CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 2
2013
PRIMARY FIVE

SCIENCE

BOOKLET A

Name: _____ ( )

Class: Primary 5 - _____

Date: 24 October 2013

30 questions

60 marks

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

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.

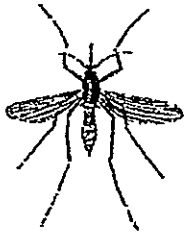
This booklet consists of 26 printed pages, excluding cover page.

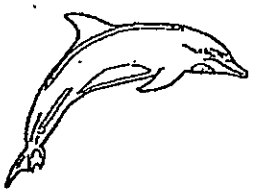
Booklet A (30 × 2 marks)

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 your answer on the Optical Answer Sheet.

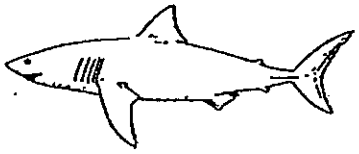
(60 marks)

1. Jason had to classify the four animals shown.

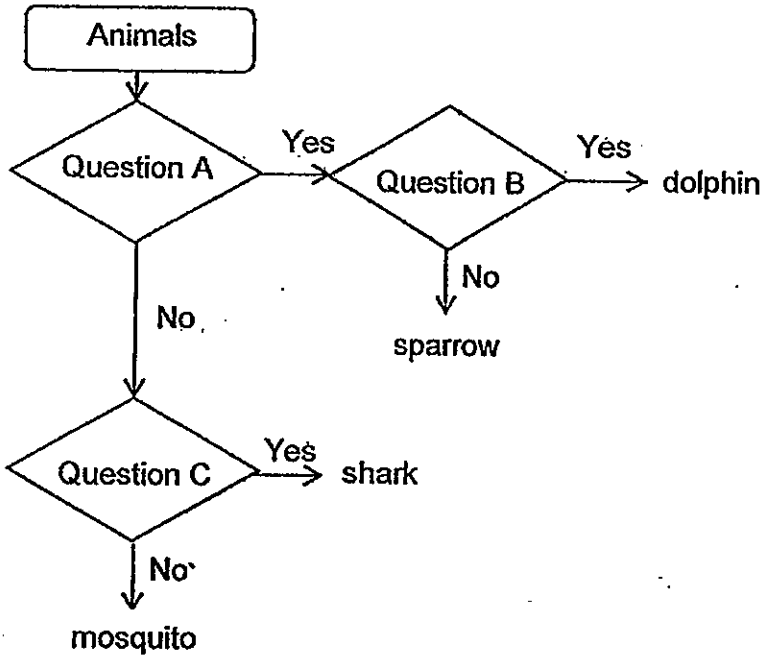

mosquito


dolphin


sparrow


shark

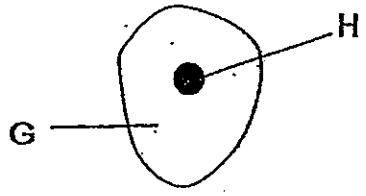
He classified them with the help of the chart below.



What were the three questions A, B and C?

	Question A	Question B	Question C
(1)	Do they have gills?	Do they have lungs?	Do they live on land?
(2)	Do they have lungs?	Do they live in water?	Do they have gills?
(3)	Do they live on land?	Do they have gills?	Do they have lungs?
(4)	Do they live in water?	Do they have lungs?	Do they have gills?

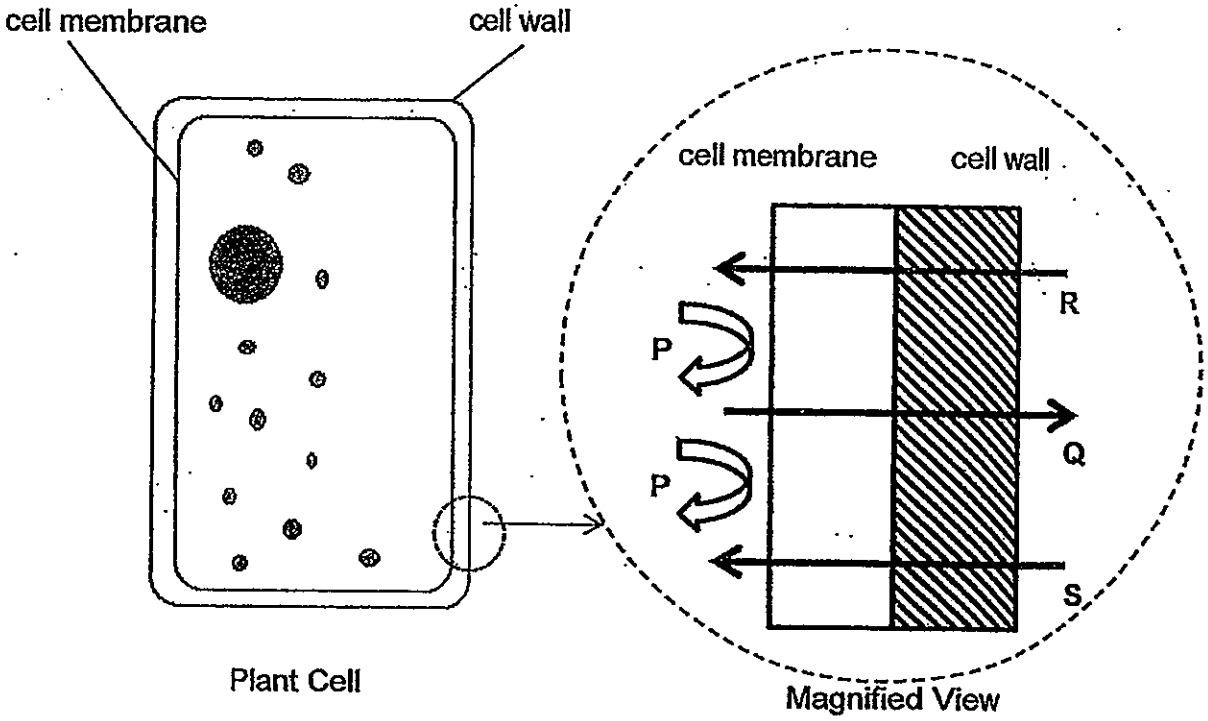
2. The diagram below shows a cell.



Which of the following correctly state the functions of the labelled parts?

	G	H
(1)	Gives the cell its shape.	Controls the movement of materials in and out of the cell.
(2)	Controls all activities of the cell.	Allows cell activities to take place.
(3)	Allows cell activities to take place.	Controls all activities of the cell.
(4)	Controls the movement of materials in and out of the cell.	Gives the cell its shape.

3. The diagram below shows the outer layers of the plant cell as well as the movement of substances, P, Q, R and S, in and out of the cell as represented by the arrows shown.

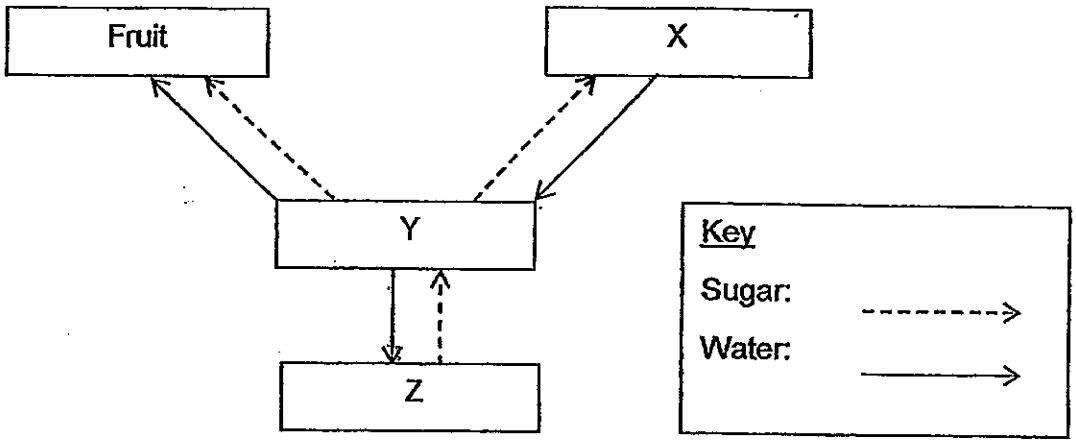


Based on the diagram above, which of the following correctly describes the cell membrane of the plant cell?

A It gives the plant cell a regular shape.
B It controls the flow of substances in and out of the cell.
C It is semi-permeable and allows only substance P to pass through.
D It allows substances Q, R and S to pass through it easily but prevents substance P from passing.

