Name : _____ ( )

Class : Primary _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

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Primary 6

First Continual Assessment – 2008

SCIENCE

BOOKLET A

27th February 2008

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

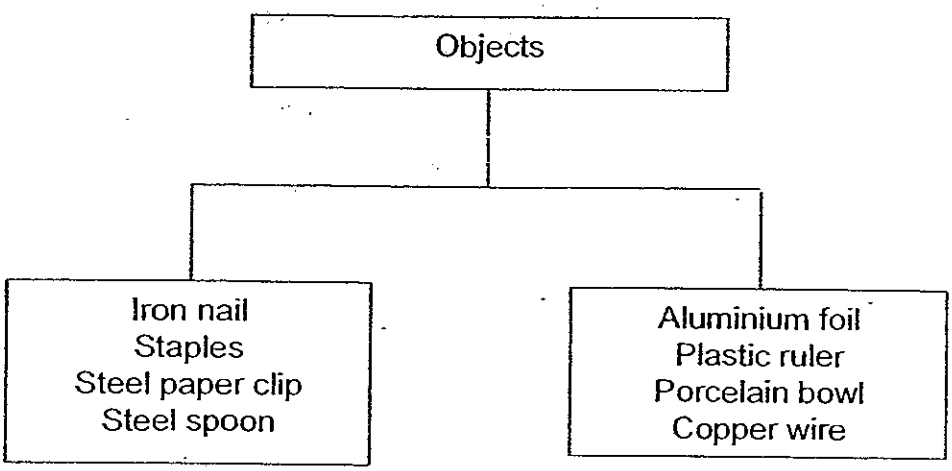
30 questions
60 marks

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)

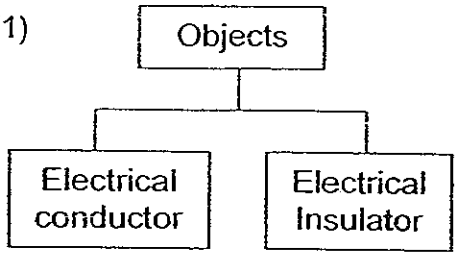
For each question from 1 to 30, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet.

1. Amy classified 8 objects in her house in the chart below.

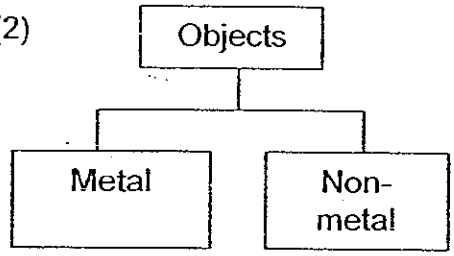


Which one of the following classification charts correctly shows how Amy has grouped the 8 objects?

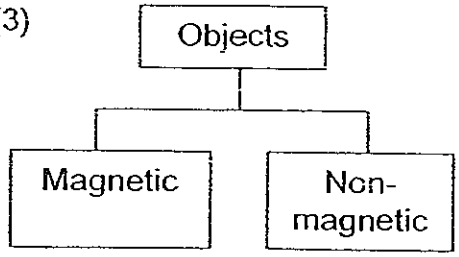
(1)



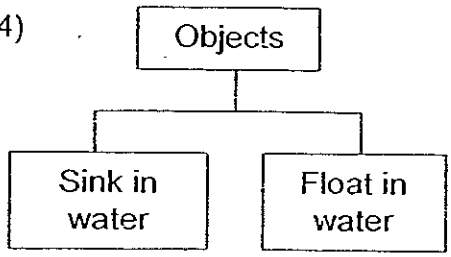
(2)



(3)



(4)



2. The tables below show how Peter and Ali classified some fruits into 2 groups.

Peter's classification:

Group X	Group Y
Chilli	Coconut
Love grass	Sea Almond

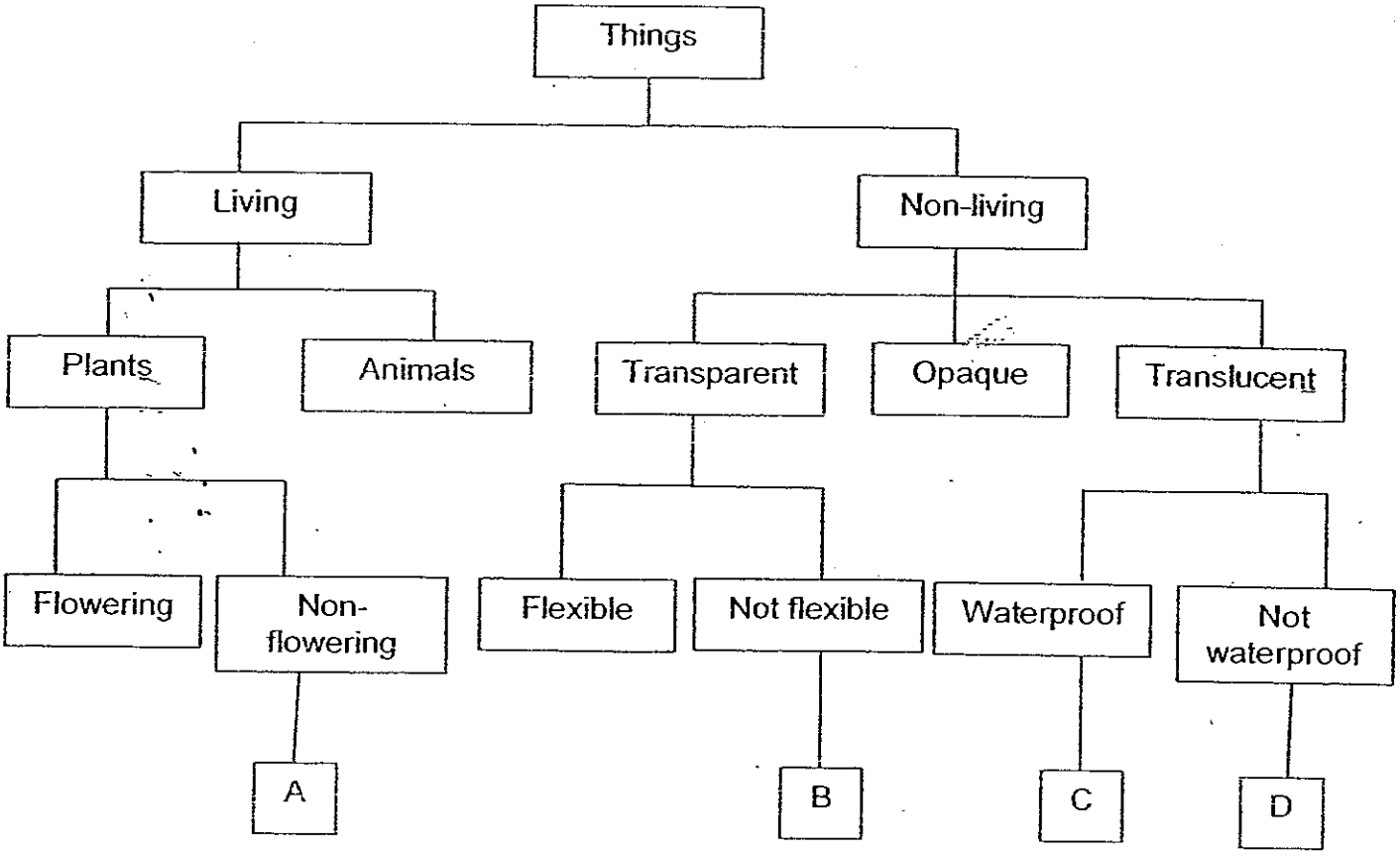
Ali's classification:

Group X	Group Y
Love grass	Chilli
Sea Almond	Coconut

How did the two boys group the fruits?

	Peter's classification	Ali's classification
(1)	The way the seeds are dispersed	Whether they produced flowers
(2)	Whether they have any poisonous parts	Whether they are edible
(3)	The way the seeds are dispersed	Whether they are edible
(4)	Whether they have any poisonous parts	Whether they produce flowers

3. Study the classification chart below.

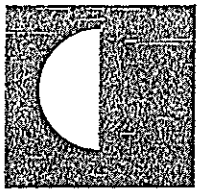


Based on the above chart, what could objects A, B, C and D be?

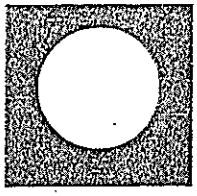
	A	B	C	D
(1)	Moss	Mirror	Coloured water bottle	Tissue paper
(2)	Conifer	Clear glass plate	Red plastic bag	Cotton cloth
(3)	Fern	Transparency	Coloured cellophane paper	Silk blouse
(4)	Shitake mushroom	Monitor screen	Frosted glass	Plastic cling wrap

4

4. The shapes of the Moon on 7th July and 14th July are shown below.

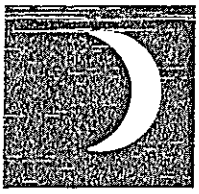


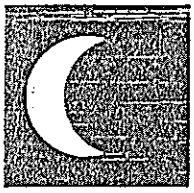
7th July

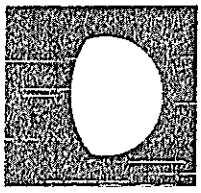


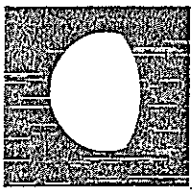
14th July

What would the shape of the Moon on 25th July be?

(1) 

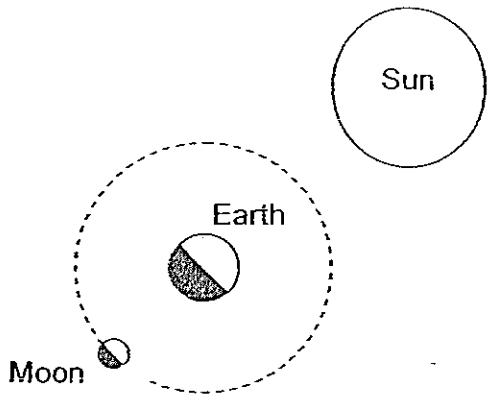
(2) 

(3) 

(4) 

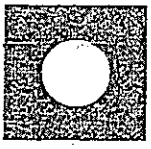
5

5. The diagram below shows the position of the Sun, Earth and Moon.

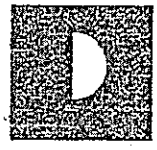


Based on the diagram above, how would the Moon look like from the Earth?

