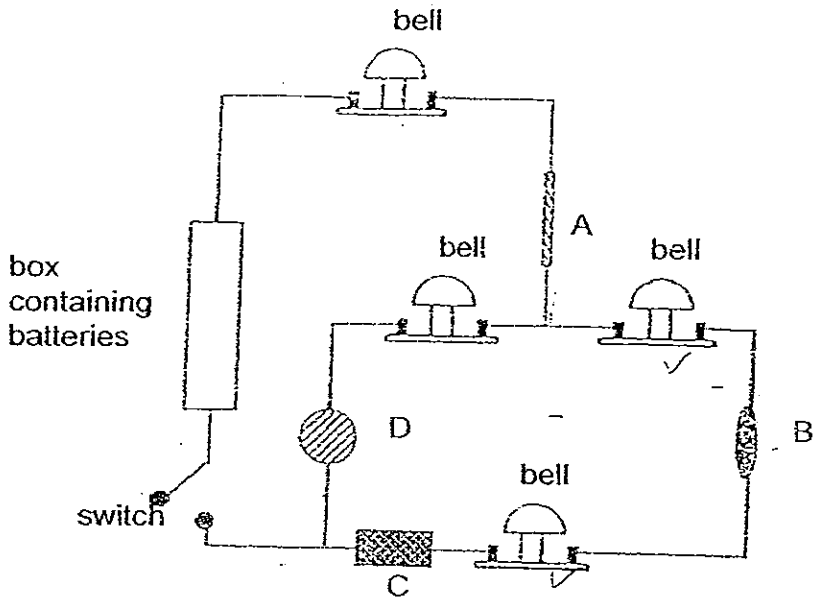
(3)

a battery

(4)

a metal ruler

27. Anna set up the circuit below. She was told that among the objects A, B, C and D, three were conductors.

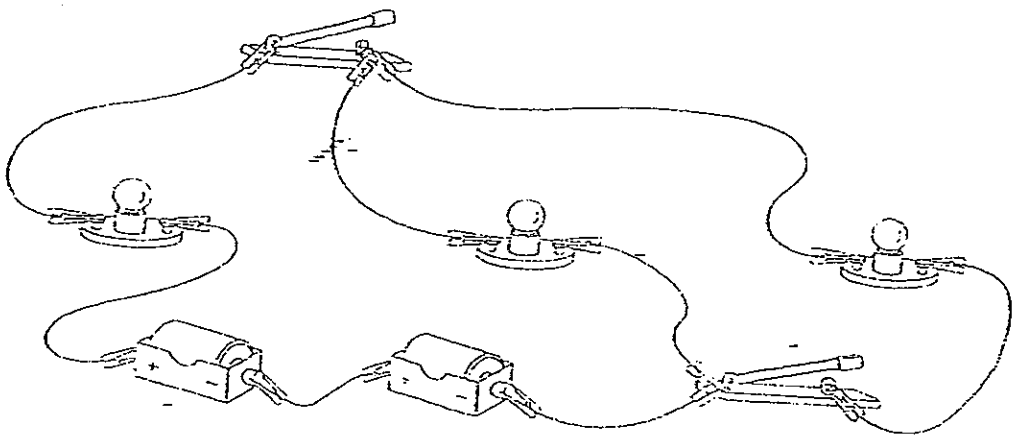


When she closed the switch, she observed that only 3 bells in the circuit rang.

Which three of the objects A, B, C or D were conductors?

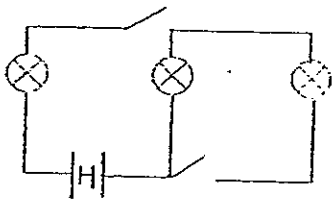
(1) A, B and C
(2) B, C and D
(3) A, C and D
(4) A, B and D

28. Study the actual circuit below.

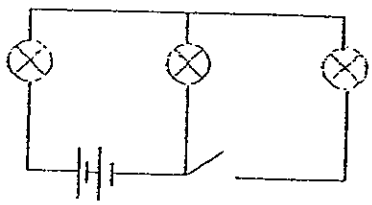


Which circuit diagram represents the actual circuit?

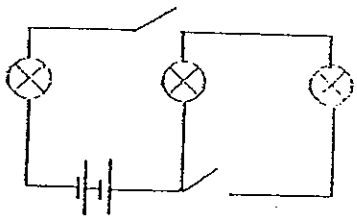
(1)



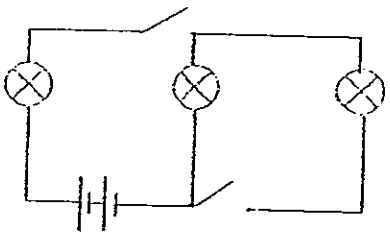
(2)



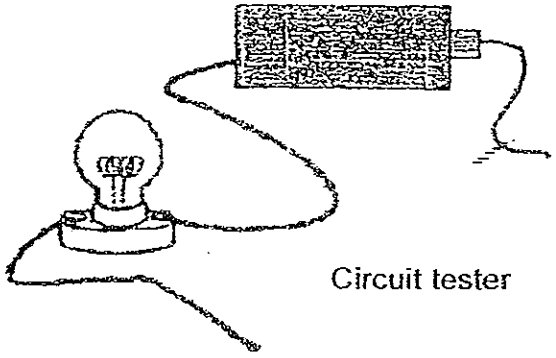
(3)



(4)



29. The diagram below shows a circuit tester.



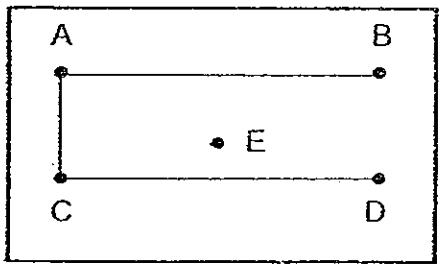
Circuit tester

When the circuit board was attached to the various points on a circuit board, the following was observed.

