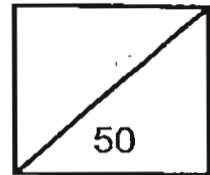




Rosyth School
First Continual Assessment for 2011
STANDARD SCIENCE
Primary 5



Name: _____

Total
Marks:

Class: Pr 5- _____

Register No. _____

Duration: 1 h 15 min

Date: 3 March 2011

Parent's Signature: _____

Instructions to Pupils:

1. Do not open the booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 2 sections, Part I and Part II.
4. For questions 1 to 15, shade the correct ovals on the Optical Answer Sheet (OAS) provided using a 2B pencil.
5. For questions 16 to 23, give your answers in the spaces provided in Part II.

	Maximum	Marks Obtained
Part I	30 marks	
Part II	20 marks	
Total	50 marks	

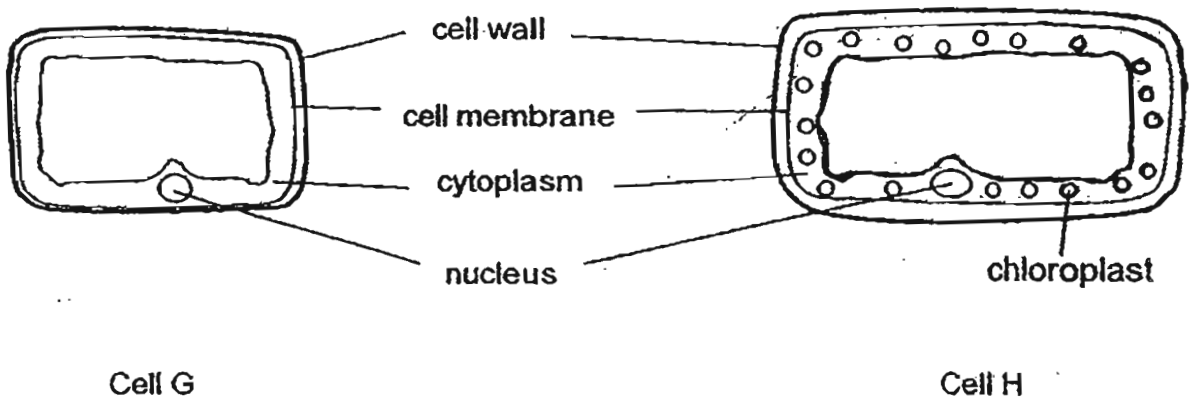
* This booklet consists of 23 pages. (pg. 1 to 23)

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Part I (30 Marks)

For each question from 1 to 15, 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.

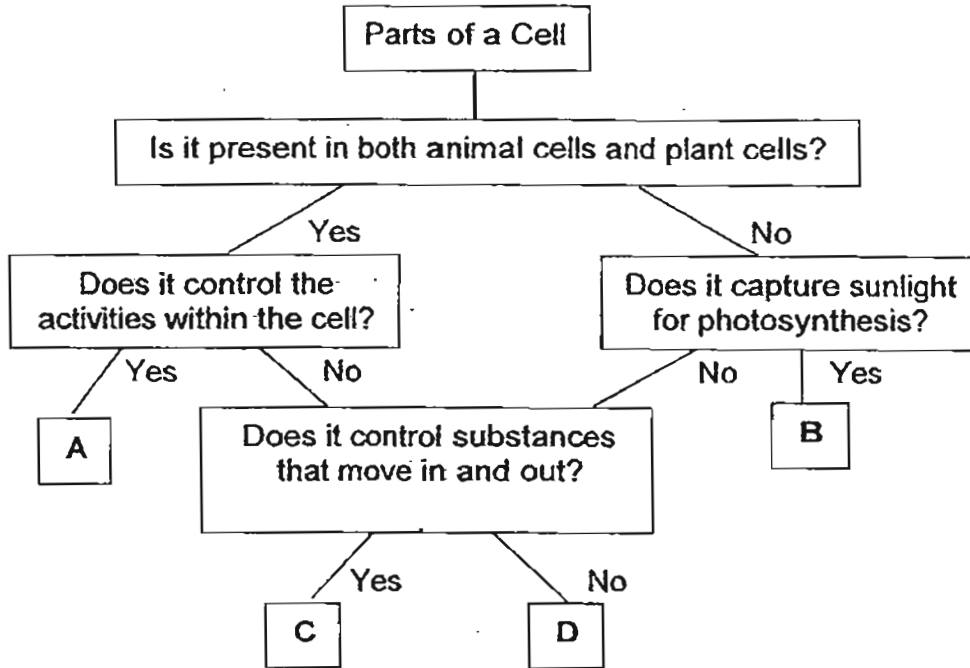
1. Latha observed two different types of cells, G and H.



In which parts can you find cells G and H respectively?