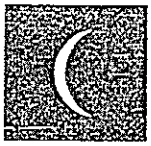
(1)



(2)



(3)

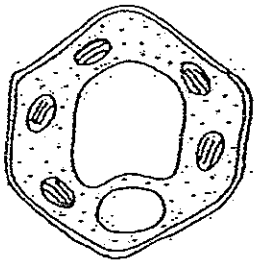


(4)

6. What causes the phases of the Moon?

(1) The tilting of the Earth.
(2) The rotation of the Earth about its axis.
(3) The revolution of the Earth around the Sun.
(4) The regular movement of the Moon around the Earth.

7. Mathew observed the cell below with a microscope and concluded that it was a plant cell.

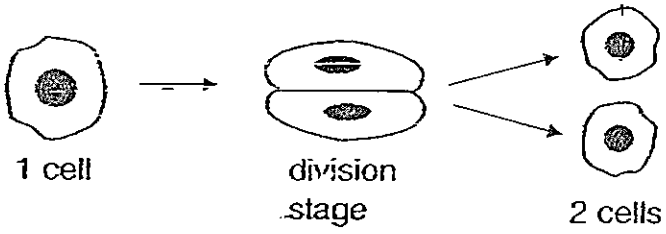


Which characteristics of the cell helped Mathew to conclude that it was a plant cell?

A: It has a nucleus.
B: It has a cell wall.
C: It has chloroplasts.
D: It has a cell membrane.

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

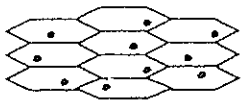
8. The cell shown below is undergoing cell division. It completes one cell division every 4 hours.



How many cells will there be after 24 hours?

(1) 6
(2) 32
(3) 64
(4) 128

9. The diagram below shows the cells of a living organism.



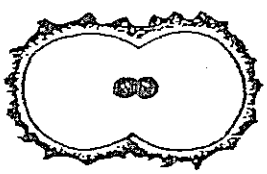
Which of the following statements about each of the above cells are correct?

A It has a cell wall.
B It has no cell membrane.
C It can be found in an aquatic plant.
D The nucleus controls the movement of materials in and out of the cell.

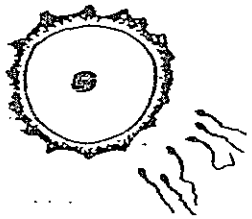
(1) A and C only
(2) B and D only
(3) A, C and D only
(4) A, B, C and D

10. Which one of the diagrams below illustrates the process of fertilization?

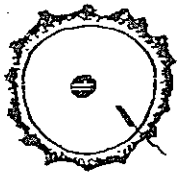
(1)



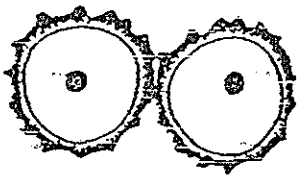
(2)



(3)



(4)



11. Which one of the following statements about human reproduction is <u>false</u>?

(1) The egg is fertilised inside the female body.
(2) Only one sperm is needed to fertilise the egg.
(3) The fertilised egg divides to produce more cells.
(4) The young develops outside the womb after fertilisation.

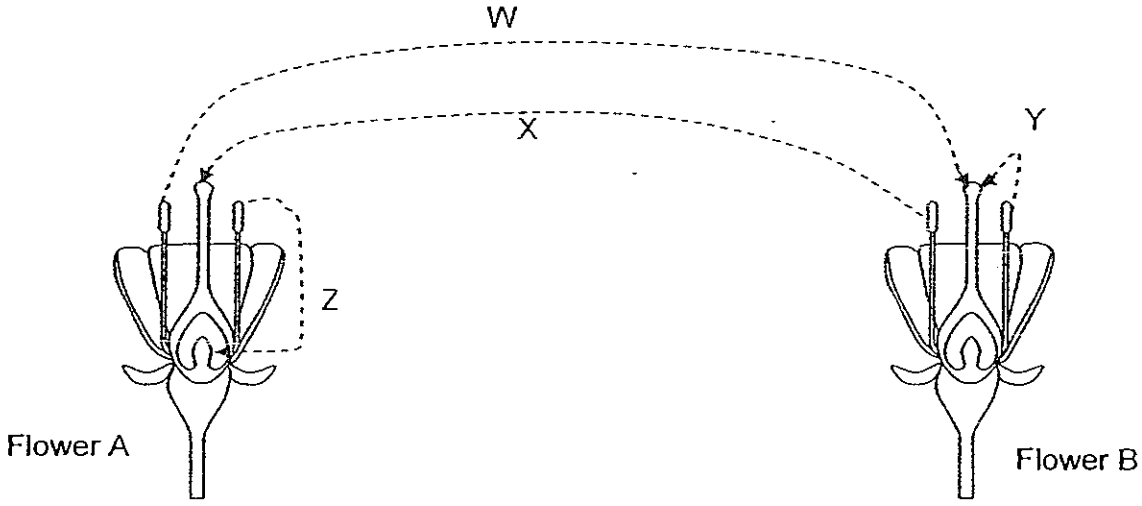
12. The table below shows the distinctive features of 5 flowers, A, B, C, D and E.

Flower	Distinctive Features
A	Purplish colour, gives off the smell of rotting flesh
B	Large feathery stigmas hang out of the flower
C	Green, grow in clusters, has no petals
D	Has blue markings, produces sweet nectar
E	White, has sticky pollen grains

Which of the above flowers are likely to be wind-pollinated?

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

13. The diagram below shows the cross-section of 2 flowers. The arrows, W, X, Y and Z, show the movement of pollen grains during pollination.

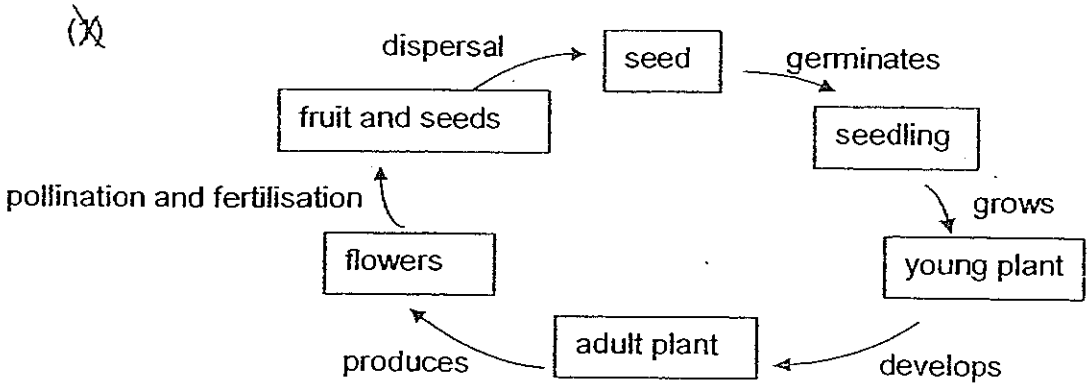


Which of the arrows show the movement of the pollen grains correctly?

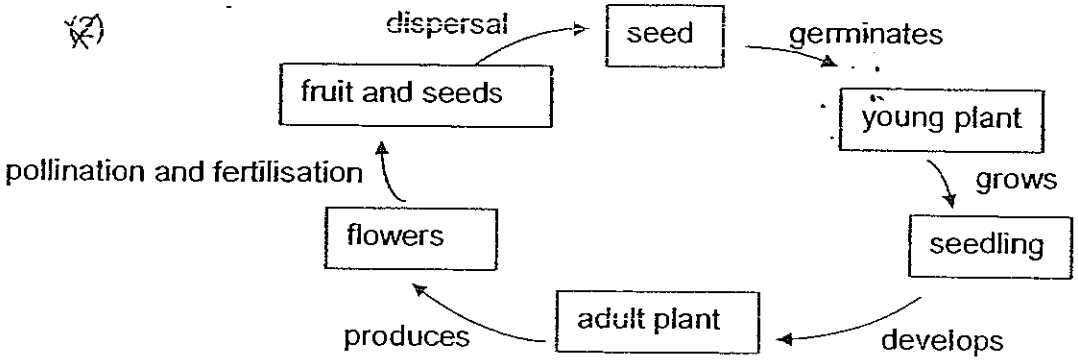
(1) W and X only
(2) Y and Z only
(3) W, X and Y only
(4) W, X, Y and Z

14. Study the diagrams below carefully. Which one of the following shows the life-cycle of a flowering plant?

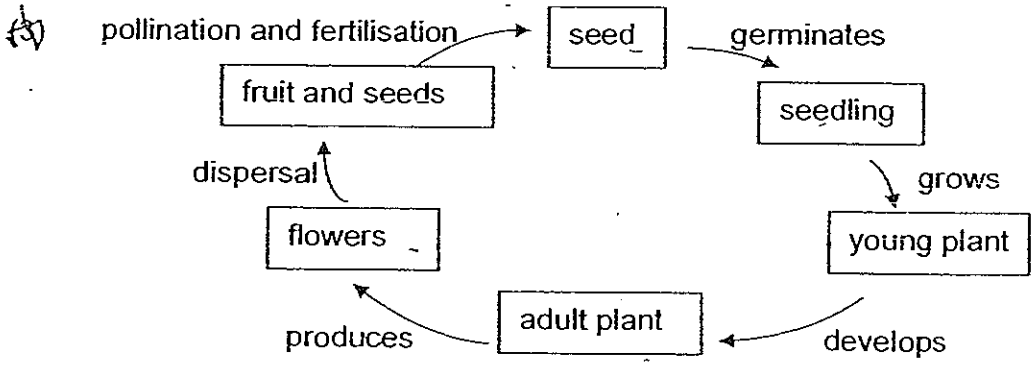
(1)