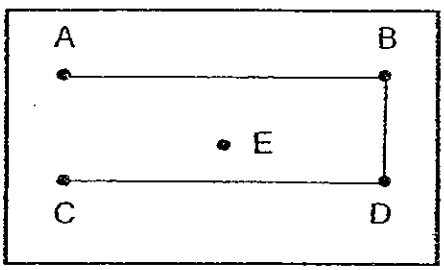
Points connected to	Did the bulb light up?
A to B	Yes
B to C	No
C to D	Yes
D to E	Yes

Which one of the following circuit boards was being tested above?

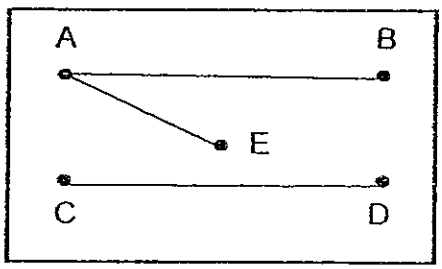
(1)



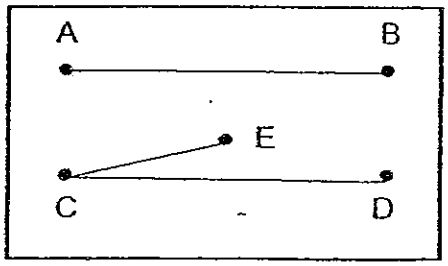
(2)



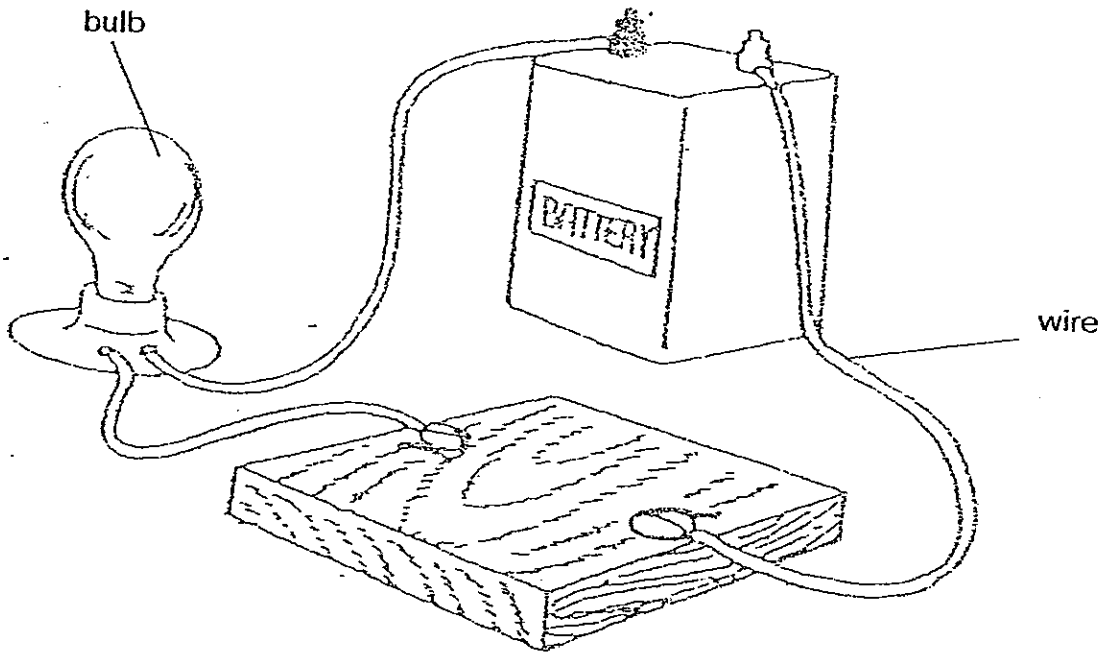
(3)



(4)



30. Jenny used the set-up shown below to test if a material can conduct electricity.



The results of her experiment are shown in the table below.

Objects used	Light produced by the above circuit			
	Trial 1	Trial 2	Trial 3	Trial 4
Steel Paper Clip	Bright	Bright	Bright	Bright
Aluminium Strip	Bright	Dim	Bright	Dim
Pencil Lead	Dim	Dim	Dim	Bright
Copper Wire	Very Bright	Very Bright	Very Bright	Bright

Based on the given data, arrange the objects according to their electrical conductivity, from the strongest to the weakest.

(1) Pencil lead, aluminum strip, steel paper clip, copper wire
(2) Copper wire, steel paper clip, aluminium strip, pencil lead
(3) Aluminium strip, copper wire, pencil lead, steel paper clip
(4) Steel paper clip, copper wire, aluminium strip, pencil lead

END OF SECTION A

CATHOLIC HIGH SCHOOL
PRIMARY 5
SEMESTRAL EXAMINATION 1
2008

SCIENCE

Name: _____ ( )

Class : Primary 5 _____

Date : 8 May 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.

Score	
Section A	60
Section B	40
Total	100

Parent's Signature:_____

Date: _____

Section B : Open-Ended Questions (40 marks)

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

31. Mrs Tang collected 4 identical fruits and subjected them to different temperatures. The results of the experiment are recorded in the table below.

Temperature	15°C	25°C	35°C	45 °C
Effect on Fruits	No splitting	Splits open after 3 hours	Splits open after 1 ½ hours	Splits open after ½ hour
Distance scattered	-	1 metre	2.5 metres	5 metres

(a) What will happen to the fruit if the temperature is between 10°C to 15°C? [1]

_____

_____

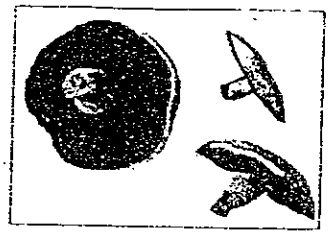
(b) What is the effect of temperature on the fruits? [2]

_____

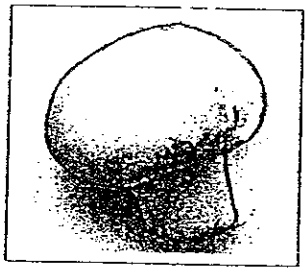
_____

_____

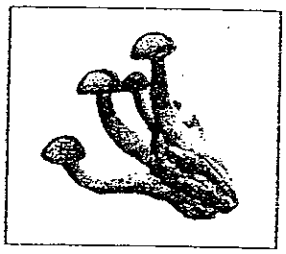
32. These are pictures of three different species of mushrooms.