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

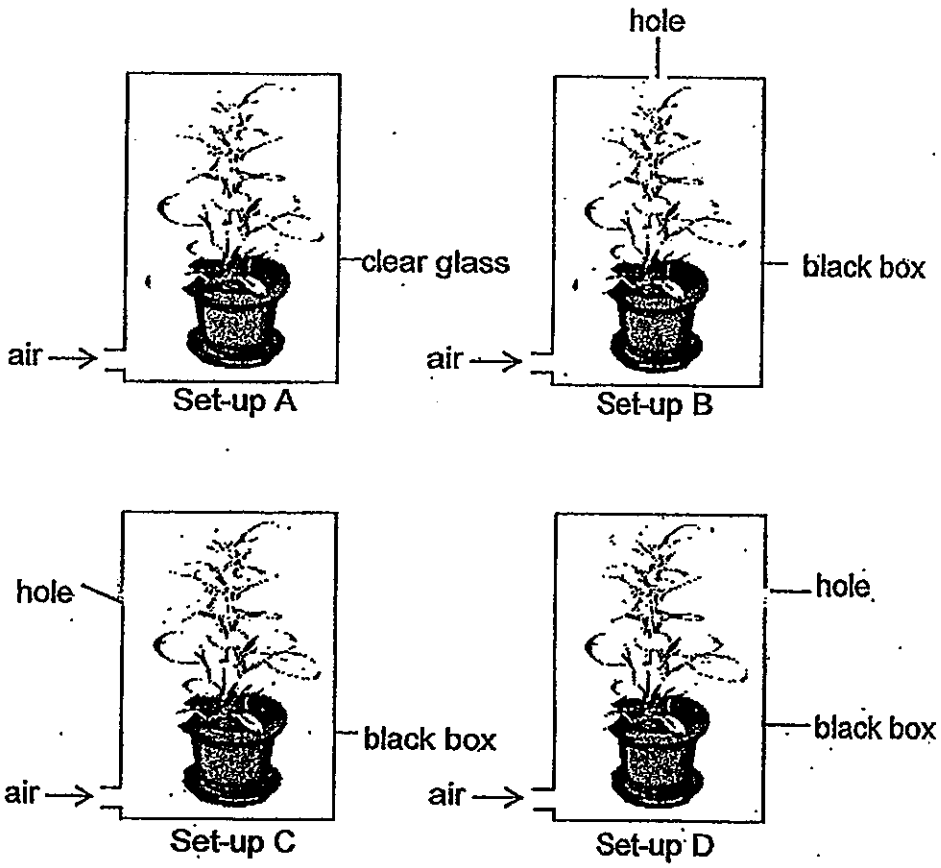
4. The diagram below shows how sugar and water are transported to and from different parts of a plant.



Which one of the following correctly shows the parts of the plant that are represented by X, Y and Z?

	X	Y	Z
(1)	Stem	Roots	Leaves
(2)	Roots	Leaves	Stem
(3)	Roots	Stem	Leaves
(4)	Leaves	Stem	Roots

5. Laura conducted an experiment as shown below. She prepared 4 set-ups, A, B, C and D. At the start of the experiment, she added 200ml of water to each of the set-ups.



The aim of her experiment is to find out _____.

(1) how plants respond to light
(2) if air is needed for plant growth
(3) if light is needed for photosynthesis
(4) how much water a plant can take in

6. The tables below show how Karen and Janet classified some organisms into two groups.

Karen's classification:

Group A	Group B
lime plant chilli plant	bread mould toadstool moss

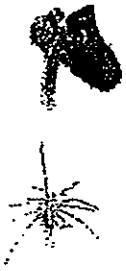
Janet's classification:

Group C	Group D
lime plant chilli plant moss	bread mould toadstool

How did the two girls group the organisms?

	Karen	Janet
(1)	They are flowering or non-flowering plants.	They have fruits or no fruits.
(2)	They reproduce from seeds or spores.	They can or cannot make food.
(3)	They have or do not have chlorophyll.	They are flowering or non-flowering plants.
(4)	They make their own food or feed on decaying matter.	They have or do not have chlorophyll.

7. The diagram below shows a bean sprout and mushrooms.



bean sprout

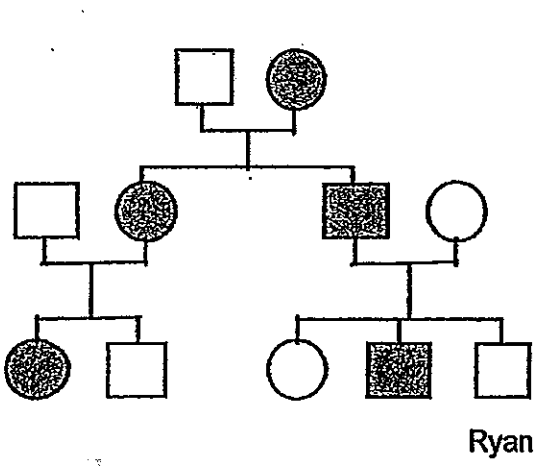
mushrooms

Which of the following comparisons are correct?

	Bean sprout	Mushrooms
A	Does not need oxygen	Do not need carbon dioxide
B	Reproduces from a seed	Reproduce from spores
C	Will develop green leaves	Will not develop green leaves
D	Depends on seed leaves for food	Depend on decaying matter for food

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

8. The diagram below shows 3 generations of Ryan's family that carry the genetic trait of double eyelids.



Key:

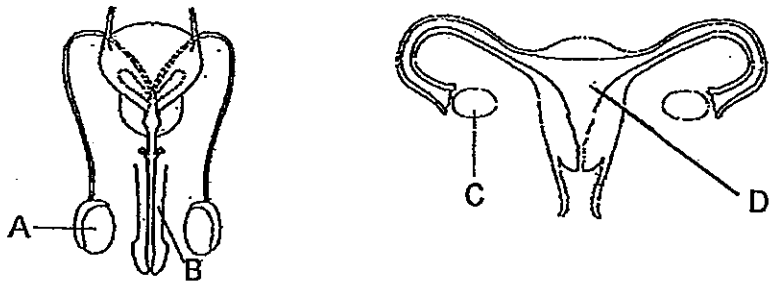
- Female with no double eyelids
- Female with double eyelids
- Male with no double eyelids
- Male with double eyelids

Based on the family tree above, which of the following statements are true?

A Ryan has a cousin who has double eyelids.
B Ryan's mother inherited the double eyelids from his grandmother.
C There is a possibility of Ryan's sister having a daughter with double eyelids.
D This trait of double eyelids is passed on to only the female members of the family.

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

9. The diagrams below show the human reproductive systems.



Which parts of the reproductive systems produce cells that have to be fused to develop into a baby?

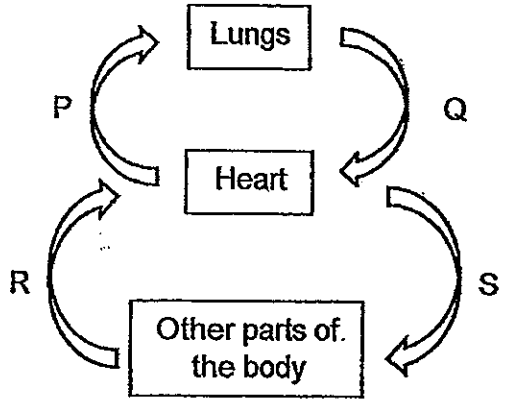
(1) A and C
(2) A and D
(3) B and C
(4) B and D

10. Which of the following is wrongly matched to their functions?

	Organs	Functions
A	Heart	Pumps blood to all parts of the body.
B	Lungs	Transport oxygen around our body.
C	Windpipe	Transports food from the mouth to the stomach.
D	Stomach	Grinds food into smaller pieces.
E	Small intestine	Completes digestion of food.
F	Large intestine	Removes water from undigested food.

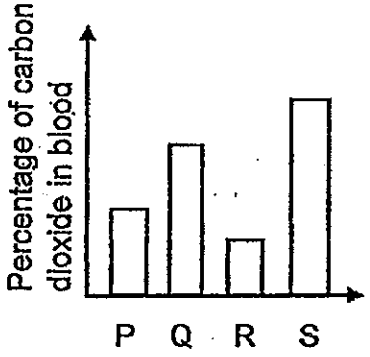
(1) A, B and C only
(2) A, E and F only
(3) B, C and D only
(4) C, D and E only

11. The diagram below is a representation of blood circulation in a human body. Arrows P, Q, R and S represent the flow of blood to the various parts of the body.

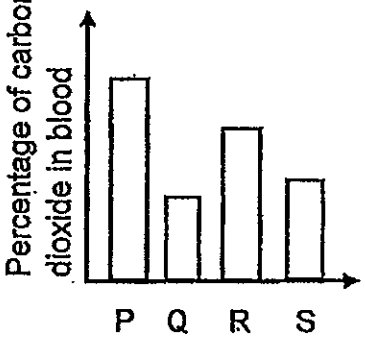


Which one of the following graphs represents the percentage of carbon dioxide in P, Q, R and S?