	Cell G	Cell H
(1)	root	leaf
(2)	leaf	fruit
(3)	large intestine	green stem
(4)	gullet	root

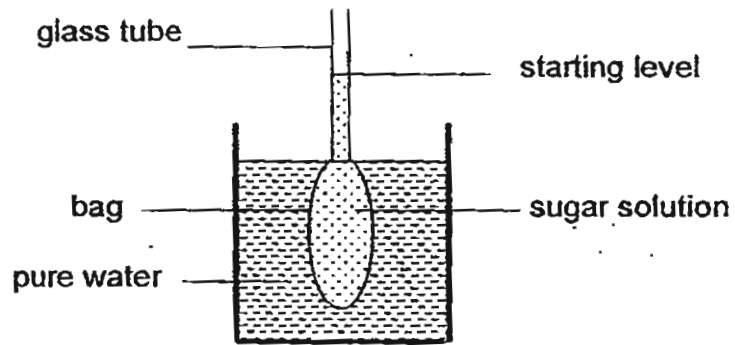
2. Study the flow chart below.



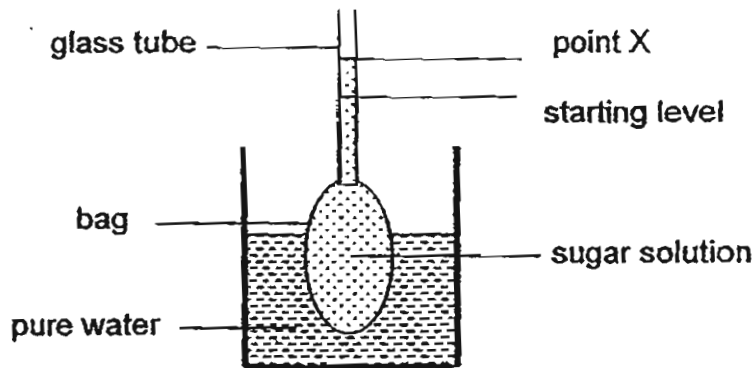
Which of the following parts of a cell represent A, B, C and D?

Parts of a cell				
	A	B	C	D
(1)	nucleus	chloroplasts	cell wall	cell membrane
(2)	cell membrane	cytoplasm	nucleus	chloroplasts
(3)	cytoplasm	cell membrane	nucleus	chloroplasts
(4)	nucleus	chloroplasts	cell membrane	cell wall

3. Judy set up the experiment as shown in the diagram below. She took note of the starting level of the liquid in the glass tube.



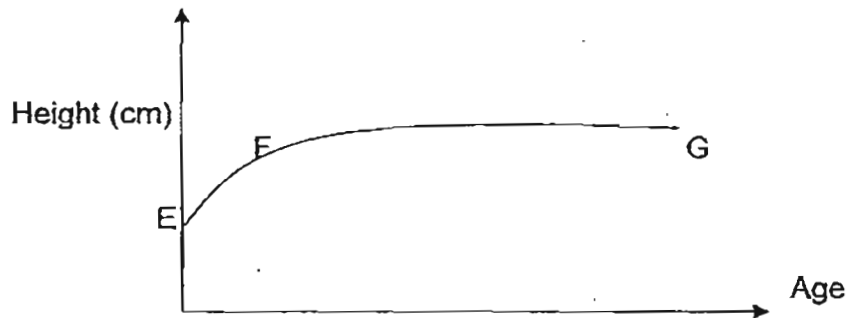
After 3 hours, she observed that the bag had become bigger and the liquid level in the glass tube had risen to point X.



Which part of the cell has the same property as the material of the bag when compared to a plant cell?

- (1) cell wall
- (2) cytoplasm
- (3) chloroplast
- (4) cell membrane

4. The graph below shows the height of a pupil over a period of time.



After studying the graph, Ryan and his friends came out with the following statements.

Ryan: There is an increase in height from E to F as the size of the cells in the body grows bigger.

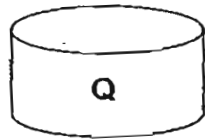
Susan: There is an increase in height from E to F as the number of cells in the body increases.

Sam: There is no change in height from F to G because there is no cell division.

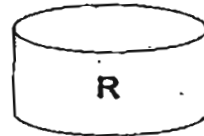
Whose statement(s) is/are correct?

- (1) Ryan only
- (2) Susan only
- (3) Ryan and Susan only
- (4) Susan and Sam only

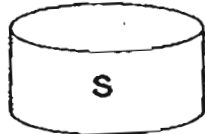
5. Steven placed equal number of yeast cells in four containers Q, R, S, and T, with different conditions. The condition of each container is stated below.