Portobello mushroom



Button mushroom



Enoki mushroom

(a) How are the species similar in their reproduction? [1]

_____

(b) Based on the pictures above, how is the Enoki mushroom different from the other species? [1]

_____

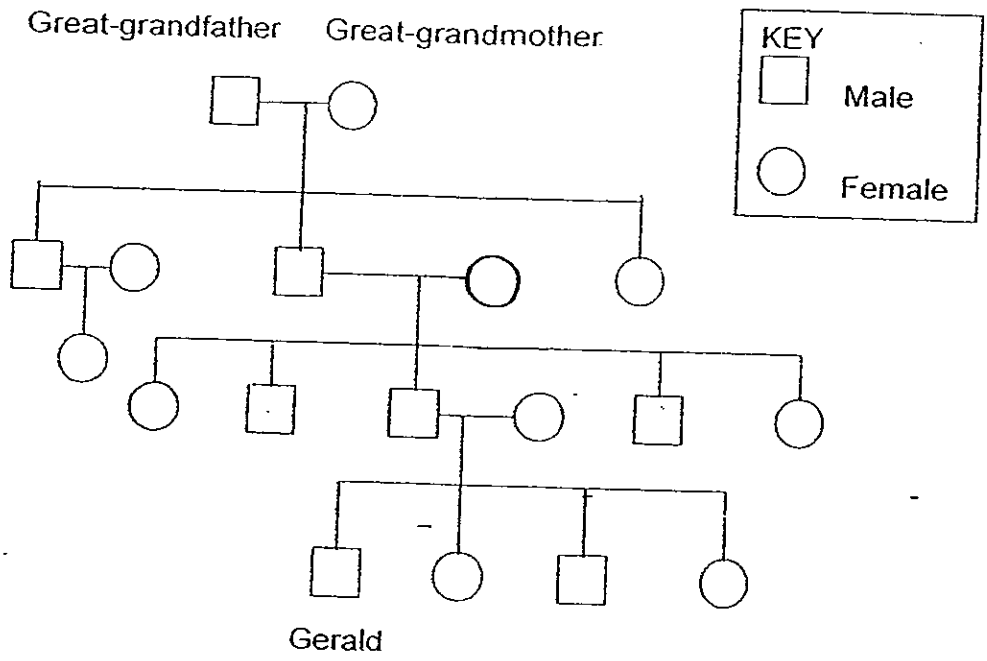
_____

(c) The mushrooms can be sorted into two groups, A and B. The Enoki and Button mushrooms are in Group A and the Portobello mushroom in Group B.
What is the property used for this classification? [1]

_____

_____

33. The diagram shows Gerald's family tree.



(a) How many children do Gerald's grandparents have? [1]

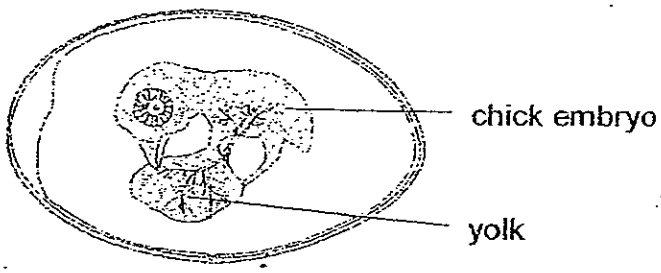
_____

(b) How many uncles does Gerald have? [1]

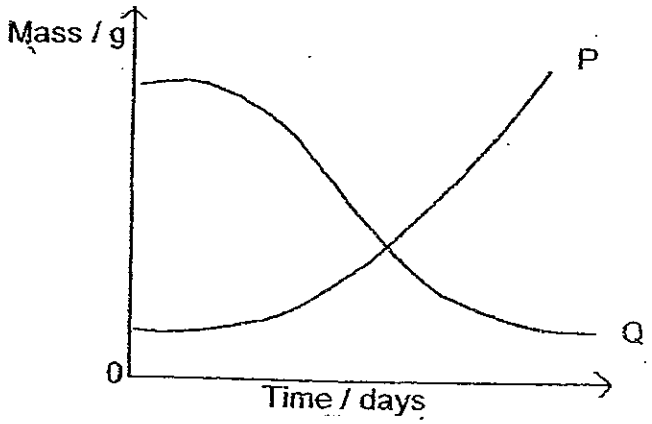
_____

(c) Shade the symbol which represents Gerald's grandmother. [1]

34. When an embryo in an egg is growing into a chick , some changes in the mass of the embryo and the yolk take place.



In the graph, the two curves show changes in the mass of the yolk and the chick embryo.



(a) Which curve, P or Q, shows how the mass of the yolk changes? Explain your choice of answer. [2]

_____

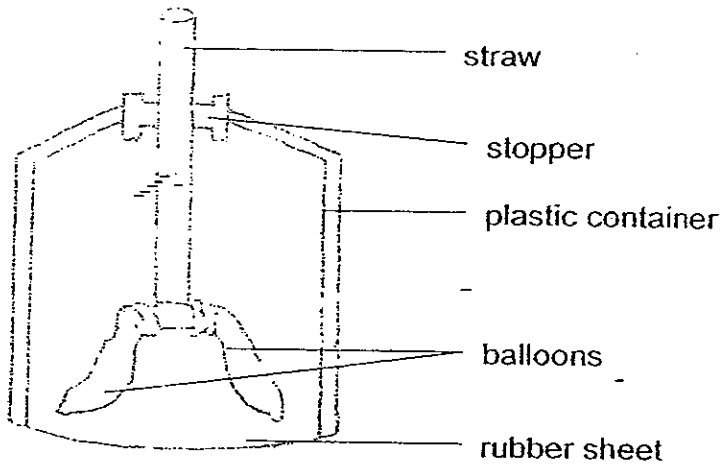
_____

(b) When the chick is developing inside the egg, what do you think is the function of the egg shell? [1]

_____

3

35. Sarah set up the following model to show how the respiratory system works.



When she pulled the rubber sheet downwards, she noticed the balloons inflating.