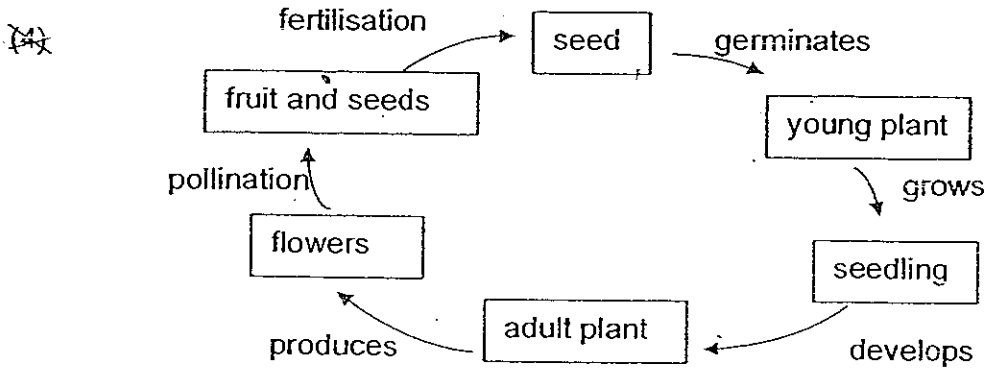
(2)



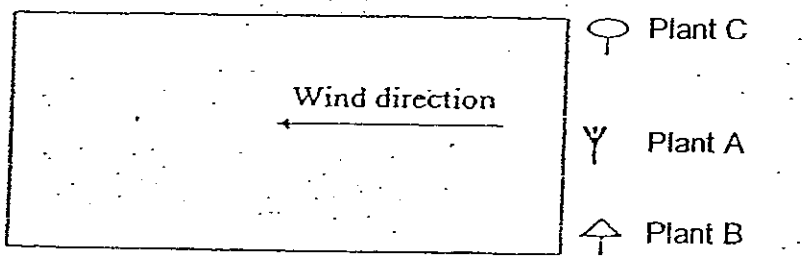
(3)



(4)



15. A farmer ploughed his field as he wanted to grow some crops. He killed all the weeds and any plants growing in it. Then, he left the soil alone. The farmer, however, did not notice that there were three different plants growing at the edge of the field, as shown in the diagram below.

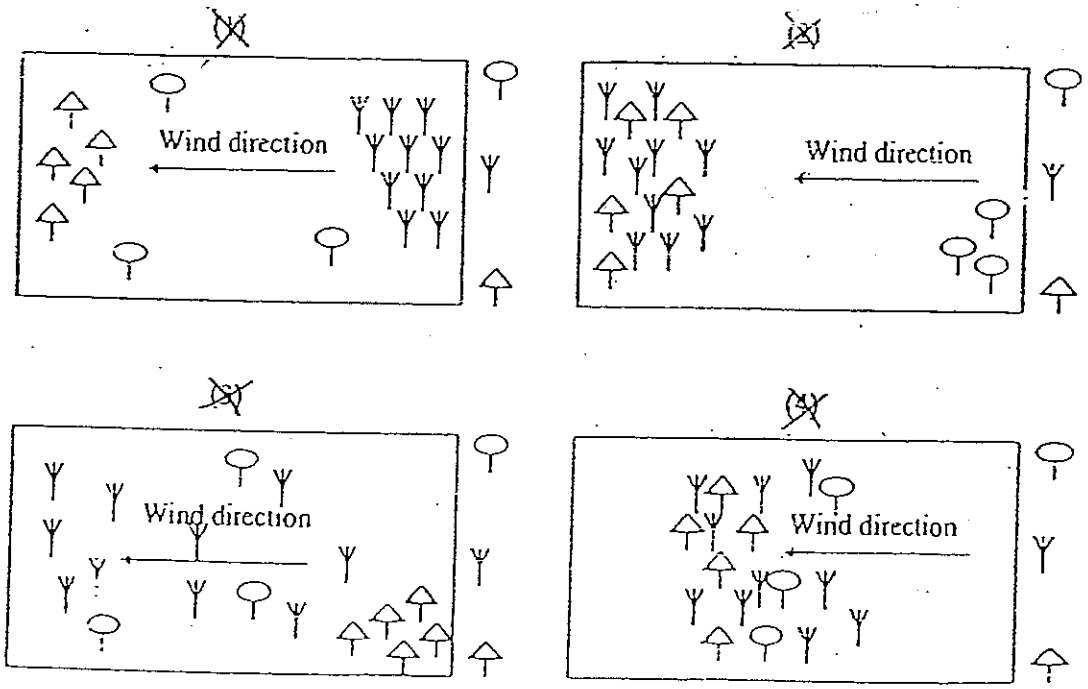


Key: Plant A: Seeds are scattered by wind.

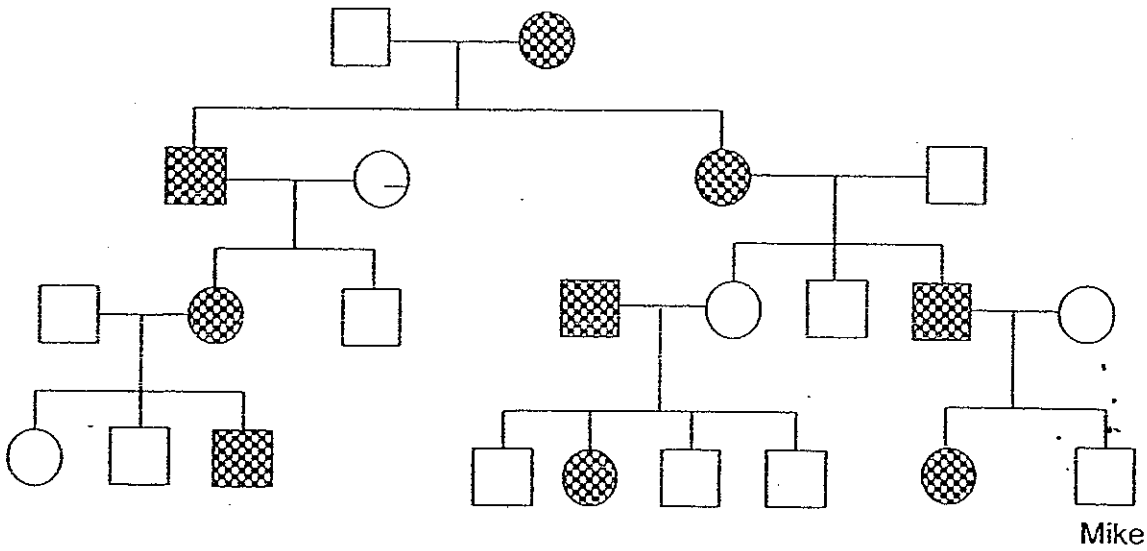
Plant B: Seeds are scattered by explosive actions.

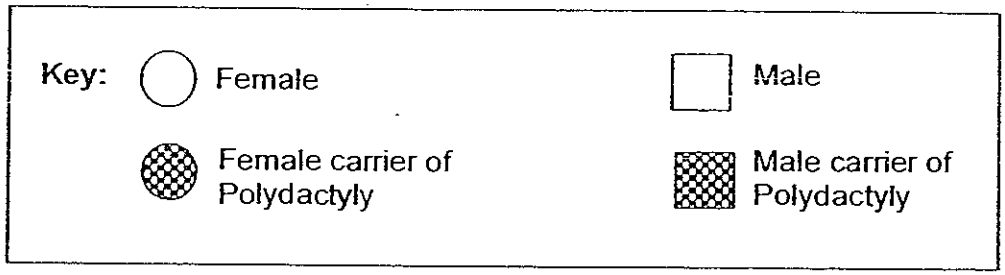
Plant C: Fleshy fruits and seeds are scattered by animals.

When the farmer returned half a year later, the three different plants were seen growing across his field.
Which one of the following diagrams is the **most likely** representation of how the three different plants had grown in his field?



16. The family tree below shows members of Mike's family who have Polydactyly and those who do not. People who carry the genetic materials that cause Polydactyly will grow an extra finger or toe.





Which of the following statements can you conclude with the above family tree?

A. There is a possibility of Mike's sister bearing a son with Polydactyly.
B. The genes of Polydactyly are passed on only to the female members of the family.
C. The daughter of a male Polydactyly carrier will be a carrier of Polydactyly too.
D. Mike's mother inherited the genes of Polydactyly from her maternal grandfather.

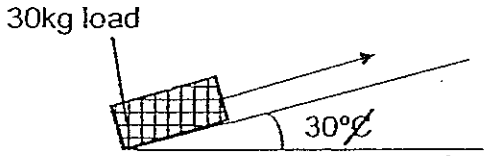
(1) A and C only
(2) A and D only
(3) B and D only
(4) A, B and C only

17. Which of the following statements correctly explain why plants scatter their seeds?

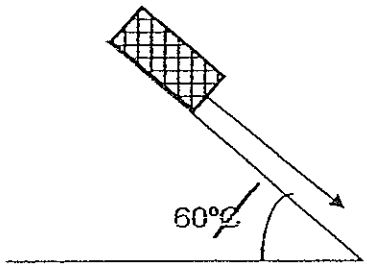
A: To obtain more oxygen
B: To reduce overcrowding
C: To produce flowers of better quality
D: To protect the fruits from hungry animals
E: To obtain sufficient sunlight and nutrients

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

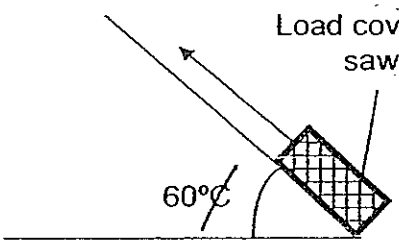
18. The diagrams below show a 30 kg load being pulled along ramps made of different materials.