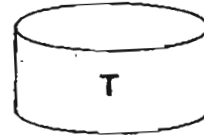
10 ml of water
at 30°C



5 ml of water
at 40°C



5 ml of water
at 35°C

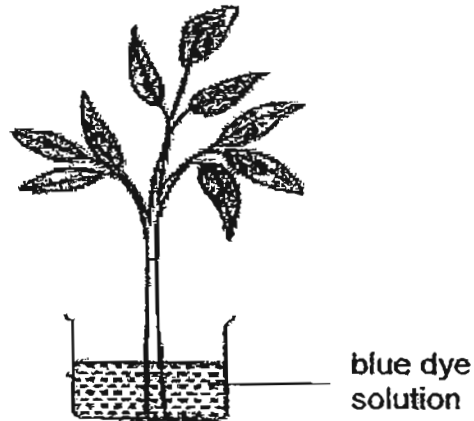


10 ml of water
at 40°C

Which containers would you choose to show that the temperature of water affects the rate of reproduction in yeast cells?

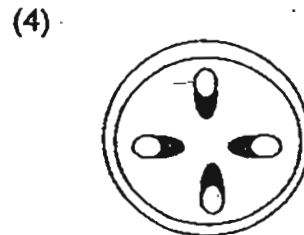
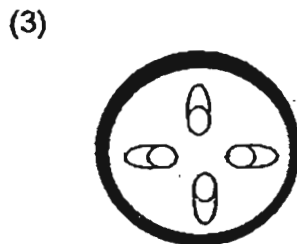
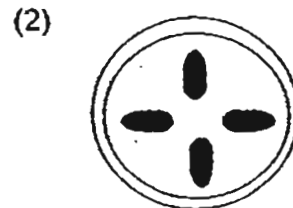
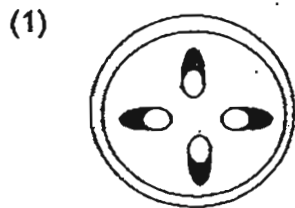
- (1) Q and R only
 - (2) S and T only
 - (3) Q and T only
 - (4) Q and S only
6. Which one of the following statements about the plant transport system is not true?
- (1) It has tubes that transport mineral salts.
 - (2) It transports food produced by the leaves.
 - (3) It transports water from the roots to the leaves.
 - (4) It transports only water to other parts of the plant.

7. A plant shoot as shown below was left in a blue dye solution for several hours.



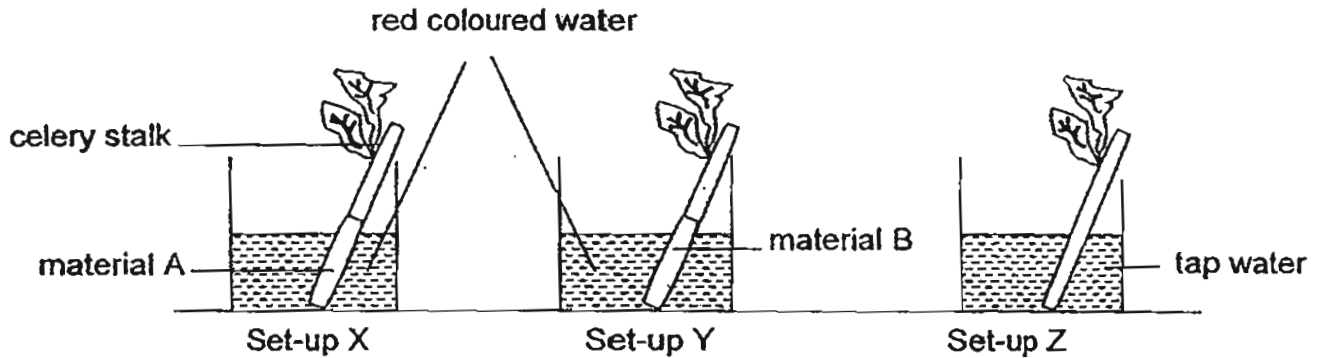
A thin slice was cut from the stem of the plant.

Which one of the following diagrams shows the areas that have been stained by the blue dye?



8. Aretha set up an experiment as shown below.

The base of the celery stalks in Set-up X and Y were wrapped with material A and B respectively before placing them into the beaker of red coloured water. The celery stalk in Set-up Z was placed in tap water.



3 days later, Aretha recorded her observations of the 3 celery stalks in the table below.

	Set-up X	Set-up Y	Set-up Z
Observations	Leaves were green and not wilted	Leaves were yellowish and wilted	Leaves were green and not wilted