(a) What is the body function she was trying to demonstrate? [1]

_____

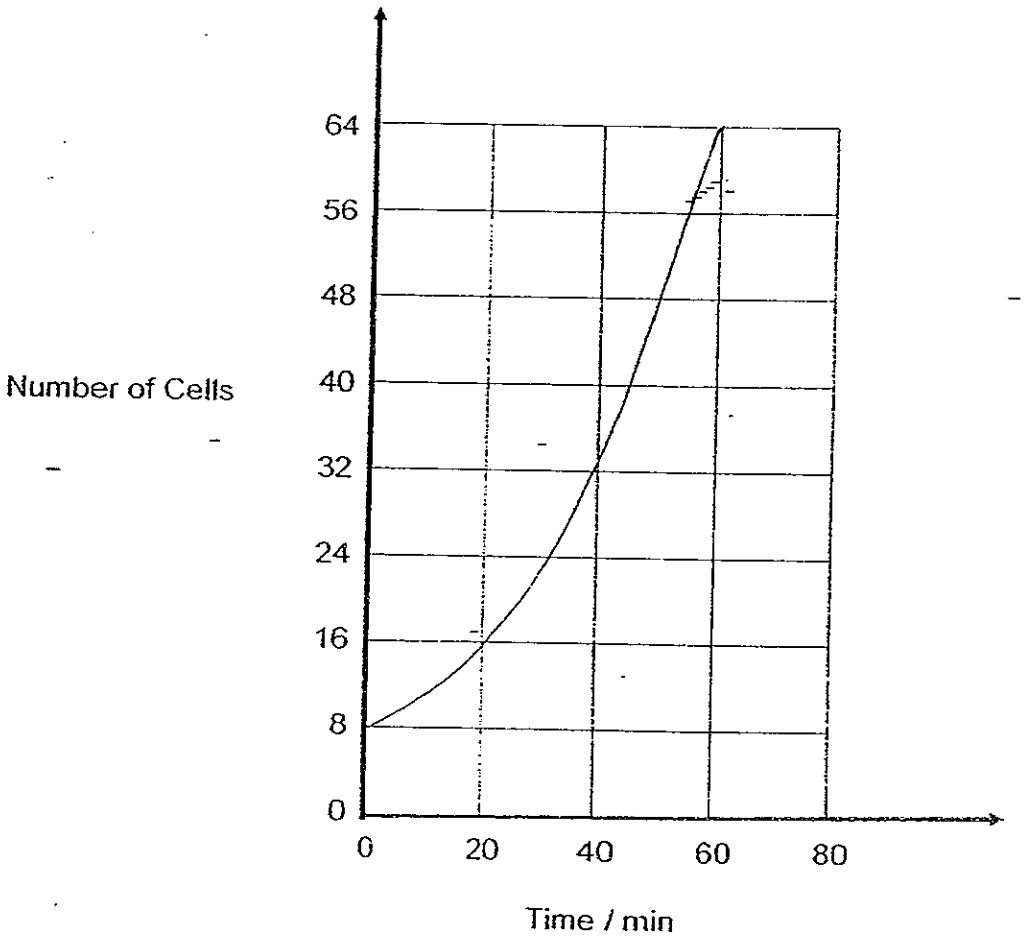
(b) Which parts of the human respiratory system do the following represent?

(i) straw _____ [½]

(ii) rubber sheet _____ [½]

2

36. (a) The graph below shows the growth curve of the population of a unicellular organism.



(i) State the number of organisms that will be present in the 60th minute. [1]

_____

(ii) What is the relationship between the length of time and the number of cells? [1]

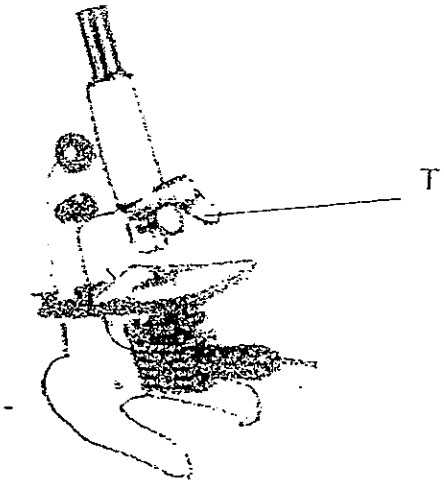
_____

_____

_____

2

36. (b) The picture below shows a microscope.

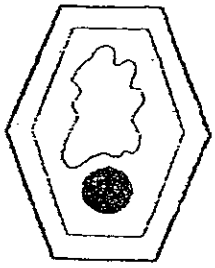


(i) Name the part labelled T. [1]

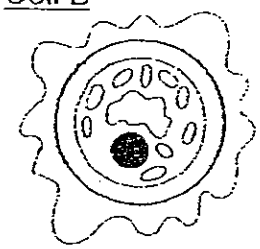
(ii) State the function of the part labelled T. [1]

37. The diagram below shows three types of plant cells.

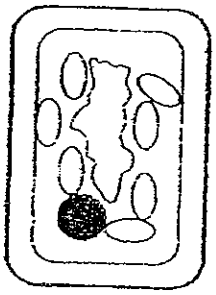
Cell A



Cell B



Cell C



(a) List one way in which Cells A and C are different. (Do not compare shape and size.) [1]

_____

(b) List one way in which Cells B and C are similar. (Do not compare shape and size.) [1]

_____

(c) Which of the cells is/are able to carry out photosynthesis? Explain the reason for your choice. [1]