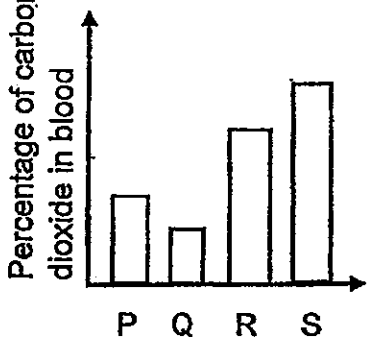
(1)



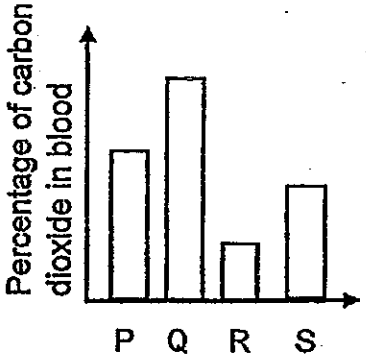
(2)



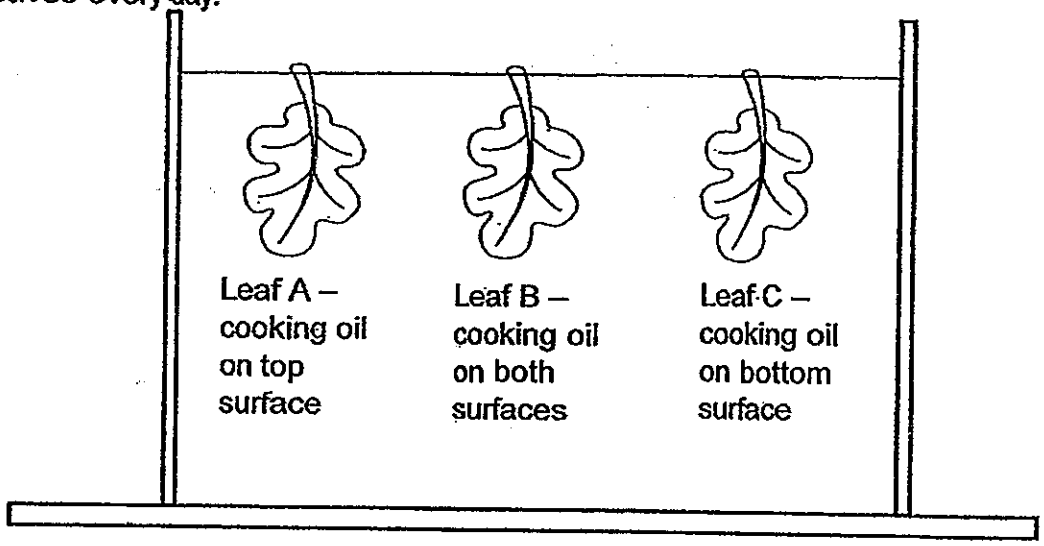
(3)



(4)

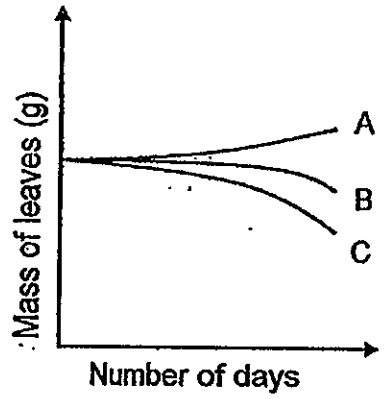


12. Eileen and her classmates smeared different surfaces of three identical leaves with cooking oil and hung them near a window. They weighed the leaves every day.

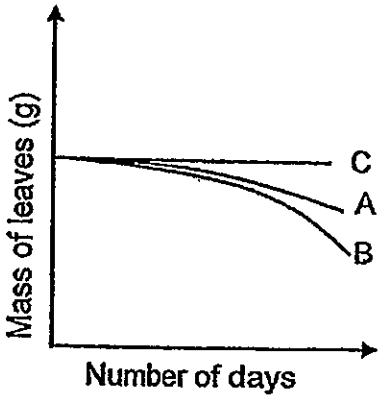


Which one of the following graphs shows the change in mass of the leaves after 3 days?

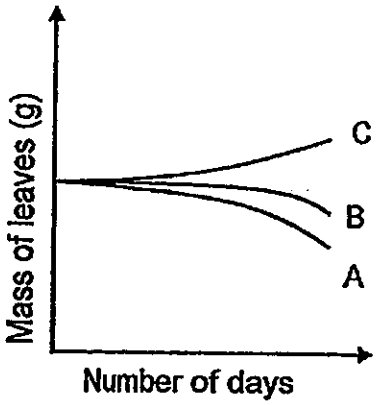
(1)



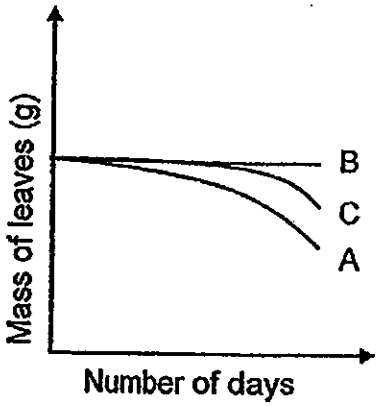
(2)



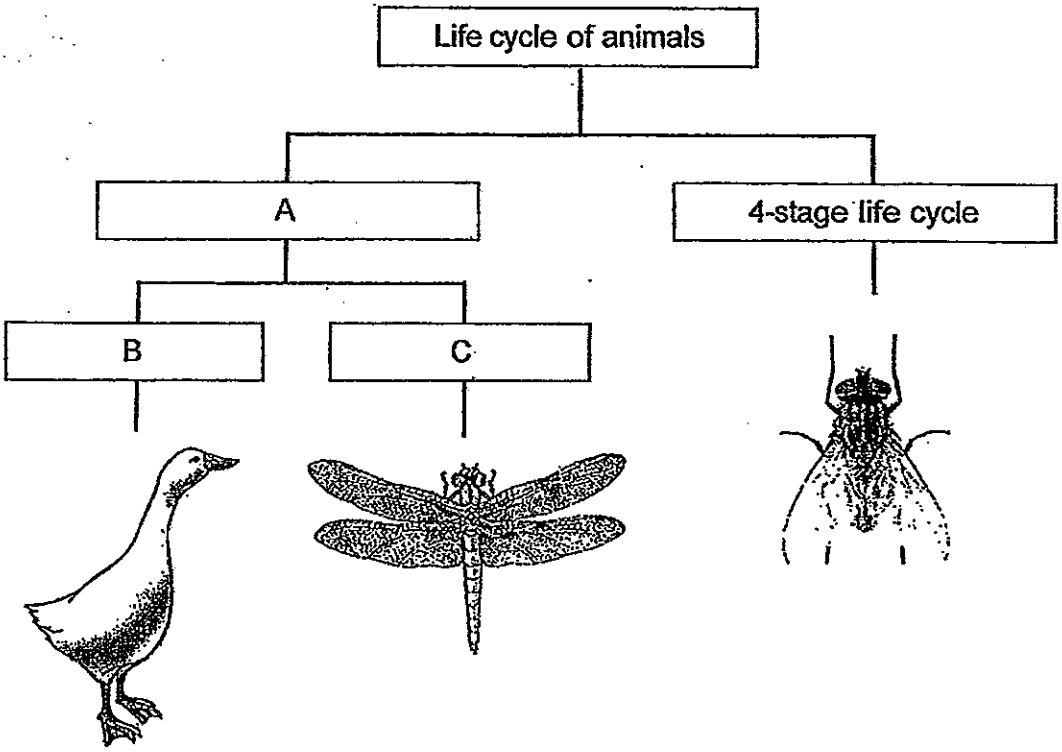
(3)



(4)



13. The classification chart below shows how animals can be classified according to their life cycles.



Which one of the following sub-headings best represent A, B and C?

	A	B	C
(1)	2-stage life cycle	young looks like adult	young does not look like adult
(2)	2-stage life cycle	young does not look like adult	young looks like adult
(3)	3-stage life cycle	young looks like adult	young does not look like adult
(4)	3-stage life cycle	young does not look like adult	young looks like adult

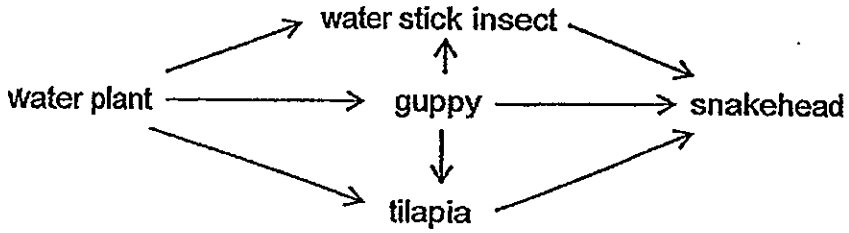
14. The diagram shows organisms in a food chain.

grass → deer → lion

What is the source of energy for this food chain?

(1) sun
(2) water
(3) oxygen
(4) nutrients

15. Study the food web below.

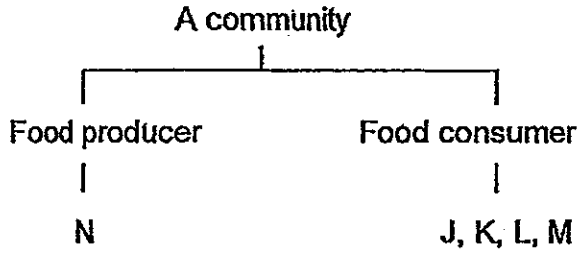


Which of the following statements about the food web are incorrect?

A The tilapia is a plant eater.
B The guppy gets its energy directly from the sun.
C There is only one food producer in the food web.
D The water plant is the prey of the water stick insect.
E The snakehead and the tilapia compete for the guppy for food.

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

16. In a certain community, the organisms are grouped as shown.

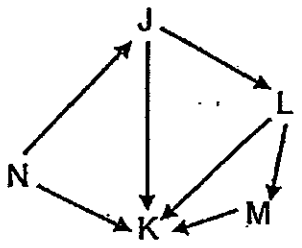


The table below shows the food consumed by the organisms.

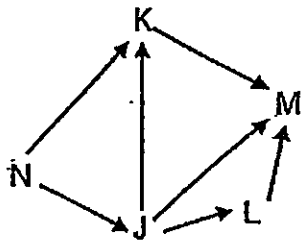
Organisms	Food
J	N
K	N, J
L	K, M
M	J, K

Which one of the following food webs is found in the community?