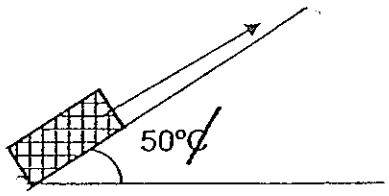
Ramp A



Ramp B



Ramp C

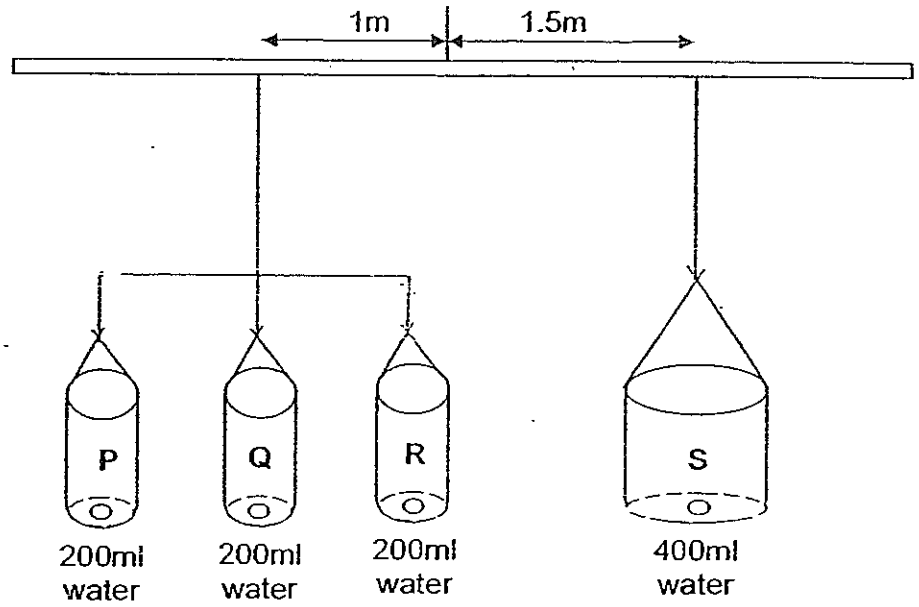


Ramp D

If the effort used to move the load along all the 4 ramps is the same, arrange the texture of the ramp from the roughest to the smoothest.

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

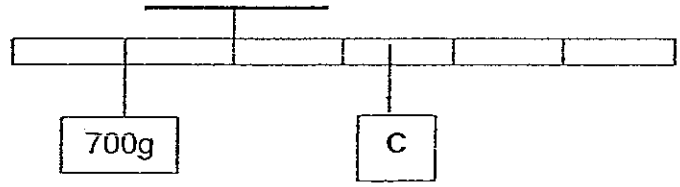
19. Ahmad drilled equal-sized holes each at the base of 4 containers, P, Q, R and S and plugged each hole with plasticine. Then he filled each container with water and hung them on a beam as shown below.

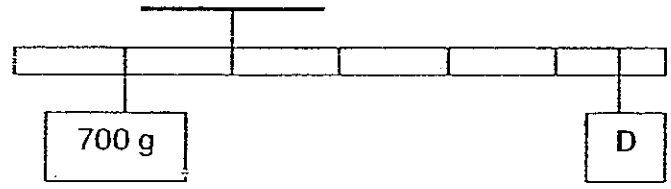


Which one of the following statements would likely to be observed when the plasticine at the base was removed from containers P, R and S at the same time and replaced when all the water was drained off from containers P and R? (*Assume that the water pressure in all the containers is the same and the water flows out at the same rate from the holes.*)

(1) Container S tilted downwards.
(2) The containers remained balanced.
(3) Containers P, Q and R tilted downwards.
(4) Containers P, Q and R moved upwards first and then downwards.

20. Andrea used four objects A, B, C and D, to balance a 700g weight as shown below. Which one of the following objects is the **heaviest**?

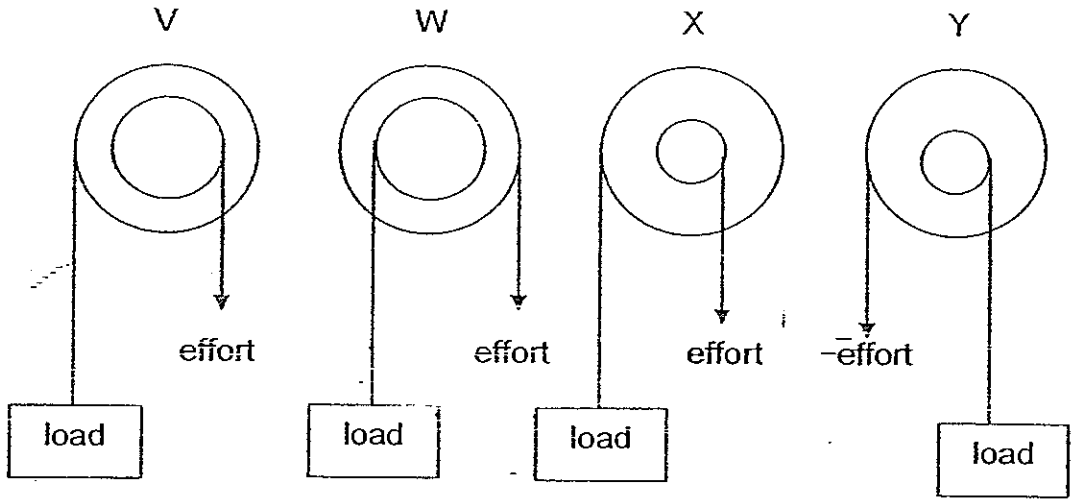




(1) A
(2) B
(3) C
(4) D

15

21. Sonny had four wheel and axles V, W, X and Y as shown below.

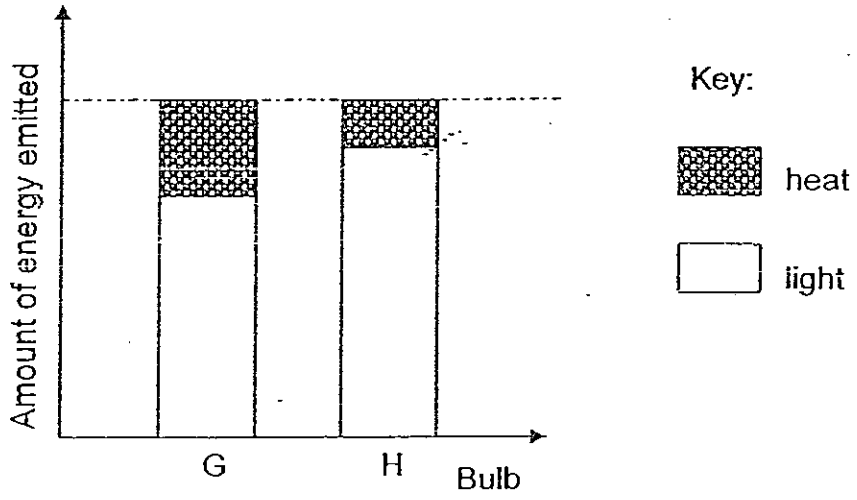


His teacher advised him against using one of the wheel and axles as he would have to use the most effort to lift the load. Which one of the wheel and axles is his teacher referring to?

(1) V
(2) W
(3) X
(4) Y

16

22. A group of students conducted a test with two bulbs, G and H, of the same voltage. A heat and light sensor was used to measure the amount of light and heat given out by the two bulbs.
The graph below shows the amount of light and heat emitted by the two bulbs.

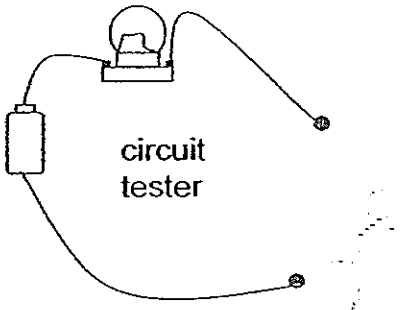


Based on the graph above, which of the following statements are **definitely** true about bulbs G and H?

A Bulb H will last longer than bulb G.
B Bulb H is more efficient than bulb G.
C Bulb G will be brighter than bulb H when the same amount of electricity is supplied.
D Bulb G is hotter than bulb H when the same amount of electricity is supplied.

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

23. Steven fixed 4 metal buttons W, X, Y and Z to a card. There were wires under the card which connected some of the buttons to one another. He used a circuit tester to connect to two of the metal buttons.

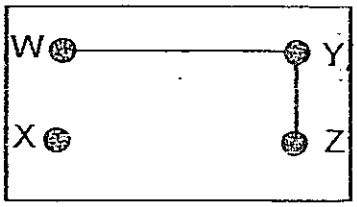


The table below shows the results when the metal buttons were tested with the circuit tester.

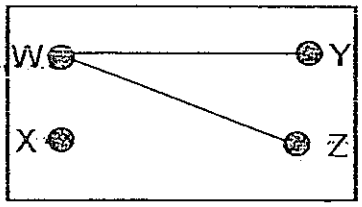
Metal buttons tested	Did the bulb light up?
W and X	No
W and Y	Yes
W and Z	Yes
X and Y	No
X and Z	No
Y and Z	Yes

Which of the following show the possible connections of the wires between the metal buttons?