_____

_____

_____

3

38. (a) Why does the Moon 'shine' at night even though it does not give out its own light? [1]

_____

(b) Explain why we cannot see the New Moon even though the sky is clear. [1]

_____

_____

39. Study the table given below.

	Planet A	Planet B	Planet C	Planet D
Presence of Water	No	Yes	Yes	No
Air Composition	78% nitrogen 21% oxygen 1% carbon dioxide, water vapour and rare gases	78% nitrogen 21% hydrogen 1% carbon dioxide, water vapour and rare gases	78% nitrogen 21% oxygen 1% carbon dioxide, water vapour and rare gases	78% nitrogen 21% oxygen 1% carbon dioxide, water vapour and rare gases
Temperature	-4°C	24°C	25°C	104°C

(a) Which planet is nearest to the Sun? [1]

_____

(b) Which planet is most suitable for living things? [1]

_____

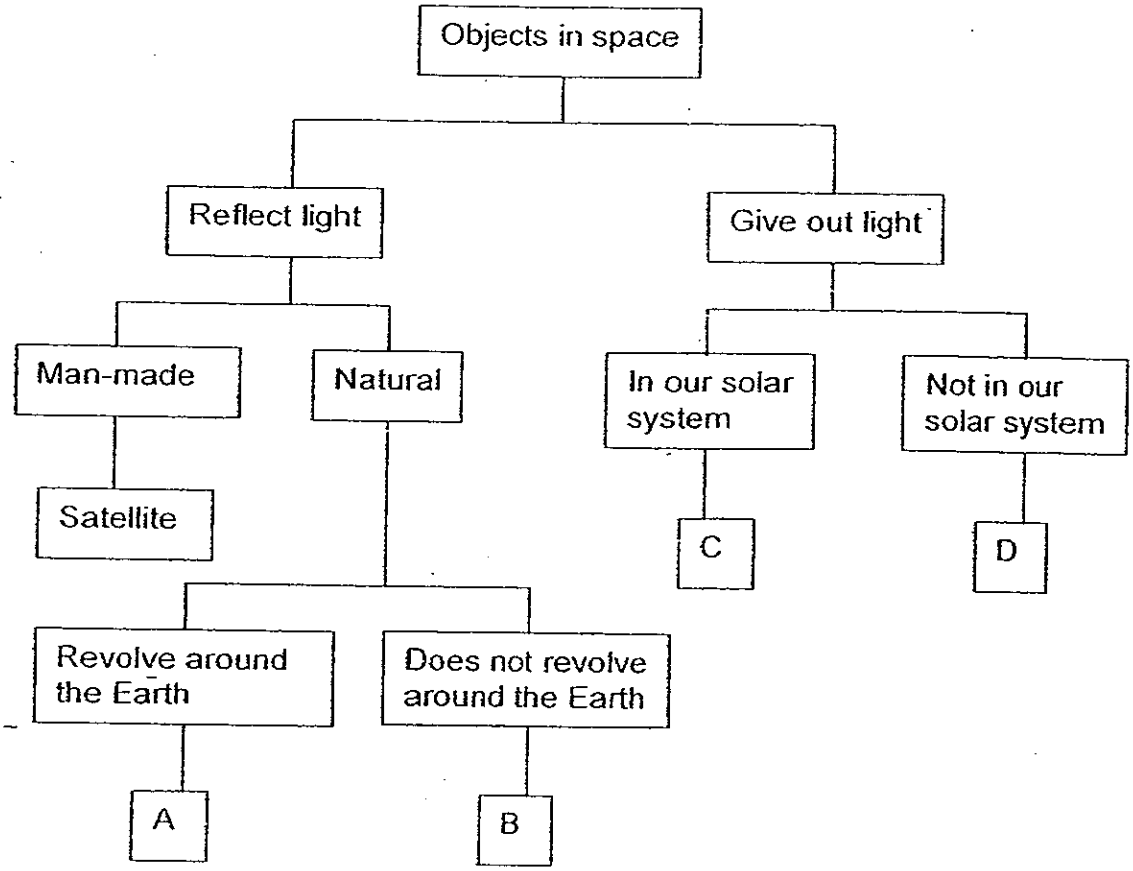
(c) Explain your answer given in part (b). [1]

_____

_____

5

40. Study the classification table below.

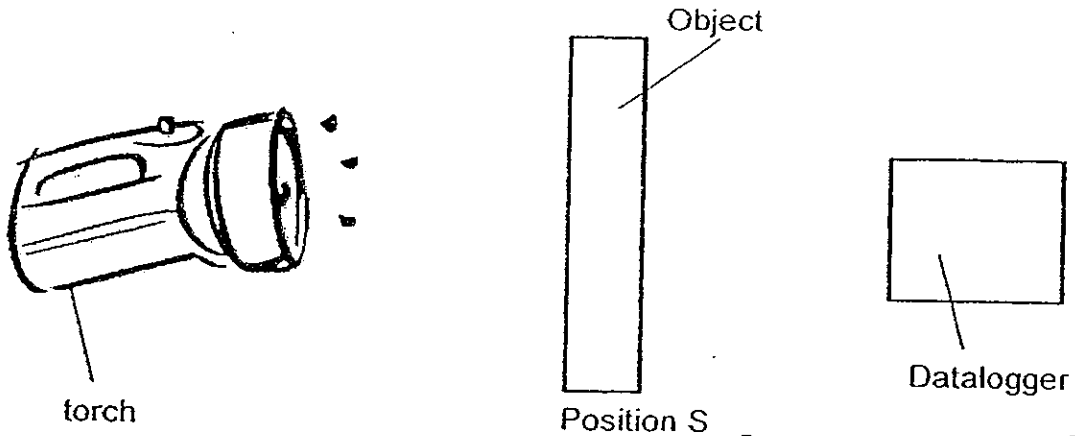


Using the classification table above, complete the table below by writing A, B, C and D in the correct boxes to identify the objects in space. [2]

Star	a)_____
Neptune	b)_____
Sun	c)_____
Moon	d)_____

2

41. (a) Ben set up an experiment as shown below.