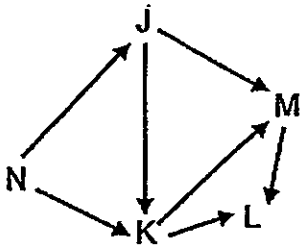
(1)



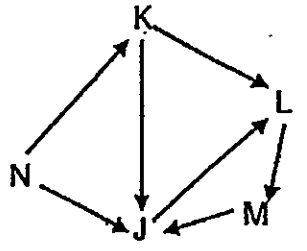
(2)



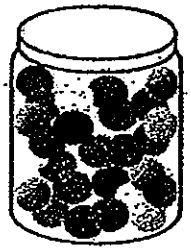
(3)



(4)



17. Bryan filled a container with marbles until he said there was no more space in the container to put anything into it.



However, his friend, Lance said that he was wrong.

What can Lance do to show that Bryan is wrong?

A Heat the container of marbles.
B Shake the container of marbles.
C Pour sand into the container of marbles.
D Pour water into the container of marbles.

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

18. Peter measured the mass of a soccer ball at the beginning of his experiment. After that, he used an air pump to pump air into the soccer ball and measured the changes in the mass. He then recorded the results in the table shown below.

Number of pumps	Mass of soccer ball (g)
0	400
10	405
20	410
30	416

What conclusions can Peter make, based on his results?

A The mass of the soccer ball increases with more pumps.
B The volume of the soccer ball remains the same with more pumps.
C The mass of the soccer ball is determined by the number of pumps given to it.
D The volume of the soccer ball is determined by the number of pumps given to it.

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

19. A steel bar, AB, was magnetised using the stroke method as shown in Diagram 1 below. Diagram 2 shows the magnetic poles of AB after it was magnetised.

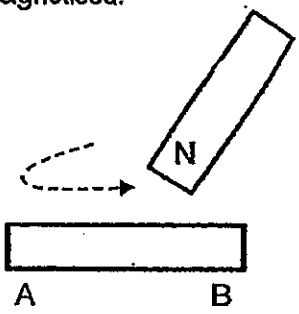


Diagram 1

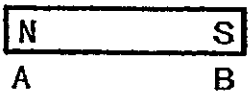
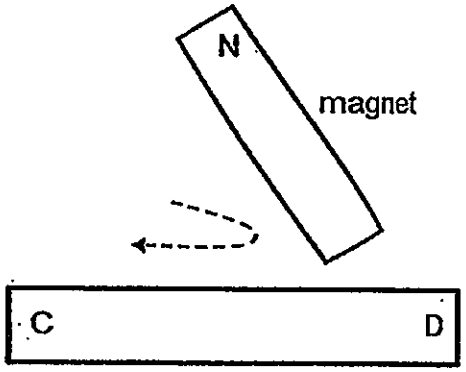
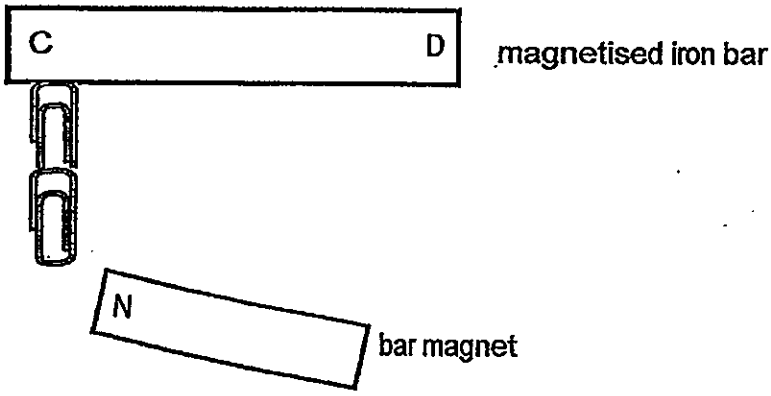


Diagram 2

Similarly, Jenny magnetised an iron bar, CD, using a magnet as shown below.



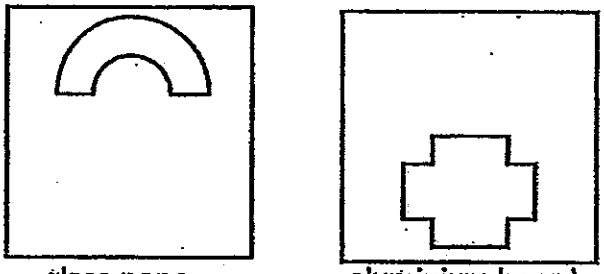
Two paper clips were attracted to the magnetised iron bar. Jenny brought one end of a bar magnet close to the tip of the 2nd paper clip as shown below.



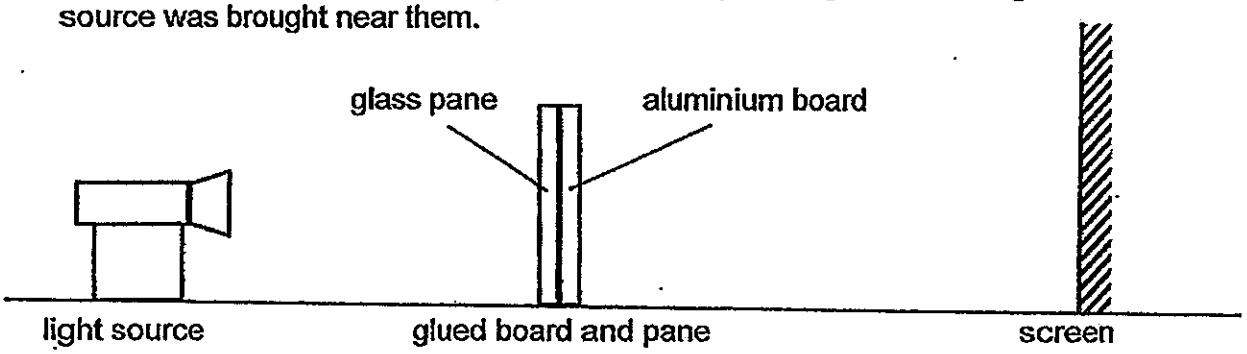
Jenny would probably observe that the 2nd paper clip _____.

(1) did not move
(2) fell to the ground
(3) moved towards the magnet
(4) moved away from the magnet

20. Joseph took an aluminium board and a glass pane of similar size and thickness and cut out shapes from them, as shown in the diagram.



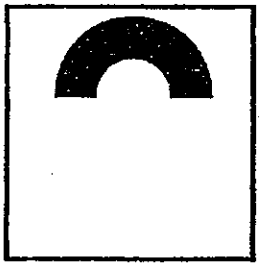
The aluminium board and glass pane were then glued together and a light source was brought near them.

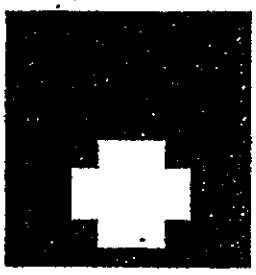


Which one of the following is the shadow formed on the screen?

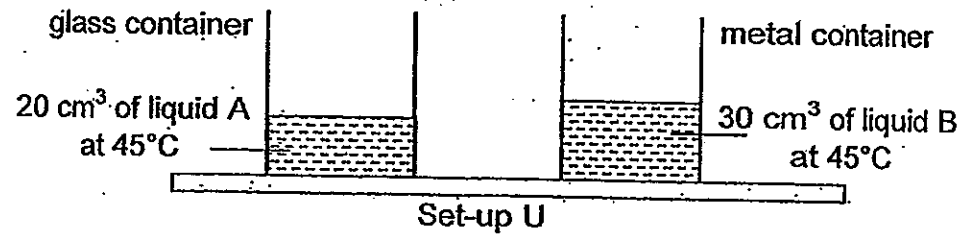
(1) 

(2) 

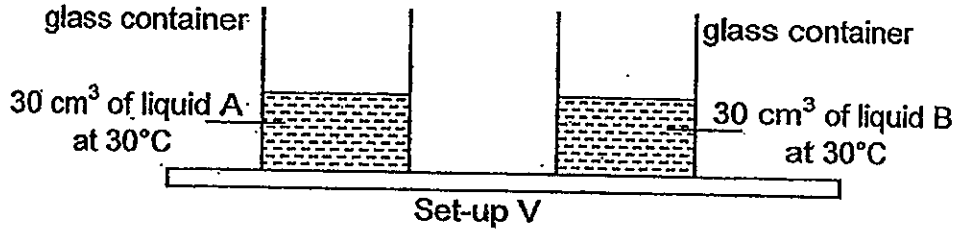
(3) 

(4) 

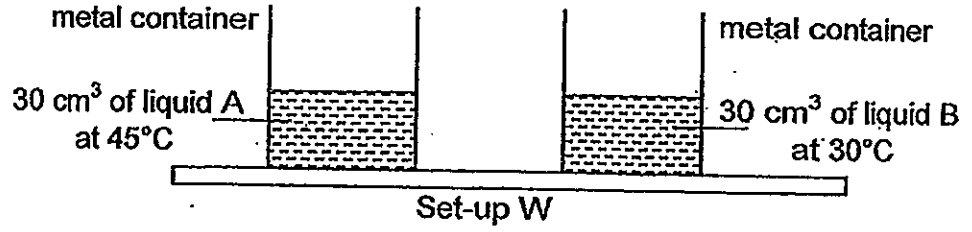
21. Mark set up an experiment to compare the rate of evaporation of 2 liquids, A and B. The diagrams below show 4 different set-ups U, V, W and X.