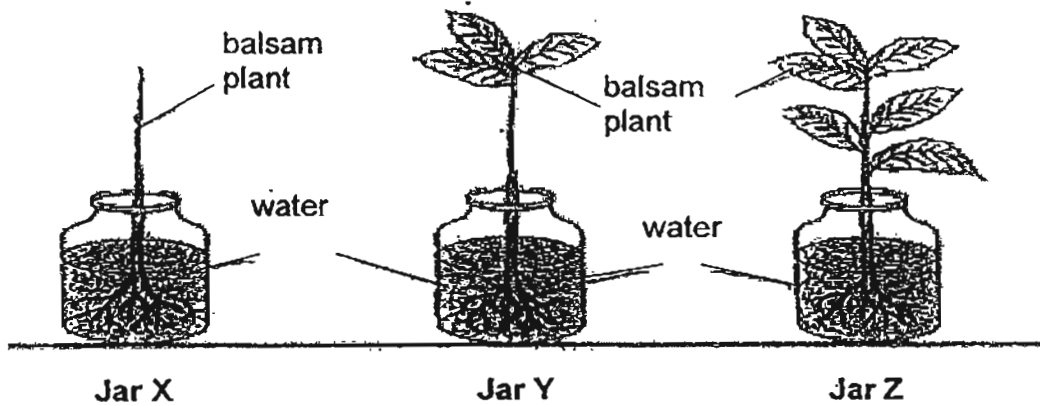
Which of the following statement(s) can be inferred from Aretha's observations?

- A: Water can pass through material A.
- B: Red dye can pass through material A but not material B.
- C: Material B has prevented the celery stalk from taking in water.

- (1) A only
- (3) A and B only

- (2) A and C only
- (4) A, B and C

9. Phillip placed 3 similar balsam plants in 3 similar jars with water. He cut off all the leaves from the plant in jar X and some leaves from the plant in jar Y as shown in the diagram below.



After one day, the amount of water left in each jar was recorded in the table below.

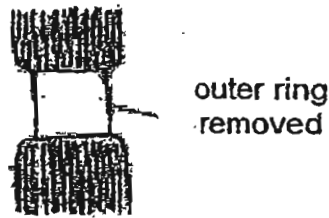
Jar	Amount of water in the jar at first (ml)	Amount of water in the jar after one day (ml)
X	150	142
Y	150	135
Z	150	115

What was the aim of Phillip's experiment?

He wanted to find out if the _____.

- (1) roots of the plant absorb water
- (2) leaves of the plant absorb water
- (3) stems help to transport water from the roots to the leaves
- (4) number of leaves affects the rate of water absorption by the plant

10. The outer ring of the stem of a plant was cut out.



Day 0

After a few days, the area just above the cut stem was swollen. Eventually, the plant died.



Day 4

After observing the stem, a group of pupils came up with their own reasoning.

Joey: The upper part of the stem expanded as it took in more nutrients from the soil.

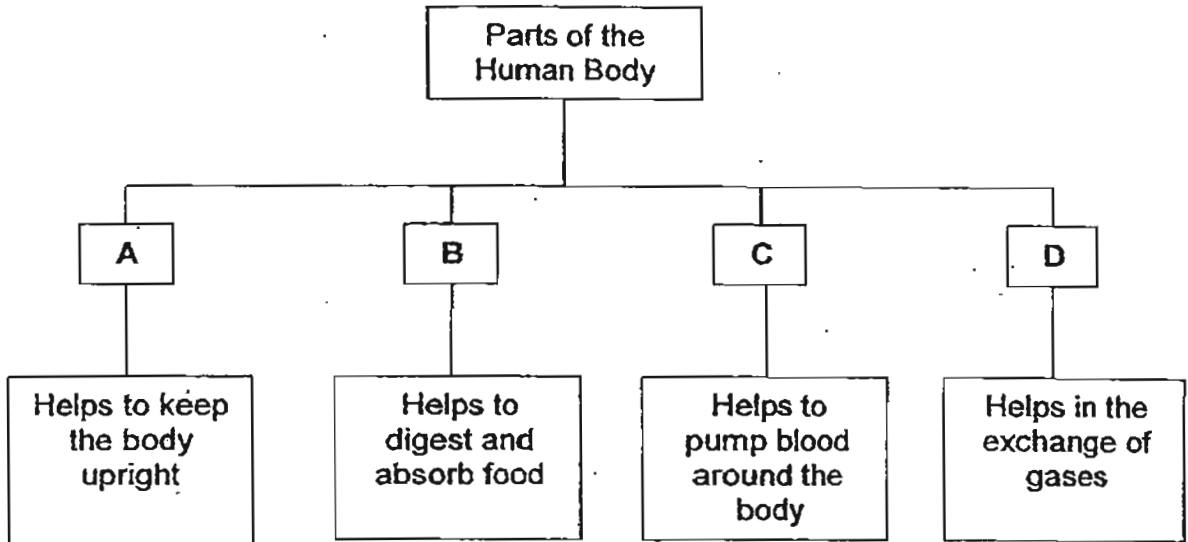
Suriani: The absorption of water by the roots caused the part just above the cut stem to be swollen.

Shu Xian: The accumulation of the food made by the leaves caused the part just above the cut stem to be swollen.

Who gave the correct answer(s)?