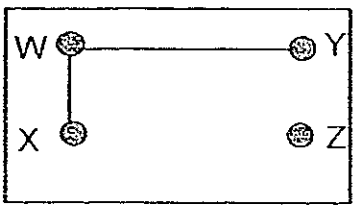
(A)



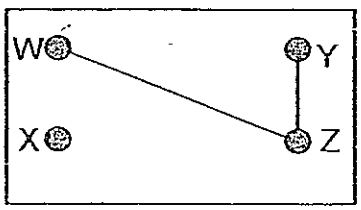
(B)



(C)



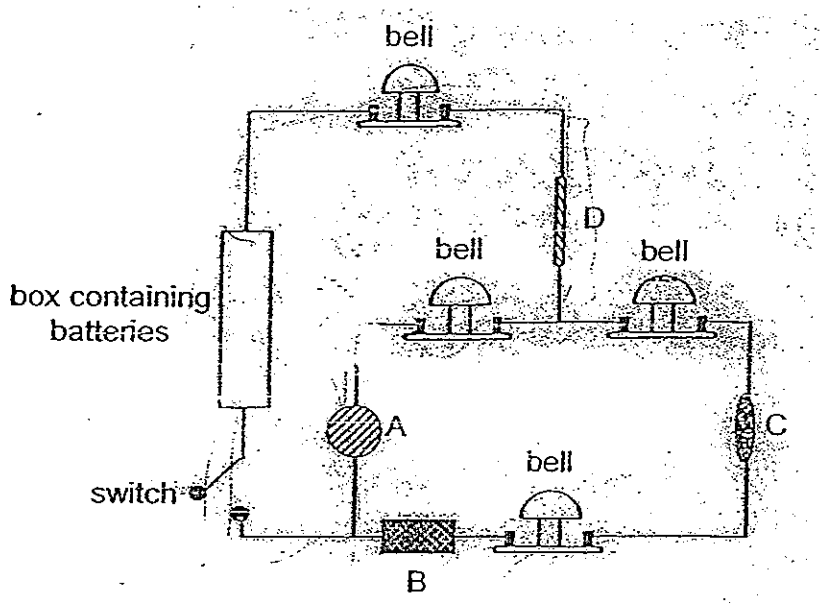
(D)



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

18

24. Ali set up the circuit below. He was told that one or more of the objects, A, B, C or D, in the circuit were electrical insulators.



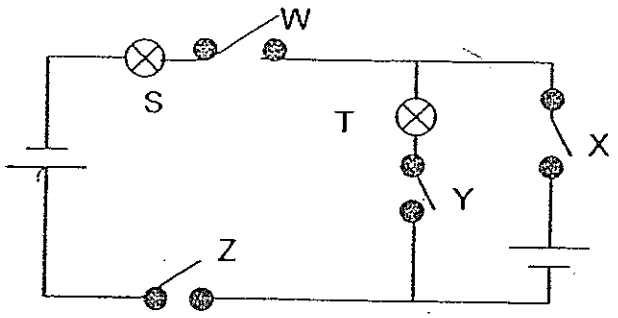
When he closed the switch, he observed that only <u>two</u> bells in the circuit rang. Which of the four objects, A, B, C or D were electrical insulators?

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

25. Which one of the following materials is a non-metal and a good conductor of electricity?

(1) copper
(2) carbon
(3) nichrome
(4) porcelain

26. In the circuit below, which of the switches should be left open and which should be closed so that only bulb S lights up?



	Switch W	Switch X	Switch Y	Switch Z
(1)	Open	Closed	Closed	Open
(2)	Closed	Closed	Open	Closed
(3)	Open	Open	Closed	Closed
(4)	Closed	Closed	Open	Open

27. Which of the following organisms carry out respiration?

A: Yeast
B: Bacteria
C: Paramecium
D: Morning glory flower

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

28. Which of the following statements about fungi are true?

A. Fungi can photosynthesize.
B. Fungi can grow on living and dead organisms.
C. Bread mould is a fungus that reproduces from spores.
D. Jew's ears obtain food from the log that they grow on.

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

29. The children below are making some statements on the process of respiration.

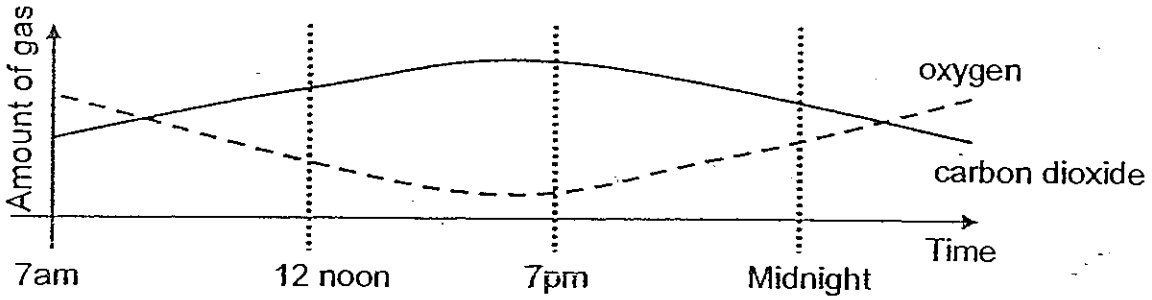
Cindy:	During respiration, energy is stored.
Dominique:	Glucose and water are released during respiration.
Mike:	During respiration, energy and carbon dioxide are released.
Susan:	Respiration is a process of breaking down food in living cells.

Who has made the correct statements about respiration?

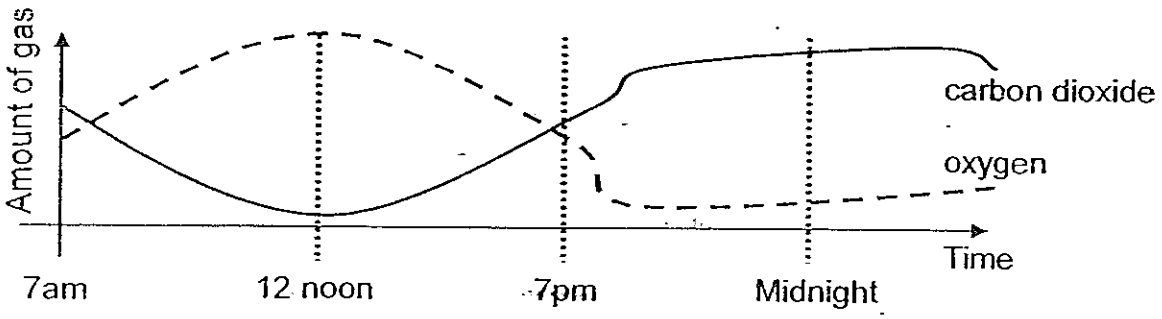
(1) Cindy and Mike
(2) Mike and Susan
(3) Susan and Dominique
(4) Cindy and Dominique

30. Which one of the following graphs best shows the level of oxygen and carbon dioxide in the air in the forest over a period of 24 hours?

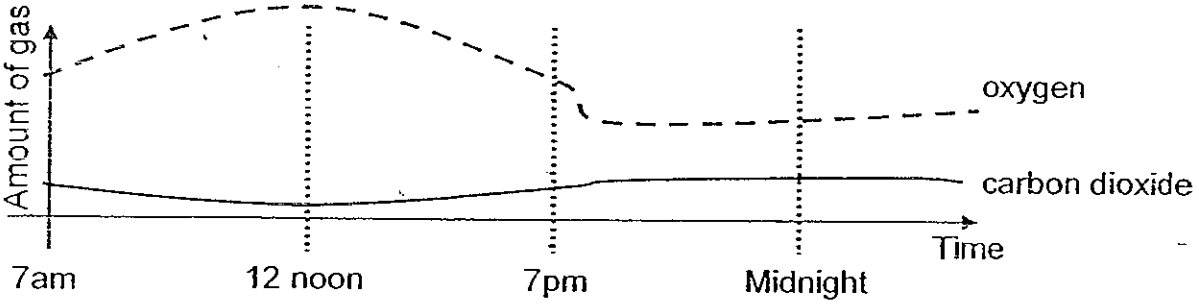
(1)



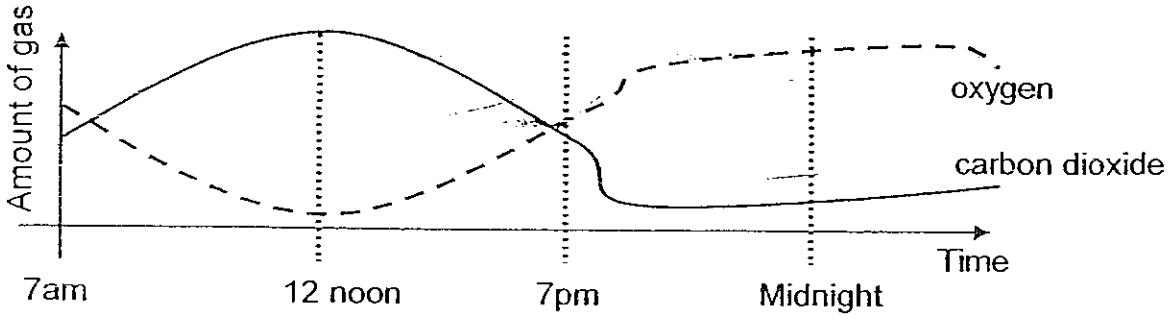
(2)



(3)



(4)



--------- End of Section A ---------

22

Name : _____( )

Class : Primary _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

SIMPLE IN VIRTUE

STEADFAST IN DUTY

慈 纯 义 坚

Primary 6

First Continual Assessment – 2008

SCIENCE

BOOKLET B

27th February 2008

Booklet A	60
Booklet B	40
Total	100

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

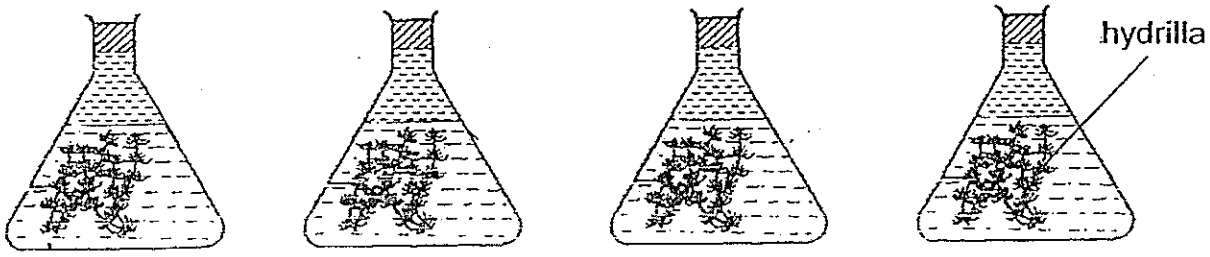
16 questions
40 marks

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

_____
Parent's Signature/Date

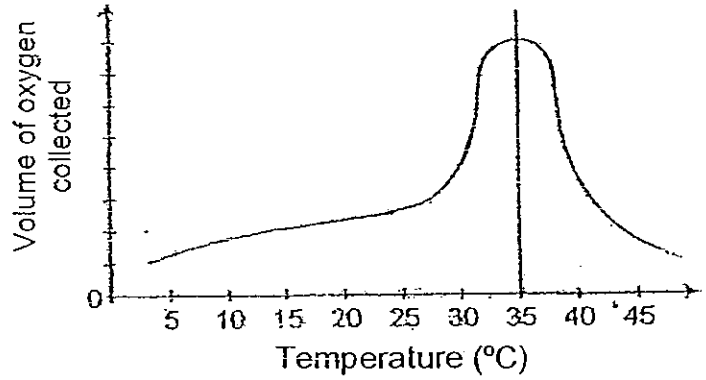
Section B : (40 marks)
Answer all the questions.