Ben put Object A at position S and he shone the torch on it.
A datalogger was placed behind the object to measure the amount of light passing through Object A as shown. He repeated the experiment with Objects B,C and D.

The table below shows the readings which measured the amount of light passing through the objects when different objects were placed at Position S.

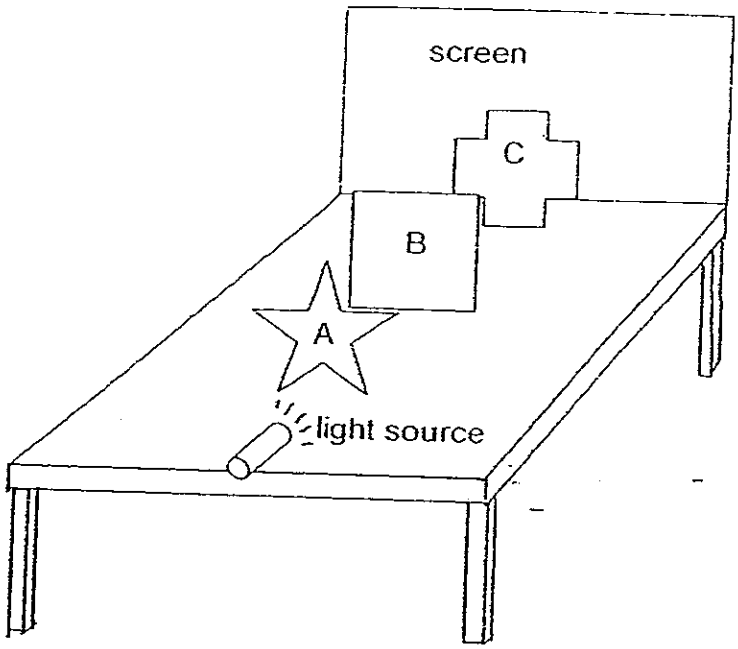
Objects	Amount of Light / lux
A	325
B	5000
C	1240
D	655

Tick the most possible material that is used to make Object B. [1]

Iron	
Glass	
Tracing paper	
Wood	

1

41. (b) Jerry set up the apparatus shown below.

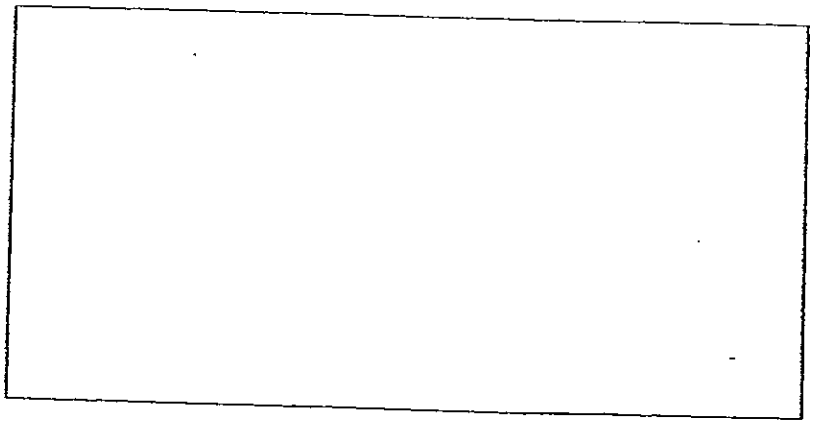


Objects A, B and C are placed in a straight line between the screen and the light source. The table below provides information about Objects A, B and C.

Object	Degree of Transparency	Height / cm	Width / cm
A	transparent	20	20
B	transparent	20	20
C	opaque	20	20

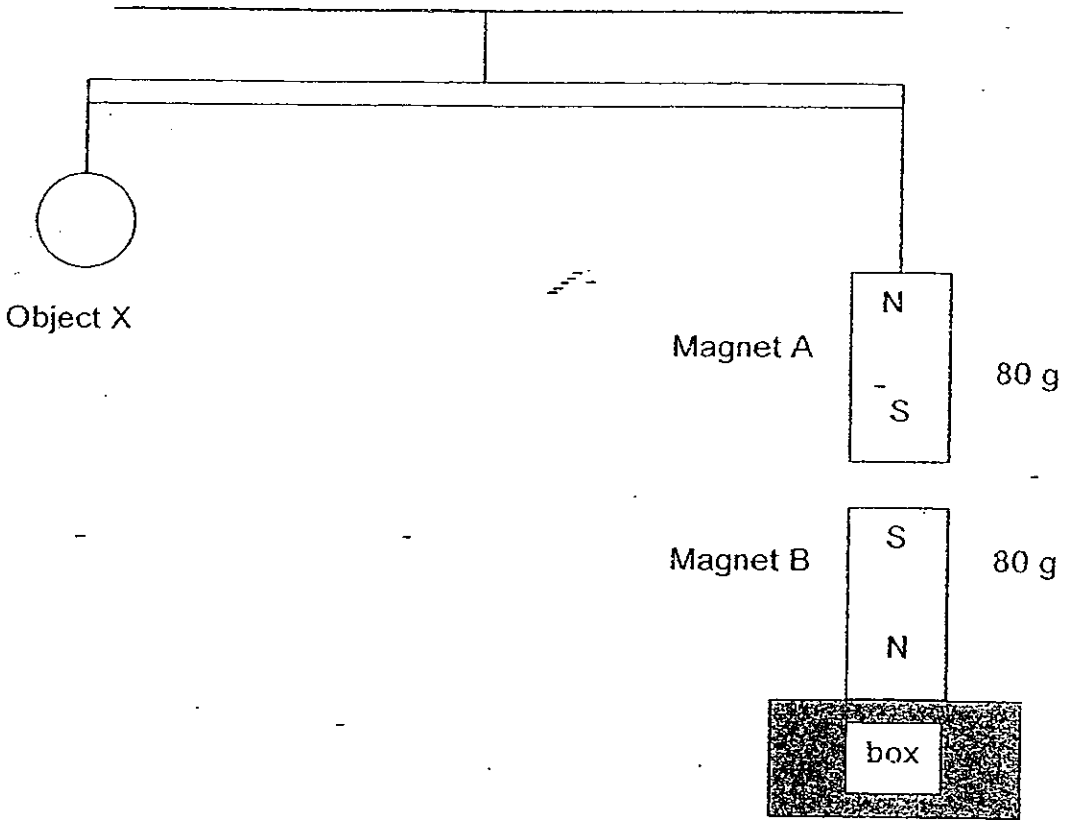
Based on the information given, draw the shadow that would be cast on the screen in the box provided. The drawing does not have to be to scale.