- (1) Joey only
- (2) Suriani only
- (3) Shu Xian only
- (4) Joey, Suriani and Shu Xian

11. Look at the classification chart below.



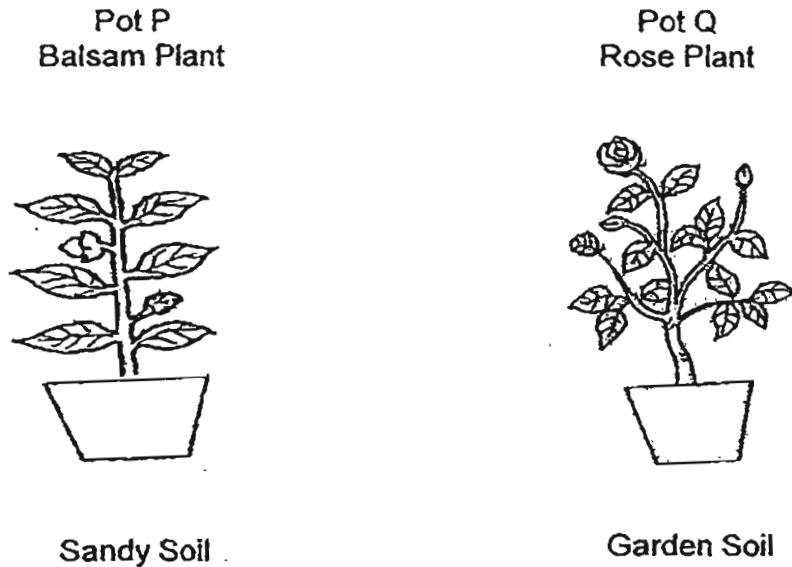
Which one of the following represents organs A, B, C and D?

	A	B	C	D
(1)	bones	stomach	veins	lungs
(2)	skeleton	gullet	heart	nose
(3)	muscles	mouth	arteries	skin
(4)	skeleton	small intestine	heart	lungs

12. Which one of the following ~~does not~~ ^{does not} describe the function of the plant part correctly?

	Plant Parts	Function
(1)	Fruits	Develop into a young plant
(2)	Leaves	Make food for the plant
(3)	Stems	Transport water and food
(4)	Roots	Absorb water and mineral salts

13. Lilian wanted to find out how the type of soil would affect the growth of plants. She grew two types of plants, Pot P, a balsam plant in sandy soil and Pot Q, a rose plant in garden soil as shown in the diagram below.



She put Pot P in the light and Pot Q in the dark. She watered the plants with equal amount of water daily.

She observed that the plants in Pot Q grew better than Pot P.

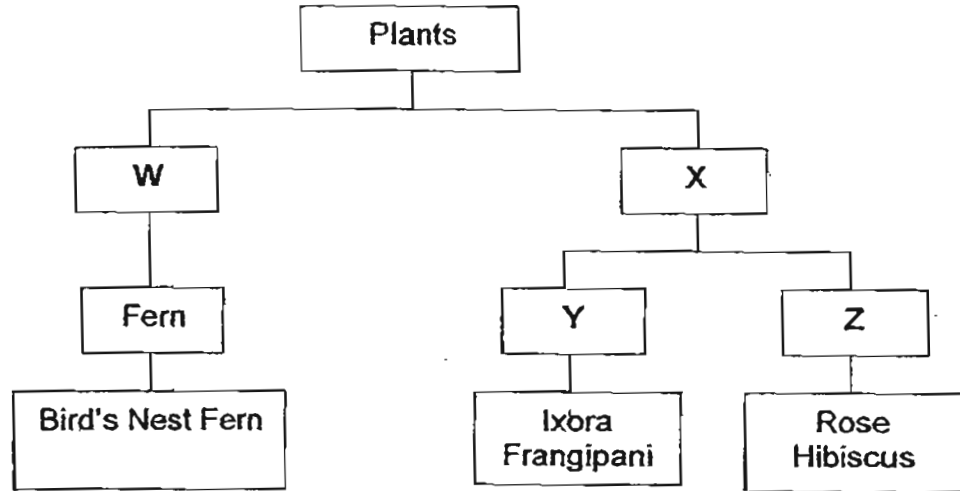
Which of the following factors made the above observation not reliable to make a conclusion for the experiment?

- A: Different types of soil.
- B: Different types of plant.
- C: Different amount of light.

- (1) A only
- (2) A and B only

- (3) C only
- (4) B and C only

14. Study the classification chart below.



Which of the following are suitable headings for W, X, Y and Z?

	W	X	Y	Z
(1)	Poisonous	Non-poisonous	Dull coloured flowers	Brightly coloured flowers
(2)	Non-Flowering	Flowering	Flowers grow in clusters	Flowers grow singly
(3)	Reproduces by seeds	Reproduces by spores	Brightly coloured flowers	Dull coloured flowers
(4)	Water plant	Land plant	Flowers grow in clusters	Flowers grow singly

15. The table below shows the characteristics of plants S, T, U and V. A tick (✓) in the box indicates the characteristic of the plant.

Characteristic	Plant			
	S	T	U	V
It bears fruit.	✓		✓	✓
It grows on land.		✓	✓	

Based on the information above, which of the following shows the correct classification of the plants S, T, U and V?