31. The set-up below is used to find out the effect of temperature on the rate of photosynthesis of hydrilla plant. The water in each flask was collected from the same location of the pond and the same amount of hydrilla plant was placed in each flask.



Water at 18°C Water at 23°C Water at 28°C Water at 33°C

The graph below shows the relationship between the temperature of water and the rate of photosynthesis of the hydrilla plant.



(a) Based on the graph above, what can you conclude about the effect of temperature on the rate of photosynthesis of the hydrilla plant?
(2 marks)

_____

_____

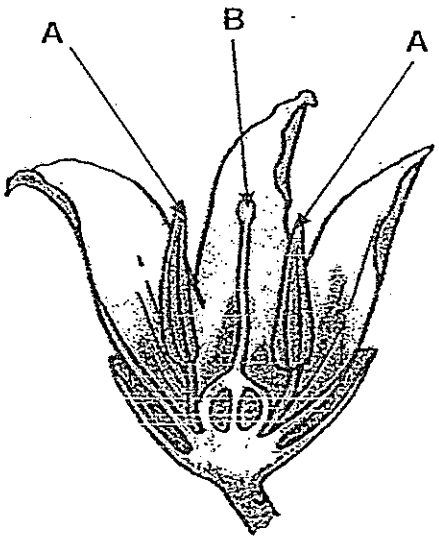
(b) What do you think might happen to the living organisms in the pond if the temperature of the water increases to 43° C? Explain your answer.
(1 mark)

_____

_____

24

32. The diagram shows the cross-section of a flower.



(a) Name the parts labelled A and B and state their functions. (2 marks)

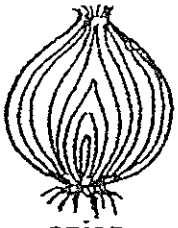
Part	Name	Function
A		
B		

(b) Would the flower be able to develop into a fruit if the parts labelled A were removed? Give a reason for your answer. (1 mark)

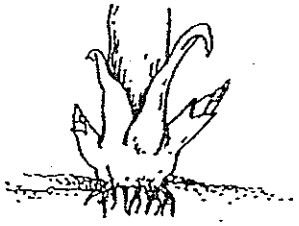
_____

_____

33. Look at the pictures below.



onion



banana

Give one similarity in the reproductive methods of the plants in the pictures. (1 mark)

Similarity: _____

_____

34. Look at the table below carefully.

	Animals	Plants
Male sex cells	X	**Pollen**
Female sex cells	**Eggs**	Y

a) Identify X and Y. (1 mark)

X: _____

Y: _____

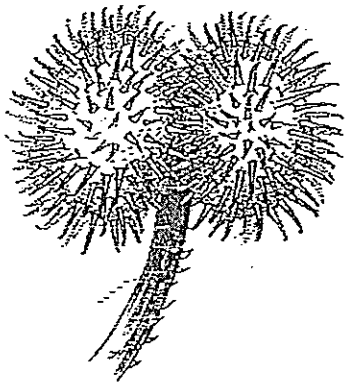
b) Name the reproductive organs in animals that produce the male sex cells and eggs respectively. (1 mark)

Male sex cell: _____

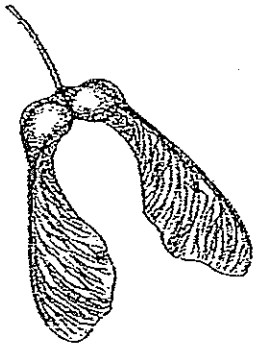
Eggs: _____

2b

35. Study the pictures below carefully.



Fruit A



Fruit B

Identify the method of dispersal for the fruits shown above. Explain how the physical characteristics of the fruits help them to be dispersed. (2 marks)

Fruit A

Dispersal method : _____

Reason: _____

Fruit B

Dispersal method : _____

Reason: _____

36. Four aquariums were set up containing different organisms. All other conditions were similar.

Aquarium	Organisms	Condition
A	water snails, algae	light
B	goldfish, tubifex worms	light
C	water snails, hydrilla	no light
D	guppies, duckweeds	no light

(a) In which aquarium will all the organisms survive the longest? Explain your answer. (1 mark)

_____

_____

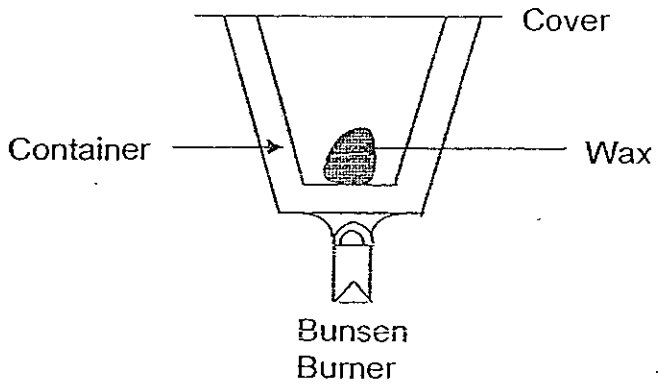
(b) Sonny collected a lot of water plants from the pond and placed them in Aquarium B. The next morning, some of his fishes died. Suggest a reason for his observation. (1 mark)

_____

_____

28

37. An equal amount of wax was placed in 4 containers, each made of a different material, and heated over a bunsen flame for several minutes.



The remaining amount of wax not melted was removed and weighed. Their weights were recorded in the table below.

Material	Weights (grams)
A	15
B	7
C	22
D	18

(a) Based on the information given above; which material is most suitable for making a thermo flask to keep coffee warm? (1 mark)

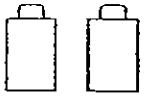
_____

(b) Suggest a reason for your answer in (a). (1 mark)

_____

38. Sammi wanted to test if liquid X is an electrical conductor. She was provided with the following apparatus. (2 marks)

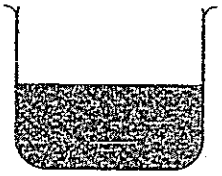
wires



2 batteries

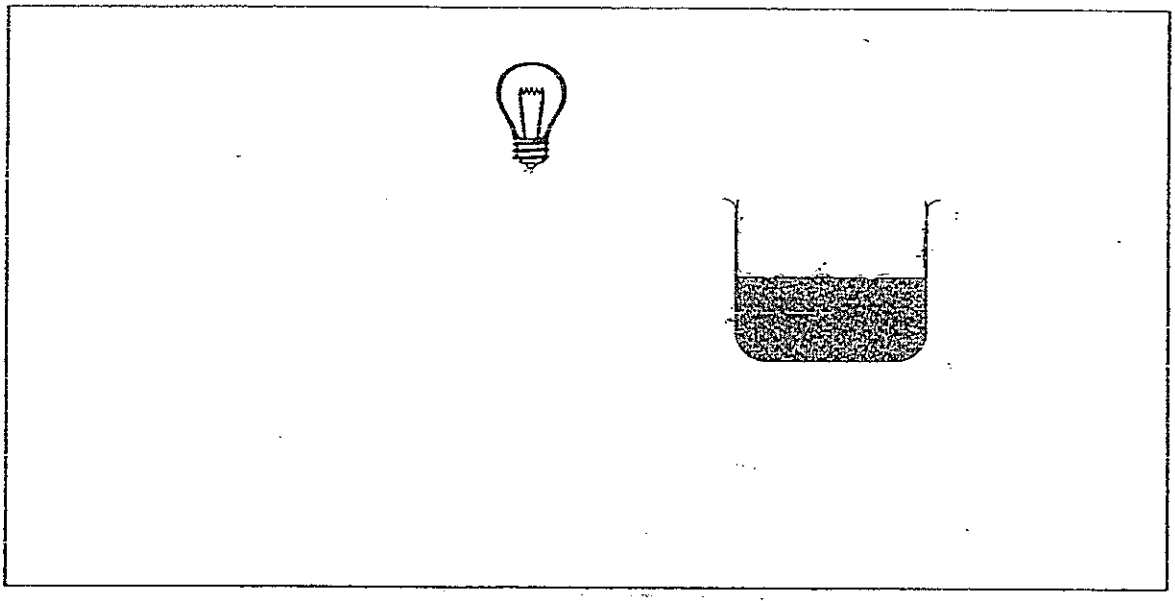
bulb

metal plates



Liquid X

(a) Draw in the box provided the circuit that Sammi would set up to test the electrical conductivity of liquid X.