[1]



1

42.



Object X and Magnet A are balanced on a rod as shown in the diagram. Magnet B is resting on a box with its south pole facing the south pole of Magnet A.

(a) Is object X greater than, equal to or less than 80 g? [½]

_____

(b) Will object X and magnet A still balance if magnet B is replaced by a zinc bar of the same size? [½]

_____

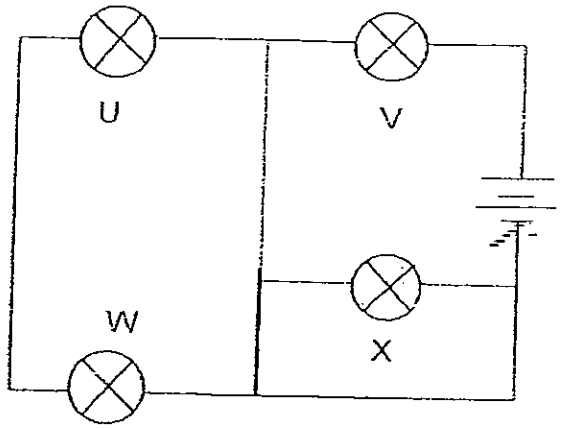
(c) Explain your answer to (b) above. [1]

_____

_____

2

43. Study the circuit below.



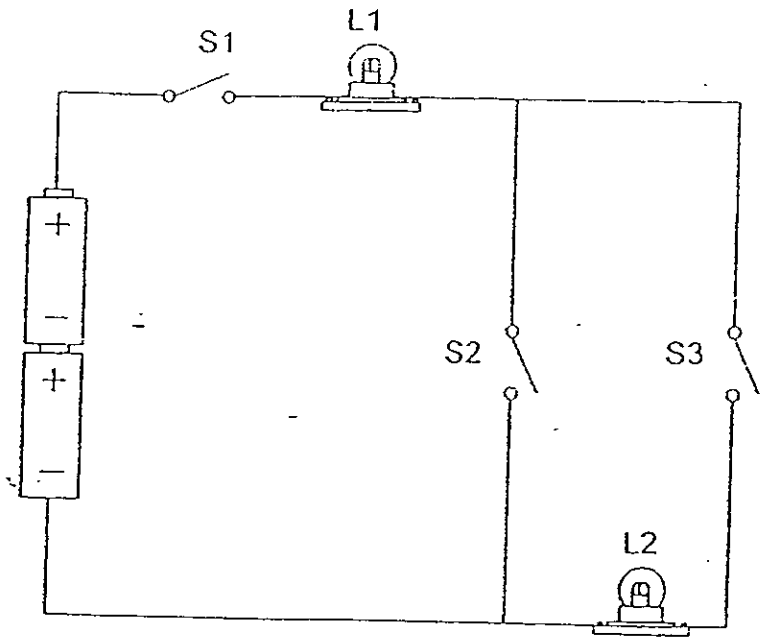
(a) A switch is to be connected to the circuit so that it controls only one bulb while keeping the other three lighted.
Mark an 'X' on the diagram to show where the switch should be connected. [1]

(b) Which other bulb will not light up if Bulb U fuses? [1]

_____

2

44. Eddy set up the circuit below with two bulbs, L1 and L2, and three switches, S1, S2 and S3.

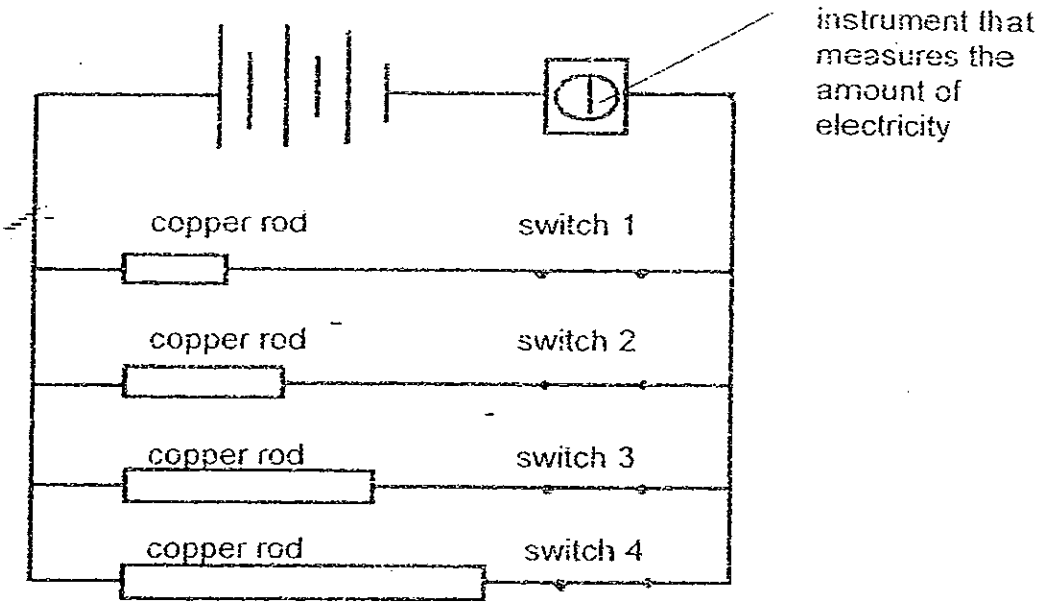


He wanted to find out which of the bulbs, L1 and L2, will light up when the switches were opened and closed. He recorded some of the data he collected in the table shown below. Fill in the empty boxes to complete the table. [2]

Switches			Did the bulb light up?	
S1	S2	S3	L1	L2
open	close	close	a)_____	no
close	open	b)_____	yes	yes
c)_____	open	close	no	no
close	open	open	no	d)_____

2

45. The diagram shows a circuit with 4 metal rods connected to an instrument that measures the amount of electricity in the circuit.