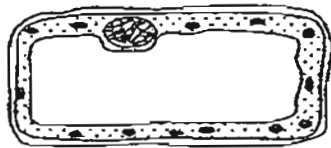
Plants			
Flowering		Non-flowering	
land	aquatic	land	aquatic
(1) T	V	U	S
(2) U and V	S	T	
(3) U	S and V	T	
(4) T		U and V	S

End of Part I

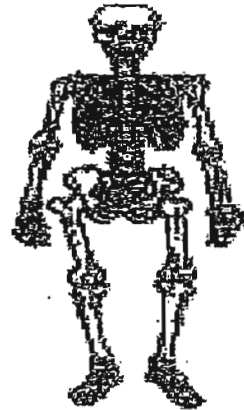
Part II (20 Marks)

For questions 16 to 23, write your answers in this booklet.

16. Look at the diagrams below.



Cell A



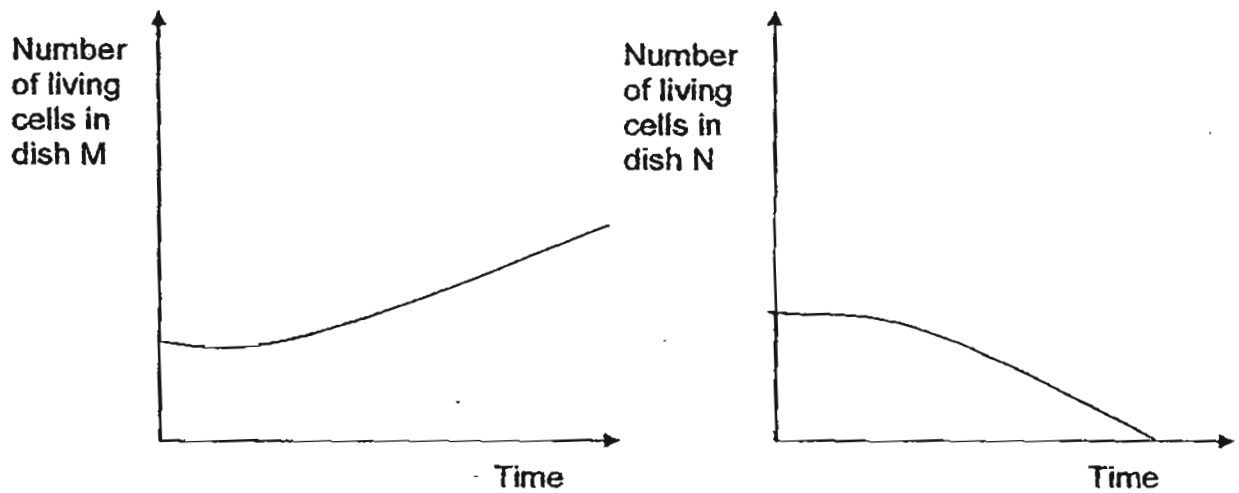
Skeleton

(a) Which part of Cell A can be used to make an analogy with the skeletal system? Explain why. [1m]

(b) Can Cell A shown above carry out cell division? Give a reason for your answer. [1m]

(c) Give a reason why cell division is important in human beings. [1m]

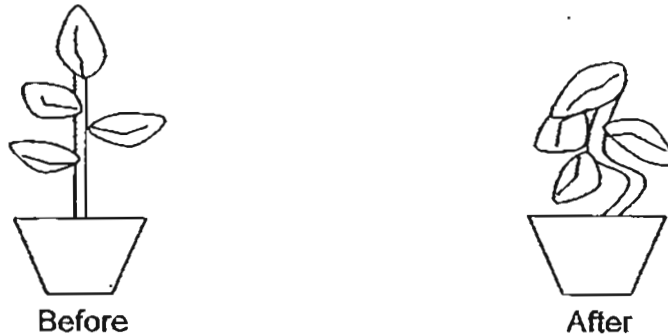
17. Sally placed the same number of a type of single-celled organisms in 2 petri dishes, labelled M and N. She left dish M out in the open while dish N was placed in the dark. She monitored the number of living organisms in petri dishes M and N over a few days and plotted a graph as shown below.



- (a) What was the aim of Sally's experiment? [1m]

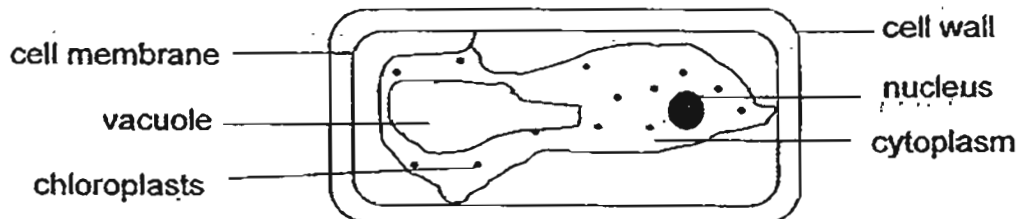
- (b) Based on the graphs above, what condition is necessary for the organisms to increase in number? [1m]

18. Ali took a plant from his garden and kept it in his house. He did not water the plant for 3 days. He noticed that there was a change in the appearance of the plant.