(b) Using the circuit set-up, how does Sammi tell whether Liquid X is an electrical conductor? (1 mark)

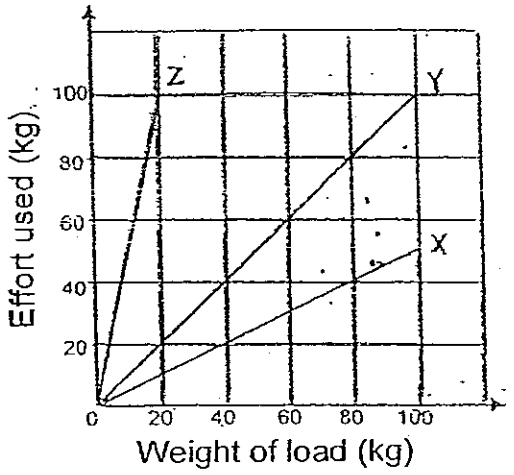
_____

_____

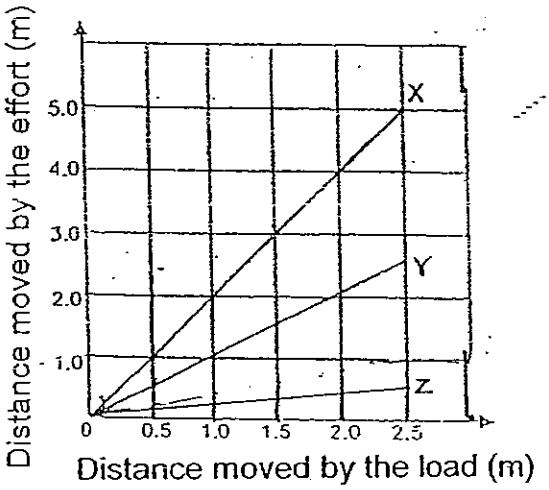
3a

39. Amy conducted an experiment with three different simple machines X, Y and Z to lift different loads. She recorded the weight of the load, the amount of effort used and the distances moved by the effort and load each time. Using the information she collected from the experiment, she plotted two graphs as shown below.

Graph P



Graph Q



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

_____

(b) Based on Graph P, compare the amount of effort Amy used when Machines X and Z were used to lift a load of 20kg. (2 marks)

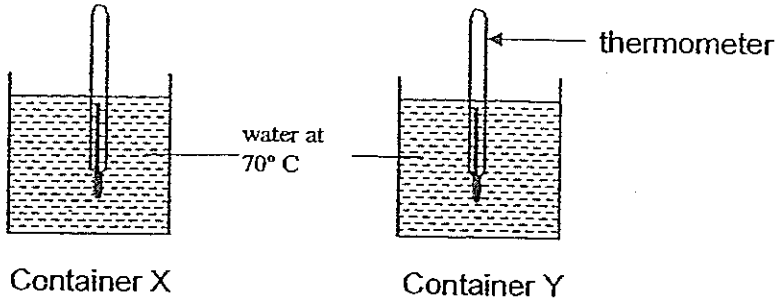
_____

_____

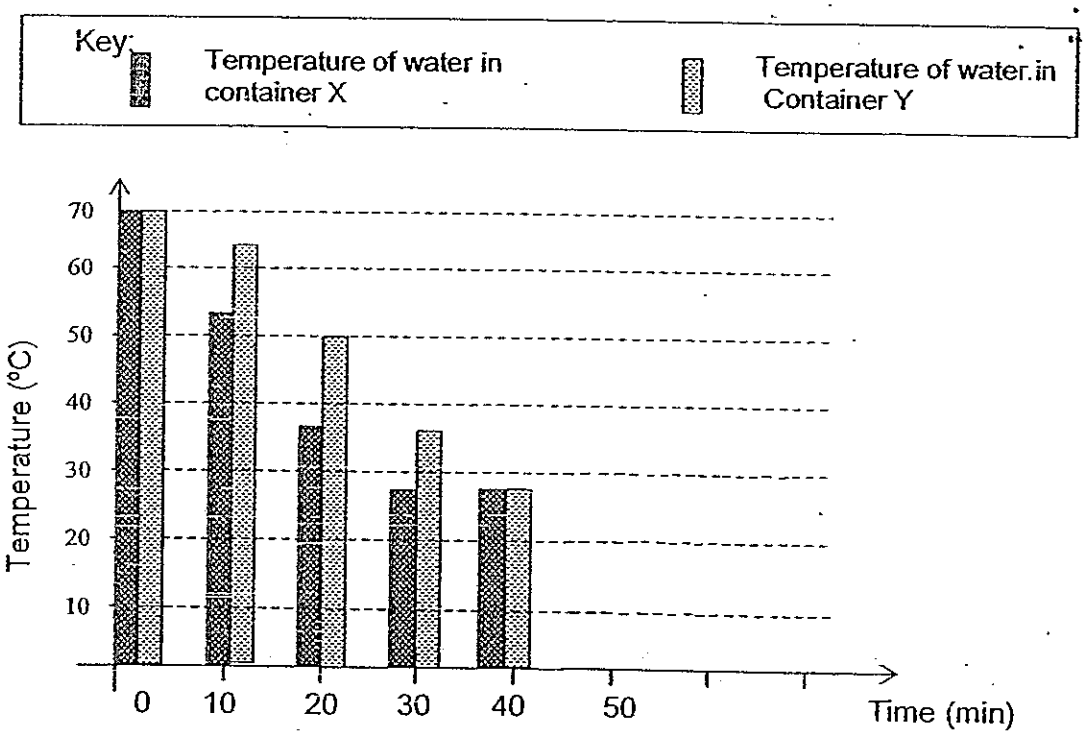
(c) Which one of the above simple machines, X, Y or Z would Amy use if she wanted to take the shortest time to complete the work? (1 mark)

_____

40. Bala set up the experiment shown below to see the changes in the temperature of water in two containers, X and Y, of different materials.



He filled the 2 containers with water at 70° C and left them in a room. He recorded the temperature of the water at 10-minute intervals.
He drew a bar graph as shown below.



a) Based on the information given in the graph, which container of water cooled down more quickly? (1 mark)

_____

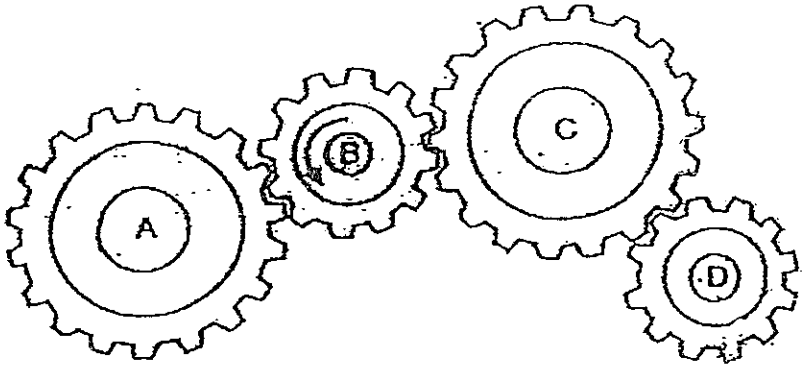
b) Give a reason for your answer in (a) above. (1mark)

_____

C) Bala forgot to draw the bars for the 50th minute. Using your ruler and pencil, complete the graph for him. (1 mark)

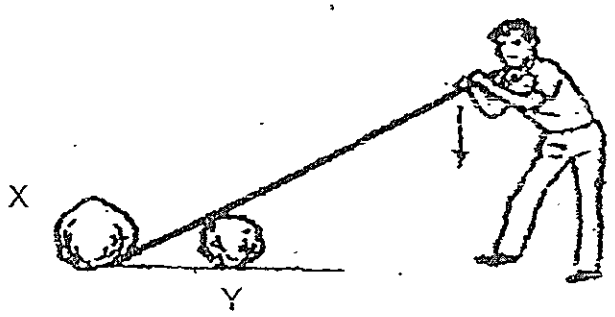
32

41. Study the set of gears below.



(a) Indicate on the diagram the direction in which gears C and D will rotate. (1 mark)

(b) The man in the picture below is trying to lift up rock X.



(i) What can you say about the distance moved by the effort and the distance moved by the load. (1 mark)

_____

_____

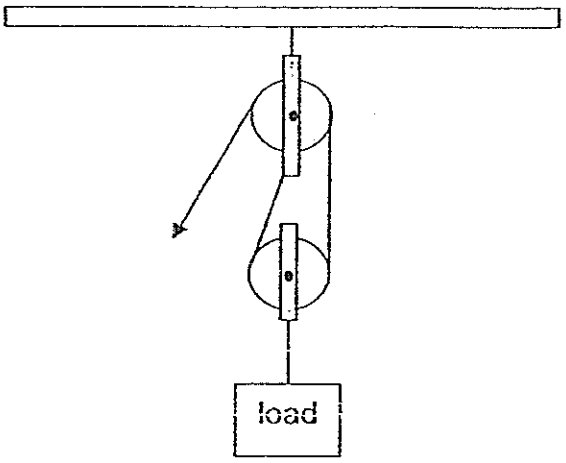
(ii) What is the purpose of having rock Y? (1 mark)

_____

(iii) What should the man do in order to reduce the effort used to lift rock X? (1 mark)

_____

42. An experiment was conducted using the pulley system shown below.



The effort needed to lift different loads was recorded in the following table.