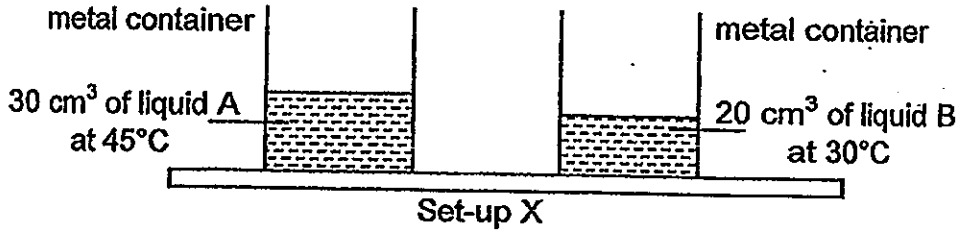
Set-up U



Set-up V



Set-up W

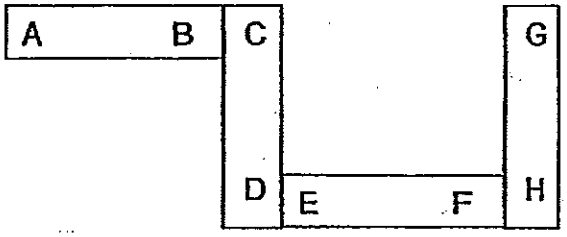


Set-up X

Which of the following set-ups will give a fair test?

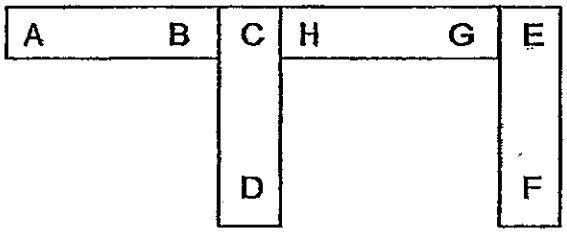
(1) U
(2) V
(3) W
(4) X

22. Xavier arranged four magnets with poles labelled A to H as shown below.

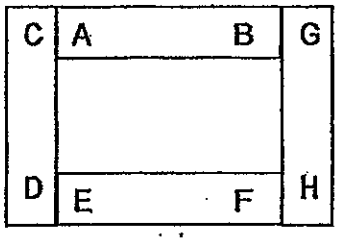


Which one of the following is another possible arrangement?

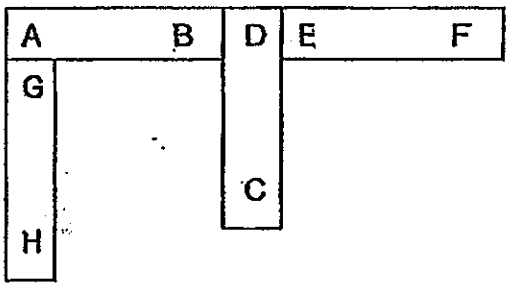
(1)



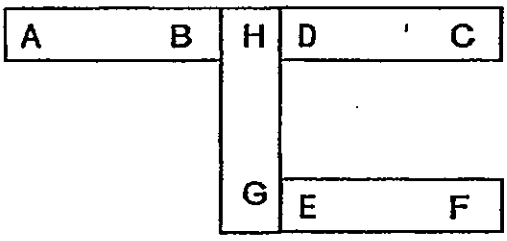
(2)



(3)



(4)



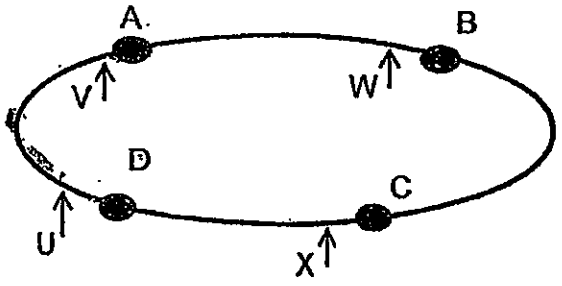
23. Michelle compared the hardness of four tiles K, L, M and N by scratching them with rods made of different materials. She records her observations in the table below, using a tick to indicate the presence of scratch marks on the tiles.

Rods	Presence of scratch marks			
	Tile K	Tile L	Tile M	Tile N
Iron	√	√		√
Wooden	√	√		
Plastic		√		

Which of the following correctly shows the four tiles arranged in ascending order of hardness?

(1) M, N, K, L
(2) L, K, N, M
(3) M, K, L, N
(4) K, N, M, L

24. Melvin placed four blobs of wax, A, B, C and D, at different points on a metal wire, as shown in the diagram.

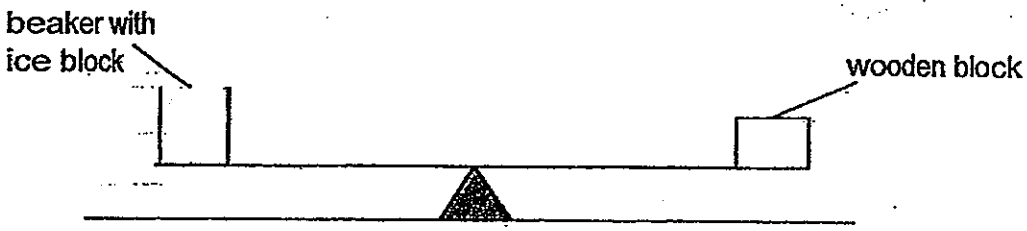


He then heated the wire only at one part and the blobs of wax melted in the order D, A, C and then B.

At which point, U, V, W or X, was the wire heated?

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

25. A beaker containing an ice block was placed on a balance as shown below. The ice block was left to melt completely.



It was observed that the balance tilted downwards on the side of the beaker with ice block when the ice had melted completely. Which of the following could have resulted in the observation made?

A The mass of the ice block increased when it melted.
B The volume of the ice block decreased when it melted.
C The water vapour from the surrounding air condensed on the beaker.

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

26. Jonathan wanted to find out the effect of wind speed on the rate of evaporation of water. He prepared four set-ups, using containers made of the same material, under different conditions.

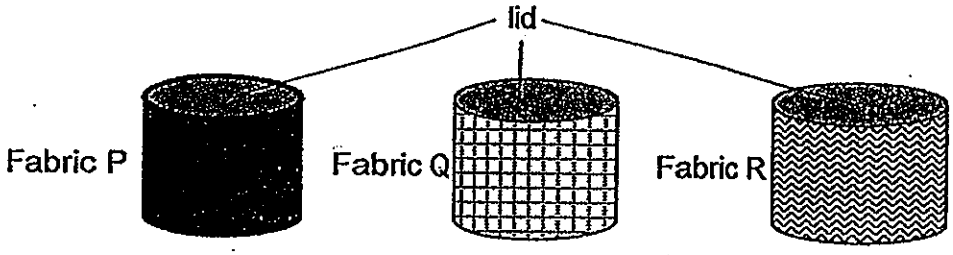
Set-up	Exposed surface area (cm^2)	Volume of water (cm^3)	Surrounding temperature (°C)	Wind speed (km/h)
A	40	80	26	12
B	50	80	29	16
C	50	80	29	18
D	60	80	26	16

Which two set-ups should he use for his experiment?

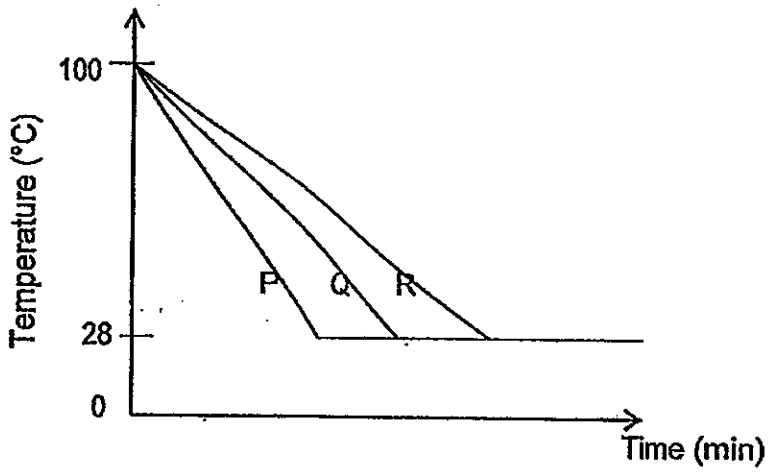
(1) A and B
(2) A and D
(3) B and C
(4) C and D

27. Timothy was given 3 types of fabrics, P, Q and R. He carried out the following experiment using the fabrics.

- He took 3 identical tins and wrapped them with a layer of fabric P, Q and R respectively.
- He filled each tin with boiling water and took the temperature of the water before covering it with a lid made of a poor conductor of heat.
- He took the temperature of the water in each tin at 5 minute intervals for the next 60 minutes.