- (a) What has happened to the plant? [1m]

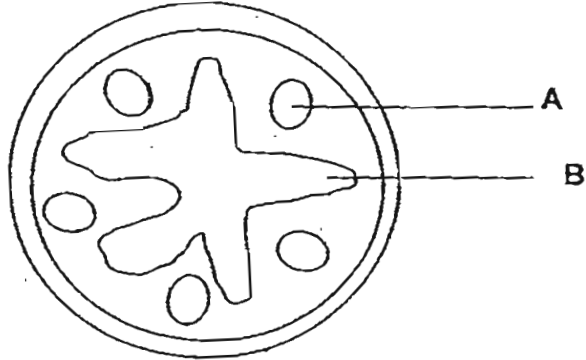
Ali observed a section of the leaf that was placed in a liquid. The diagram below shows one cell from the leaf.



- (b) Why do you think the cytoplasm and vacuole have reduced in size? [1m]

- (c) Based on the answers for (a) and (b) only, state the importance of water to the plant. [1m]

19. The diagram below shows the cross section of the stem of a plant.

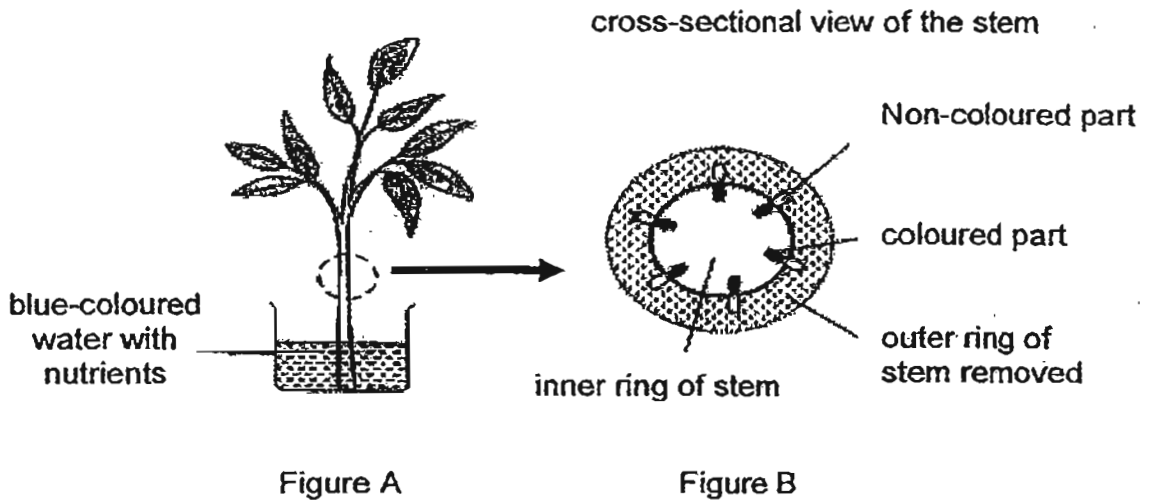


- (a) What are the parts labelled A and B? [1m]

A: _____ B: _____

- (b) State the function of the part B. [1m]

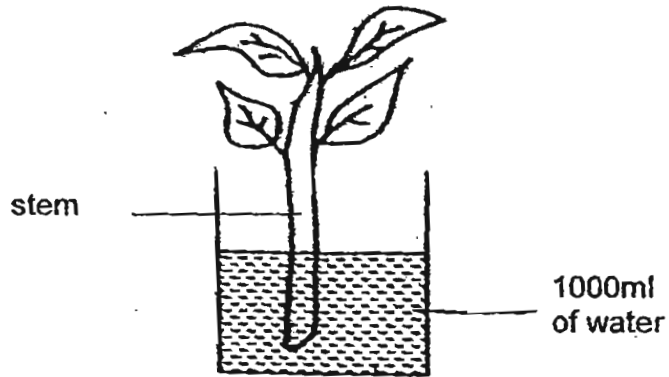
20. Samy placed a plant that has pale green leaves in a basin of blue-coloured water with nutrients for its growth. After a day, he removed the outer ring of a portion of the stem. The cross-sectional view of the stem is shown in Figure B below.