Load (kg)	Effort needed (kg)
10	5.1
20	10.2
30	15.2
50	

(a) Predict and write in the table above the effort needed to lift a 50kg load. (1 mark)

(b) State two advantages of using this pulley system. (2 marks)

(i) _____

_____

(ii) _____

_____

34

43. The classification table below shows the classification of some animals by their outer covering.

Animals			
Group W	Group X	Group Y	Group Z
Crab Turtle Snail	Ostrich Hawk Platypus	Dog Lion Polar bear	Guppy Lizard Seahorse

(a) (i) Identify the animal that has been classified wrongly in the classification table above. (½ mark)

_____

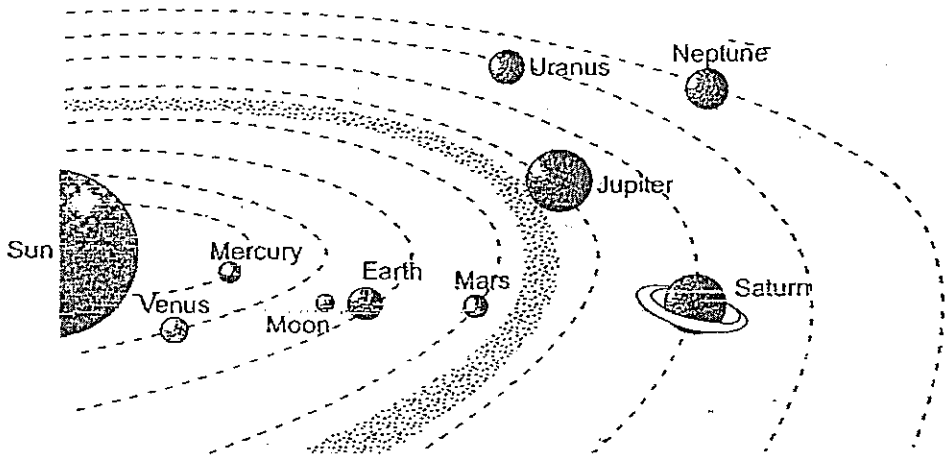
(ii) In which group W, X, Y or Z should this animal be classified? (½ mark)

_____

(b) Write an appropriate heading for animals in Group Z. (1 mark)

_____

44. Life exists on Earth but not on the other planets.



Suggest **two reasons** why life can exist on Earth. (2 marks)

a) _____

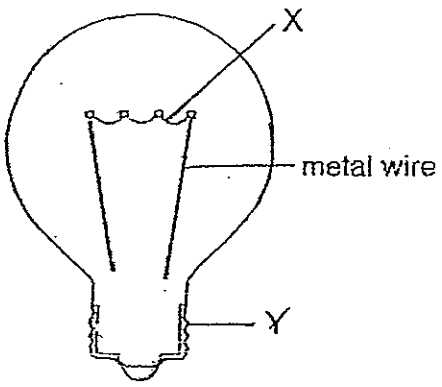
_____

b) _____

_____

3b

45. The diagram below shows an **incomplete** diagram of the internal parts of a bulb.



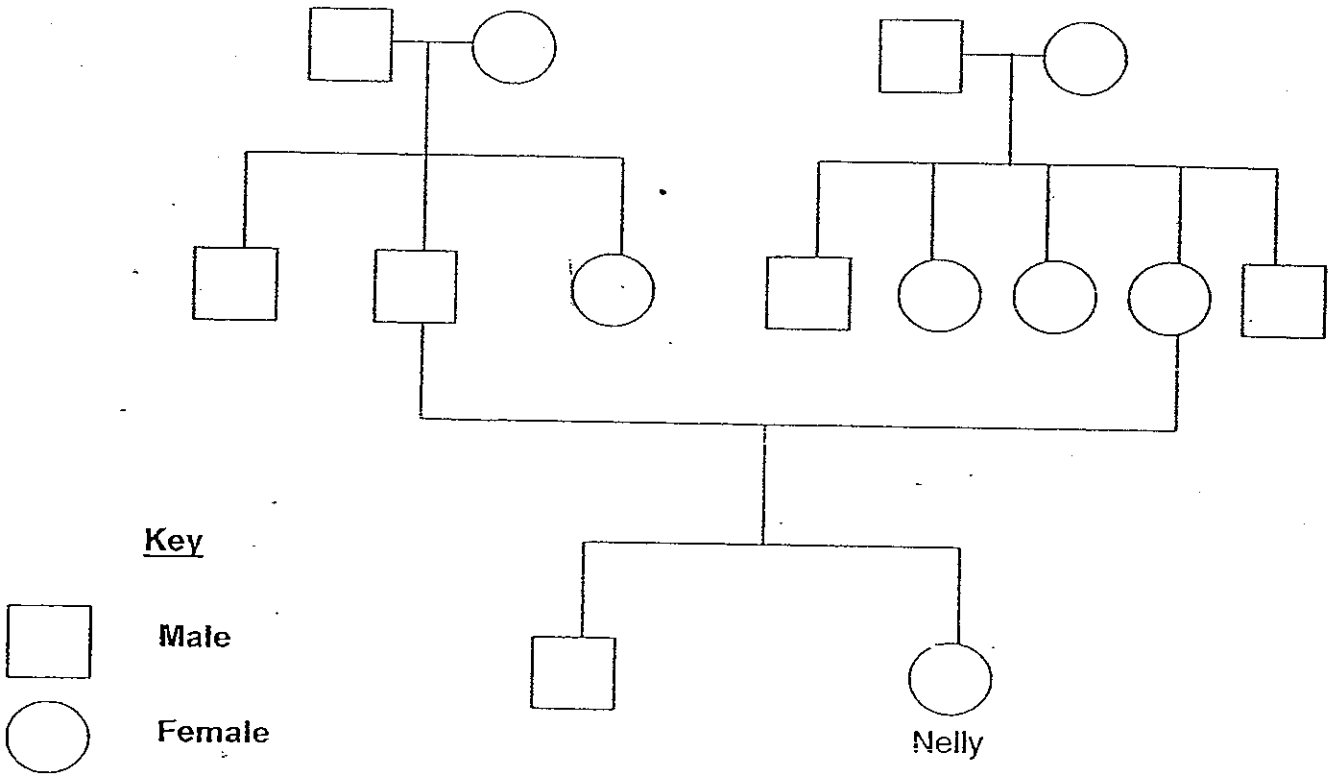
(a) **Complete the diagram by drawing the metal wires** to show how they are connected within the bulb. (1 mark)

(b) Name the following parts of the bulb. (1 mark)

X: _____

Y: _____

46. Look at Nelly's family tree shown below.



Based on the diagram, determine if the statements are "True", "False" or "Not possible to tell", by putting a tick (√) in the correct column. (2 marks)

	True	False	Not possible to tell
(a) Nelly has only one sibling.			
(b) Nelly has 4 aunts and 3 uncles.			
(c) Nelly's maternal grandmother has 1 sister and 3 brothers.			
(d) Nelly has many cousins as her uncles and aunties are all married.			

---------End of Paper---------

38

CHIJ Primary School

Primary 6 Science CA1 Exams (2008)

Answer Keys

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

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

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

31a. As temperature increases, the rate of photosynthesis increases up to an optimal point of 35°C. The rate decreases as the temperature increases further.

31b. The living organism will die the temperature is too high and there will not be enough oxygen.

32a. A : Anther/to produce pollen grains
B : Stigma/ to attract the pollen grains

32b. Yes, the other plants have an anther that contains pollen grains so it can be passed to the stigma by wind or insects.

33. They reproduce from plant parts.

34a. X : sperm Y : ovules

34b. Male sex cell : testes
Eggs : ovary

35a. Fruit A
By animals
It has hooks to cling onto animal's fur.
Fruit B
By wind
It has a wing-like structure to enable into float in the air

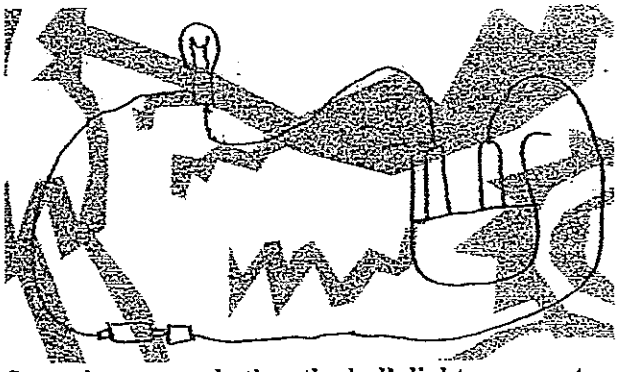
36a. Aquarium A. There is food for the water snails as they could feed on the algae and oxygen would be present when algae photosynthesize. The algae could make food for itself as light and carbon dioxide is present.

36b. At night, the water plants do not photosynthesize but only respire and hence complete with the fisher for oxygen.

37a. Material C.

37b. It is a bad conductor of heat since it conducted the least amount of heat to melt the wax. Hence, it will conduct little heat away from the hot coffee.

38a.



38b. Sammi can see whether the bulb light up or not.

39a Fixed pulley

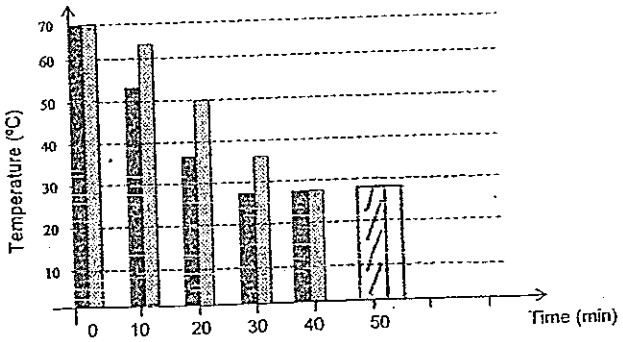
39b. Using machine X enables Amy to use effort that is half the amount of the load while machine Z requires her to use an effort that is 5 times amount of load.

39c. Z

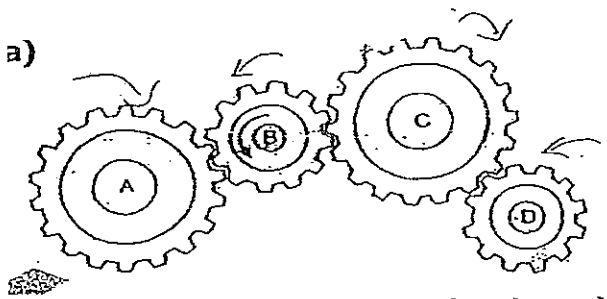
40a. Container X.

40b. Container X is made of a better conductor of heat so it can loss heat faster.

40c.



41a.



41b(i). Effort wills more a longer distance than the road.

(ii). To act as a fulcrum.

(iii). Put Y nearer to X.

42a 25.2

42b(i). It reduces effort.

(ii). It changes the direction of force.

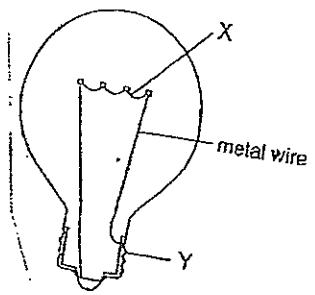
43a(i). Platypus (ii) Group Y

43b. scales

44a. **The position is just right; it will not be too hot or too cold.**

44b. **There are presence of water.**

45a.



45b. **X : filament**
Y : metal case

46a. **True** (b) **False**

46c. **Not** (d) **False**