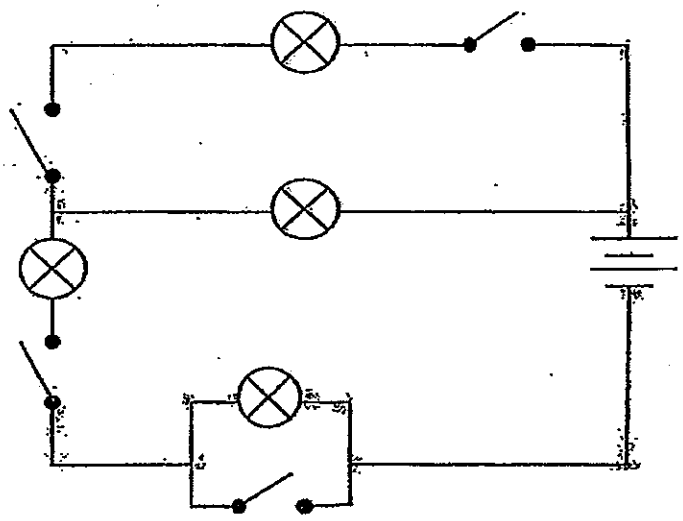
The graph below shows his observation.



Based on the data, he chose one fabric to make a sweater to keep warm and another as a t-shirt for wearing to the beach on a hot day.
Which one of the following shows the fabrics he had chosen?

	Sweater	T-shirt
(1)	P	R
(2)	Q	R
(3)	R	P
(4)	P	Q

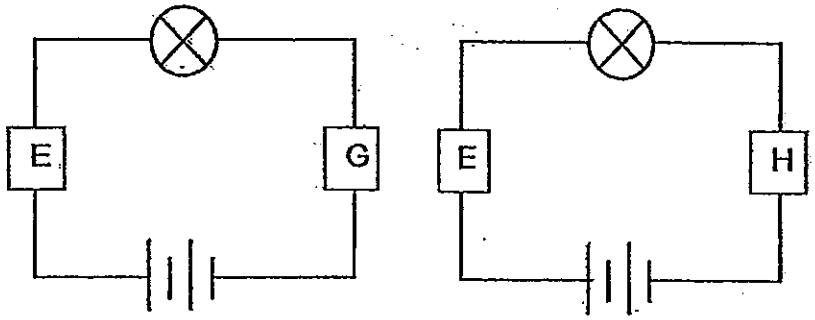
28. The diagram below shows an electrical circuit.



What is the least number of switches that must be closed for all the bulbs to light up?

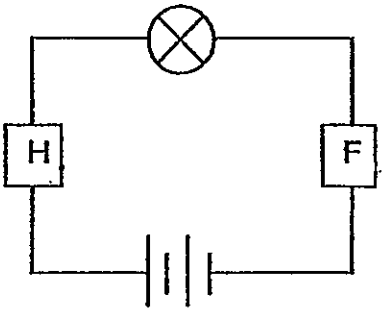
(1) 1
(2) 2
(3) 3
(4) 4

29. The circuits below are set up with different materials, E, F, G and H.

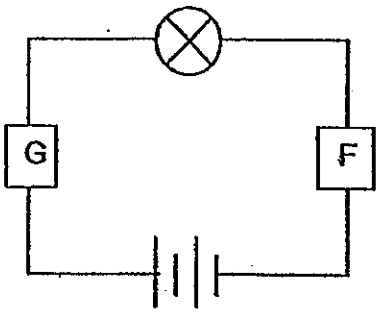


Set-up A

Set-up B



Set-up C



Set-up D

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

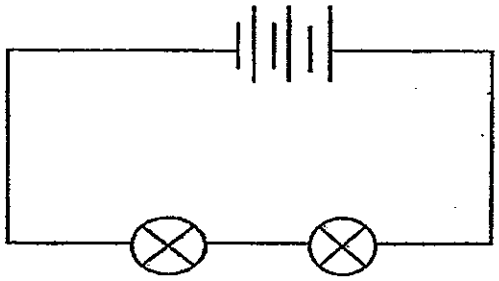
Set-up	Bulb lights up	Bulb does not light up
A		✓
B	✓	
C	✓	
D		✓

Which of the materials are conductors of electricity?

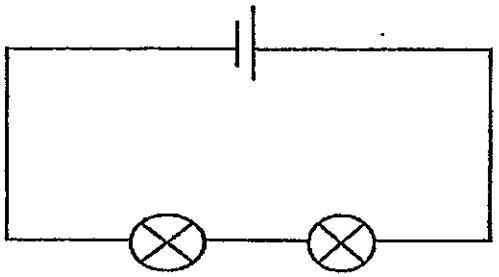
(1) E, F and G only
(2) E, F and H only
(3) E, G and H only
(4) F, G and H only

30. Jinming set up four electrical circuits A, B, C and D using identical batteries and bulbs. The batteries and bulbs were all working properly.

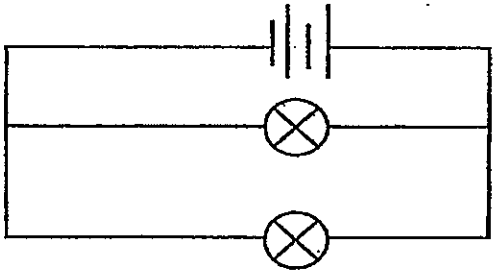
Circuit A



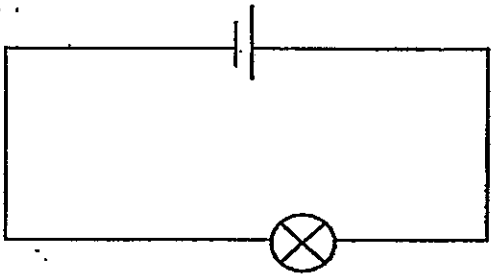
Circuit B



Circuit C



Circuit D



Arrange the circuits in ascending order of the brightness of the bulbs.

	Least bright ⟶ Brightest			
(1)	A	B	C	D
(2)	B	D	A	C
(3)	C	A	D	B
(4)	D	B	C	A

End of Booklet A

CATHOLIC HIGH SCHOOL
SEMESTRAL ASSESSMENT 2
2013
PRIMARY FIVE

SCIENCE

BOOKLET B

Name: _____ ( )

Class: Primary 5 - _____

Date: 24 October 2013

Parent's Signature: _____

Booklet A	60
Booklet B	40
Total	100

14 questions

40 marks

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

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Write your answers in this booklet.

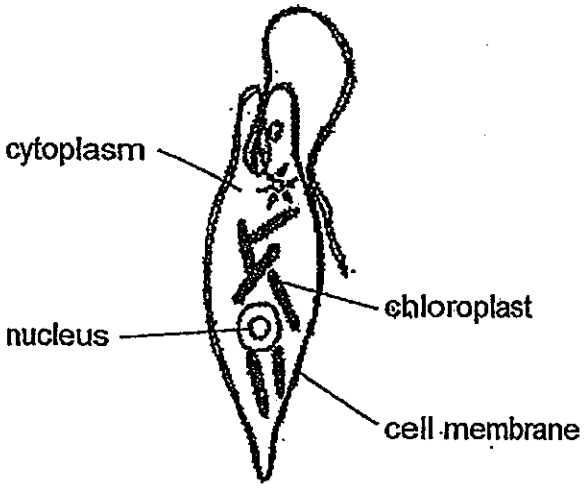
This booklet consists of 14 printed pages, excluding cover page.

Booklet B (40 marks)

For questions 31 to 44, write your answers in this booklet.

The number of marks available is shown in brackets [ ] at the end of each question or part question. (40 marks)

31. The diagram below shows a single-celled organism X which can be found living in fresh water ponds.



Organism X

(a) Based on the diagram above, identify the structure that suggests that Organism X is more likely to be a plant cell than an animal cell. [1]

_____

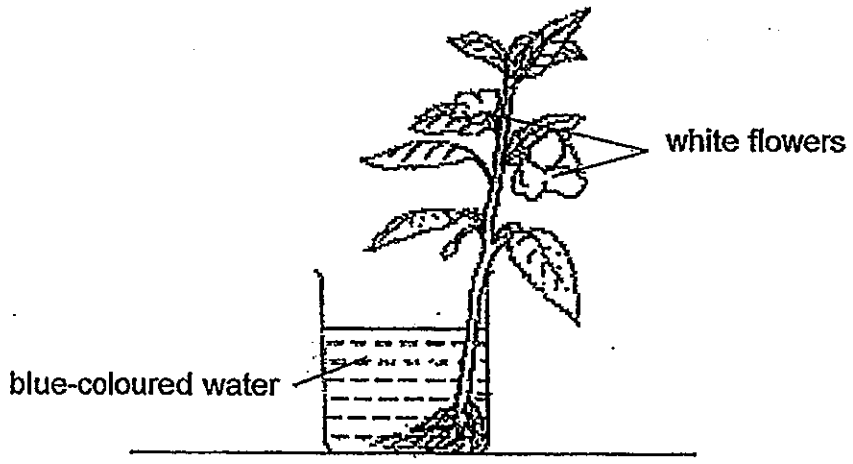
(b) State one structure of a typical plant cell that is not present in Organism X. [1]

_____

(Go on to the next page)

SCORE	/2

32. Linda placed a plant with white flowers into a beaker containing blue-coloured water as shown below. She left the set-up on the table for 3 days.