Andrew closed switch 1 and kept the other switches open. He then observed the reading on the instrument. He repeated the experiment by closing switches 2, 3 and 4 in turn. He made sure only one switch was closed at any one time.

(a) What is the aim of Andrew's experiment? [1]

_____

_____

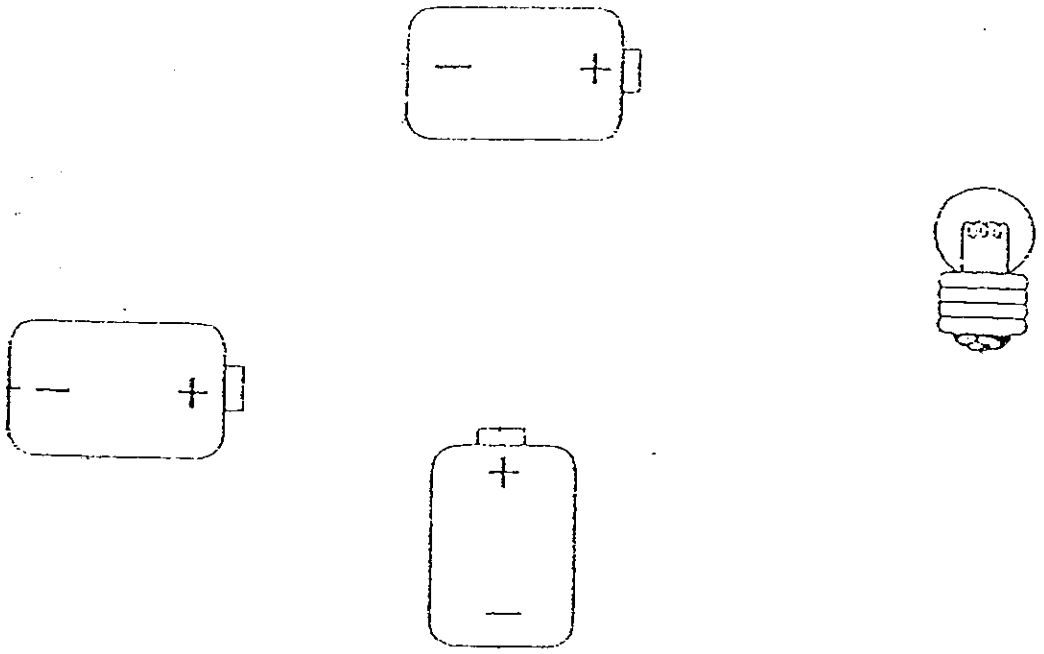
(b) State one variable that was kept the same for the experiment to be a fair one [1]

_____

_____

2

46. Using only 4 wires, connect the 3 batteries and the bulb below to form a circuit so that the bulb will light up the brightest. [2]



END OF PAPER

HAVE YOU CHECKED YOUR ANSWERS?

ANSWER SHEET

EXAM PAPER 2008

SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA 1

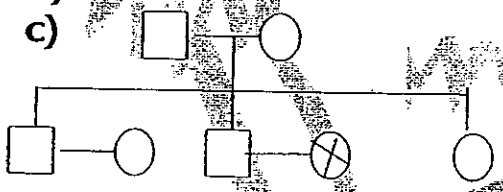
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
4	2	4	3	3	4	3	3	3	2	1	1	4	4	3	3	3

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

31)a)There will be no splitting.
b)The higher the temperature, the shorter is the time taken by the fruit to split open and the further the fruit will be scattered.

32)a)They reproduce from spores.
b)The Enoki mushroom grow in a bunch but the other species and bigger grow singly.
c)The property used is whether they are edible inedible.

33)a)Five
b)Two
c)



34)a)Q. The chick embryo is eating the yolk, so the mess of the yolk is decreasing.
b)The egg shell protects the chick embryo.

35)a)She was trying to demonstrate respiration.
b)i)Windpipe ii)diaphragm

36)a)i)64 minutes.
ii)As time increases, the number of cells also increases.
b)i)Objective lens.
ii)It enables us to magnify the specimen under viewing.

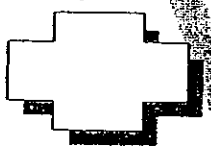
37)a)Cell C has chloroplast but cell A does not have.
b)Both have chloroplast.
c)Cell B and C. Both have chloroplast which contain chloroplast that is used to carry out photosynthesis.

38)a)It reflects light from the sun.
b)The dark side of the Moon is facing the earth.

39)a)D
b)C
c)It has oxygen and the right temperature.

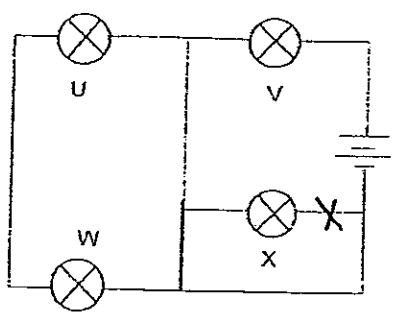
40)a)D b)B c)C d)A

41)a)Glass
b)



42)a)Less than 80g.
b)No.
c)Zinc is not a magnetic material and it cannot be magnetized.

43)a)



b)W

44)a)No
b)Close
c)Open
d)No

45)a)It is to find out if the length of the copper rod affects the amount of electricity in the circuit.
b)The number and arrangement of batteries.

46)