(a) What can she observe about the flowers after 3 days? [1]

_____

_____

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

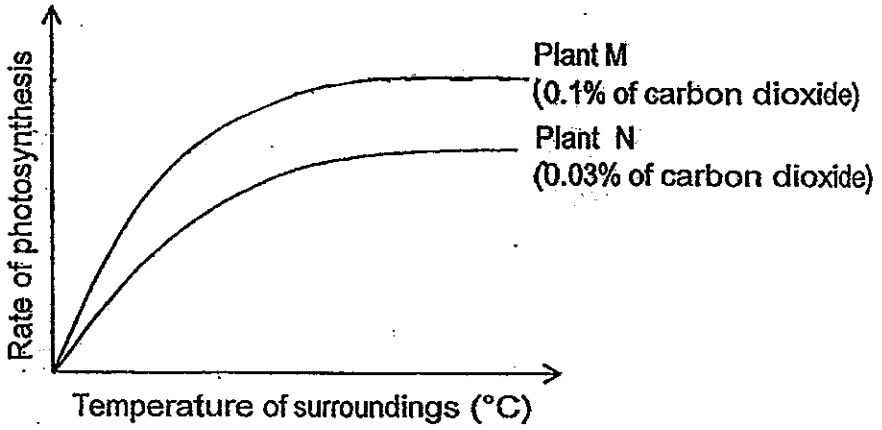
_____

_____

(Go on to the next page)

SCORE	/ 2

33. Ken carried out an experiment to investigate the factors affecting the rate of photosynthesis of 2 identical pots of plants. He placed both pots in the same location but gave different amounts of carbon dioxide. The graph below shows the results of his experiment.



(a) Based on the graph above, state the relationship between the temperature of the surroundings and the rate of photosynthesis. [2]

_____

_____

_____

(b) Based on the graph above, state the relationship between the percentage of carbon dioxide and the rate of photosynthesis: [1]

_____

_____

(c) Which plant will make more food? Explain your answer. [1]

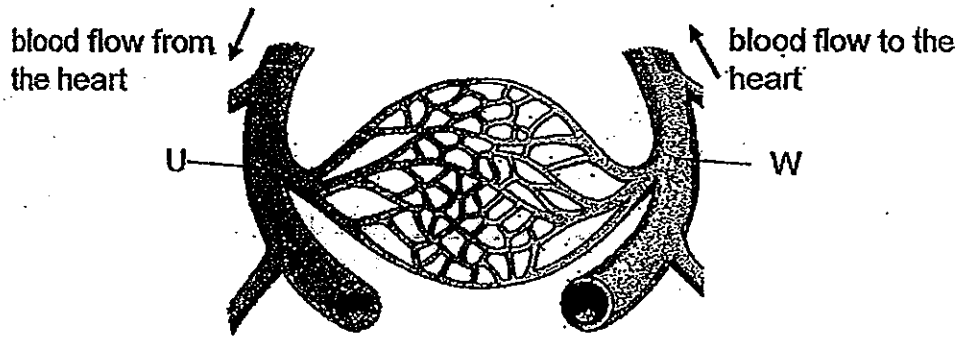
_____

_____

(Go on to the next page)

SCORE	4

34. U and W in the diagram below are blood vessels.



(a) What is the difference between the blood flowing in blood vessels U and W? [1]

_____

_____

(b) Besides gases, name 2 other substances that the blood transports. [1]

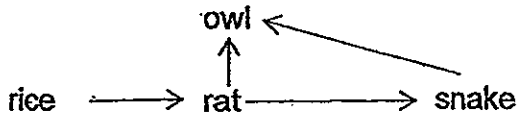
_____

_____

(Go on to the next page)

SCORE 2

35. The diagram below shows a food web in a farm.



(a) Based on the food web above, identify the organism which is both a prey and a predator. [1]

_____

(b) Recently, a farmer noticed that the amount of rice grains he could collect has decreased.

Based on the food web above, what is the possible cause for the decrease in rice grains collected and how can the farmer prevent the decrease? [2]

Possible cause:

_____

_____

How to prevent the decrease in rice grains collected:

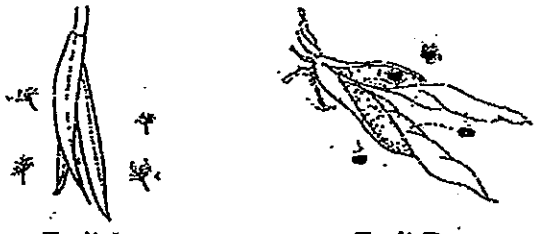
_____

_____

(Go on to the next page)

SCORE	/ 3

36. The diagram below shows two different fruits, A and B, splitting open to release their seeds.



Fruit A Fruit B

(a) Fruit A disperses its seeds further than Fruit B. Based on your observation of the seeds, state the method of dispersal of Fruit A after splitting. Explain your answer. [2]

_____

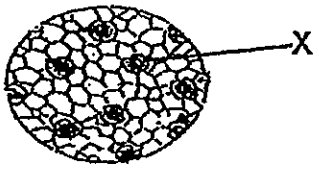
_____

(b) Explain wht seeds which are dispersed further away from the parent plant have a higher chance of growing into healthy new plants. [1]

_____

_____

37. Zavier observed the underside of a leaf sample under a microscope as shown below.



(a) Name the structure X and state its function. [1]

_____

(b) Zavier observed that there are more of these structures on the underside of the leaf. Explain why this is so. [1]

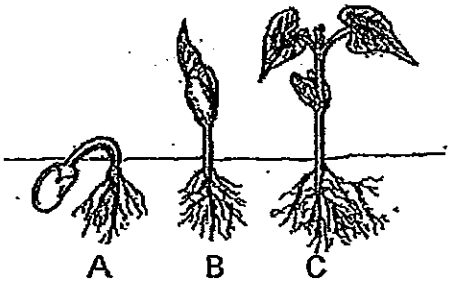
_____

_____

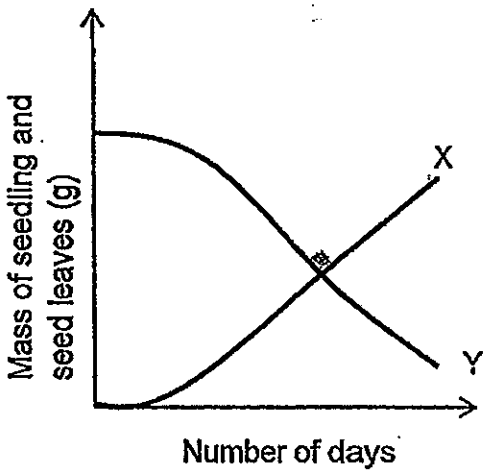
(Go on to the next page)

SCORE	
	5

38. Jeff placed a beaker containing wet soil with a seed in it. A few days later, he noticed that the seed had started to germinate.



The graph below shows the change in the mass of the seedling and its seed leaves during the experiment.



(a) Which line on the graph, X or Y, shows the change in the mass of the seed leaves from stage A to stage C? Explain. [1]

_____

_____

(b) How did the seedling obtain its food in stage C? [1]

_____

_____

(Go on to the next page)

SCORE	
	2

39. Daniel took a carton of cold milk out of the refrigerator and placed it on the table.

(a) What would he see on the carton after 10 minutes? [1]

_____

(b) Explain what happened in part (a). [1]

_____

_____

(c) State the change of state that has taken place in part (a). [1]

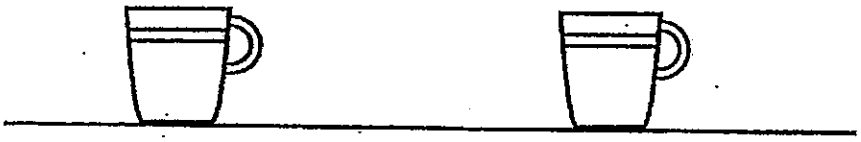
_____

(Go on to the next page)

SCORE	
	3

40. Cups A and B, each made of different materials, were filled with the same amount of water at 2°C at the same time.

Cup B felt colder than A when touched and water vapour condensed on Cup B more quickly than on A.



Both cups were left in a room at 30°C. The temperature of water in both cups was measured every five minutes.

The table below shows the changes in the temperature of water in cup A over a period of 20 minutes.

Time (min)	0	5	10	15	20
Temperature of water (°C)	2	9	11	15	19

(a) Would the temperature of the water in Cup B be higher or lower than 19°C at the 20th minute? Explain your answer. [2]

_____

_____

_____

(b) Which cup, A or B, would be more suitable to use for keeping coffee warm? Explain your answer. [2]

_____

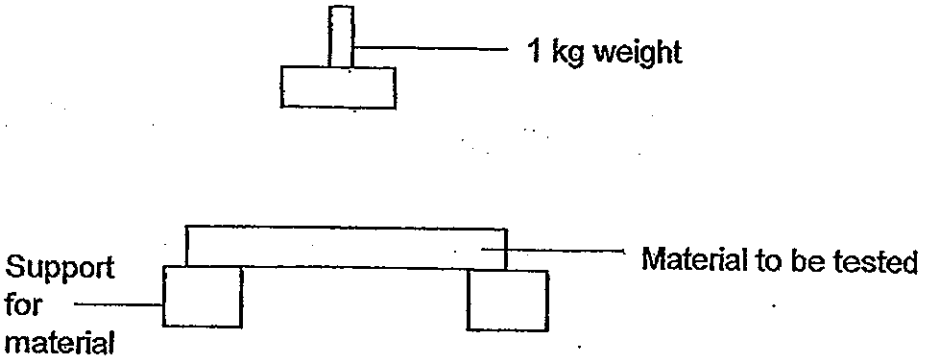
_____

_____

(Go on to the next page)

SCORE	4

41. 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 material broke into 2 pieces. The results are as shown below.

Material tested	Number of times the weight was dropped before material broke
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 (√) 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 to break if a 2 kg weight is used to repeat the experiment.			

(Go on to the next page)

SCORE 3

42. Maria held a magnet near rod P which was tied to a string, as shown in diagram 1 below. She observed that rod P moved away from the magnet.

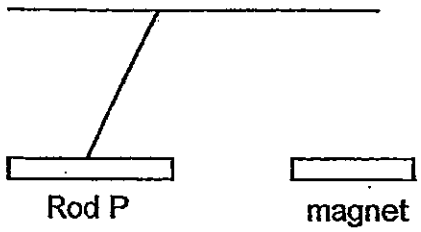


Diagram 1

(a) Based on what Maria observed, what is P likely to be? [1]

_____

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

_____

_____

Maria then placed a flame under the magnet as shown in diagram 2. After some time, rod P started moving towards the magnet.

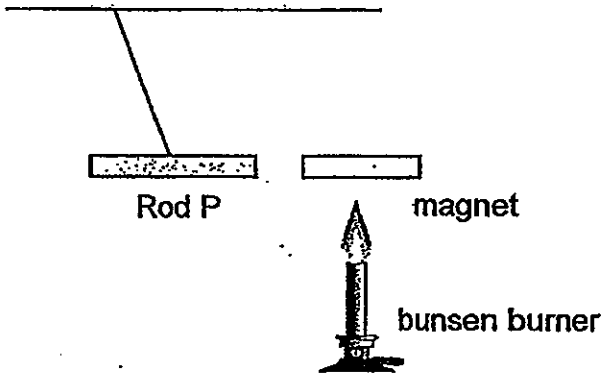


Diagram 2

(c) Explain her observation in diagram 2. [1]

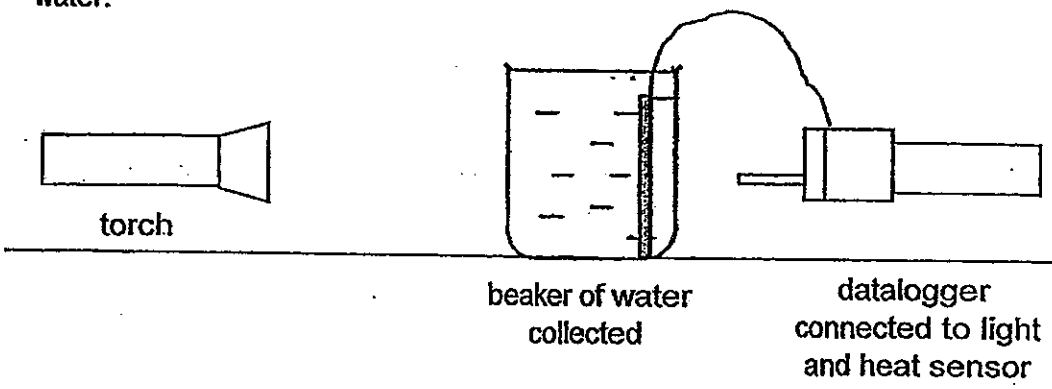
_____

_____

(Go on to the next page)

SCORE ___/3

43. Alvin collected 3 samples of water from 3 different ponds X, Y and Z from different locations. Using the set-up below, he placed each sample of water in front of a light and heat sensor of the datalogger and recorded the amount of light that passed through the samples of water and the temperature of the water.



Water sample source	Amount of light received by sensor (lux)	Temperature of water (°C)
Pond X	320	20
Pond Y	3	38
Pond Z	196	29

(a) List 2 variables that must be kept constant to ensure a fair test. [1]

(i) _____

(ii) _____

(b) If a coin is dropped into the three beakers containing the water samples, in which beaker will the coin be least visible? Explain your answer. [1]

_____

_____

(c) What is the relationship between the clarity and the temperature of the water? [1]

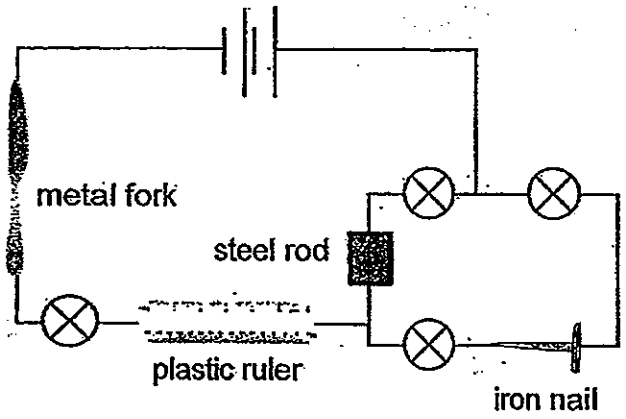
_____

_____

(Go on to the next page)

SCORE	/ 3

44. Study Circuit X below.



Circuit X

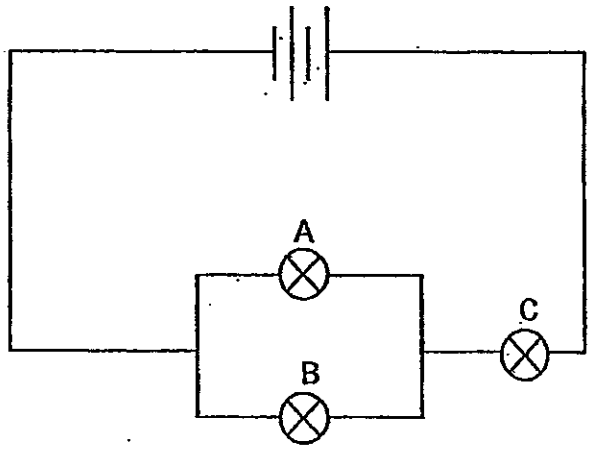
(a) How many bulbs will light up? [1]

_____

(Go on to the next page)

SCORE	
	1

44. (b) In Circuit Y below, all the bulbs A, B and C are lit.



Circuit Y

(i) When 1 bulb was removed from circuit Y above, the other 2 bulbs immediately went off. Which bulb was removed? [1]

_____

(ii) Rearrange circuit Y so that all 3 bulbs glow even brighter than before. In the space below, draw the circuit diagram to show the new arrangement to make all 3 bulbs glow brighter. [2]

End of Paper

SCORE	/ 3

ANSWER SHEET

EXAM PAPER 2013
SCHOOL : CATHOLIC HIGH
SUBJECT : PRIMARY 5 SCIENCE

TERM : SA2

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

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

31)a)The cell has chloroplast and only plant cells have but not animal cells.
b)Cell wall.

32)a)The white flower turned blue.
b)The roots took in the blue-coloured water and transported it to the flower through the water-carrying tubes.

33)a)The higher the temperature of the surroundings the higher/faster the rate of photosynthesis but up to a certain temperature/point of which the rate of photosynthesis remains uncharged.
b)The higher the percentage of carbon dioxide, the higher the rate of photosynthesis in the plants.
c)Plant M. Plant M is give more carbon dioxide than Plant N, so the rate of photosynthesis is higher, which means it makes more food.

34)a)The blood in blood vessel U is oxygen-rich blood but the blood in blood vessel W is oxygen-poor blood.
b)The blood vessels also transport water and digested food.

35)a)Snake.
b)Possible cause:
Increase in the population of rate.
Introduce more owls/or snakes.

36)a)By wind. Seeds from A have hair like/feather like structures which enables the seeds to float in the air and allow it to be carried further away.
b)It is to prevent overcrowding so that the young plant need not compete with the parent plant and other plants for nutrients, air and sunlight.

37)a)It is a stomata and it helps in the exchange of gasses.
b)More of the structures on the underside of the leaf help reduce water loss to the surroundings.

38)a)Line Y. As the seedling grows, it uses the stored food in the seed leaves. Thus the mass of the seed leaf decreased.
b)The seedling has leaves so it is able to make its own food.

39)a)Water droplets will form on the outer side of the milk carton.
b)The warm water vapour in the surrounding air comes into contact with the cold outer surface of the carton and cools down and condenses into tiny water droplets.
c)Gas to liquid.

40)a)Temperature of the water in Cup B would be higher than 19℃. Cup B was make of a material that was a better conductor of heat than Cup A and gains heat faster from the surrounding so the water reached higher temperature than A at the 20min.
b)Cup A. Heat from the coffee will be conducted away more slowly than Cup B because A is a poser conductor of heat.

41)a)To find out which material is the strongest.
b)i)Not ii)F iii)Not iv)T

42)a)Magnet.
b)Only magnets can repel each other.
c)When a flame was placed under the magnet, after some time, the magnet lose some of its magnetism, thus, rod P moved towards the magnet.

43)a)i)The distance between the torch and the beaker.
ii)Intensity of light/ Distance of torch from beaker amount of water in the beaker.
b)Sample Y. The water from pond Y allowed the least amount of light to pass through these the coin will be least visible in sample Y.
c)The lower the clarity of the water, the higher the temperature of the water.

44)a)None of the bulbs will light up.

b)i)Bulb C.

ii)