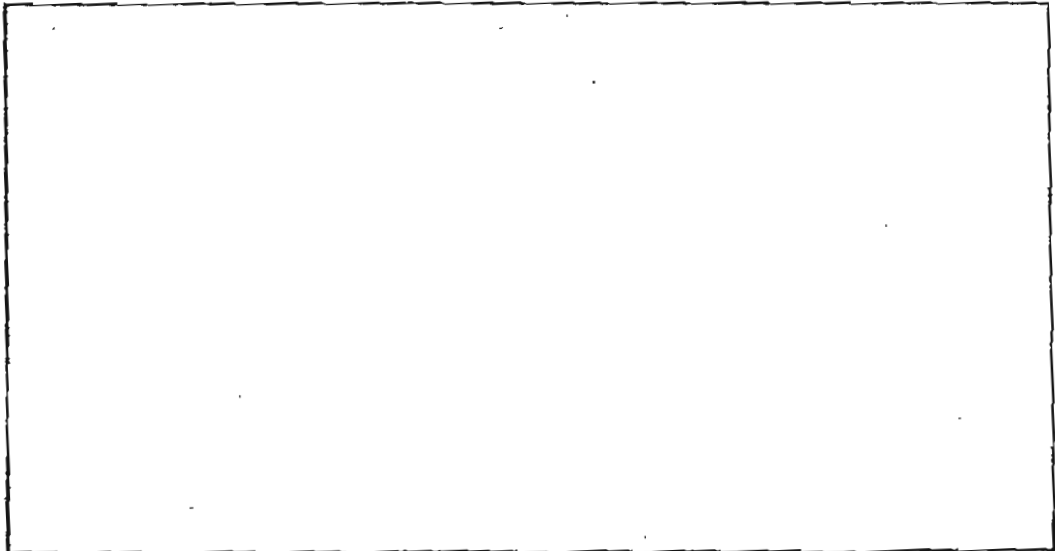
- (a) What would Samy observe about the leaves after a day? [1m]

- (b) Explain the reason for the observation he made in (a). [1m]

21. Lily set up an experiment as shown below to find out if roots of the plant take in water.

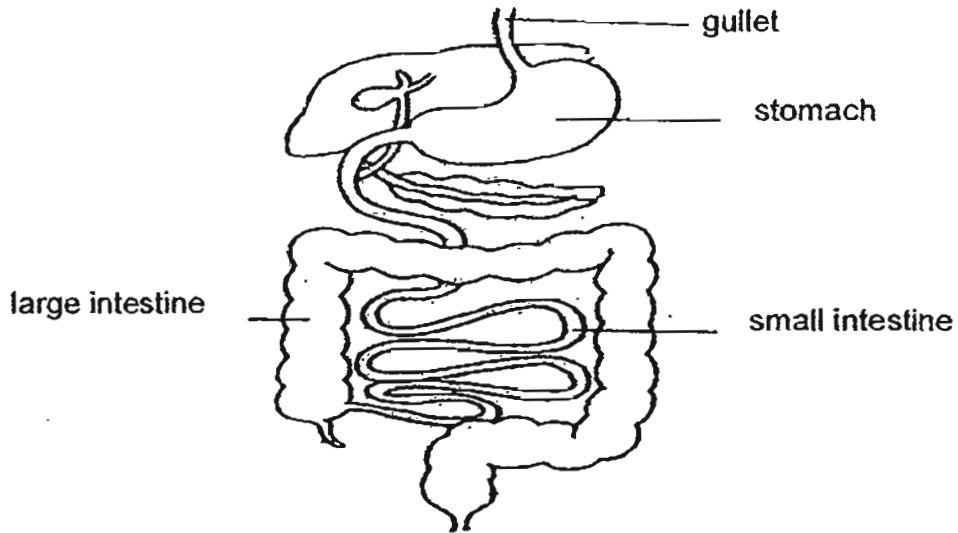


- (a) However, her teacher said that she did not set up a control. In the space provided below, draw and label all parts of a suitable control set-up. [1m]



- (b) What is the purpose of the control set-up? [1m]

22. The diagram below shows part of the human digestive system.



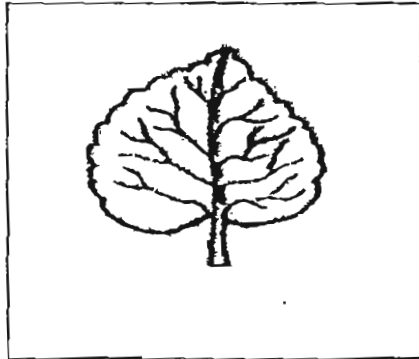
(a) Muscles line the walls of the gullet and stomach. What are the functions of these muscles? [2m] 1m

(i) Muscles in the gullet:

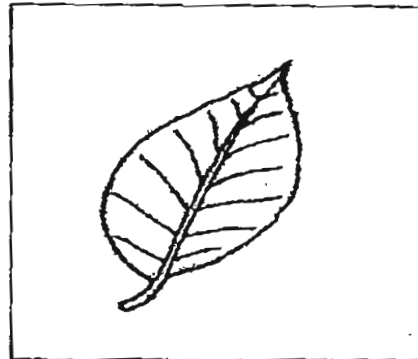
(ii) Muscles in the stomach:

(b) Why are the cells in the stomach and gullet different? [1m]

23. Study the two leaf samples shown below.

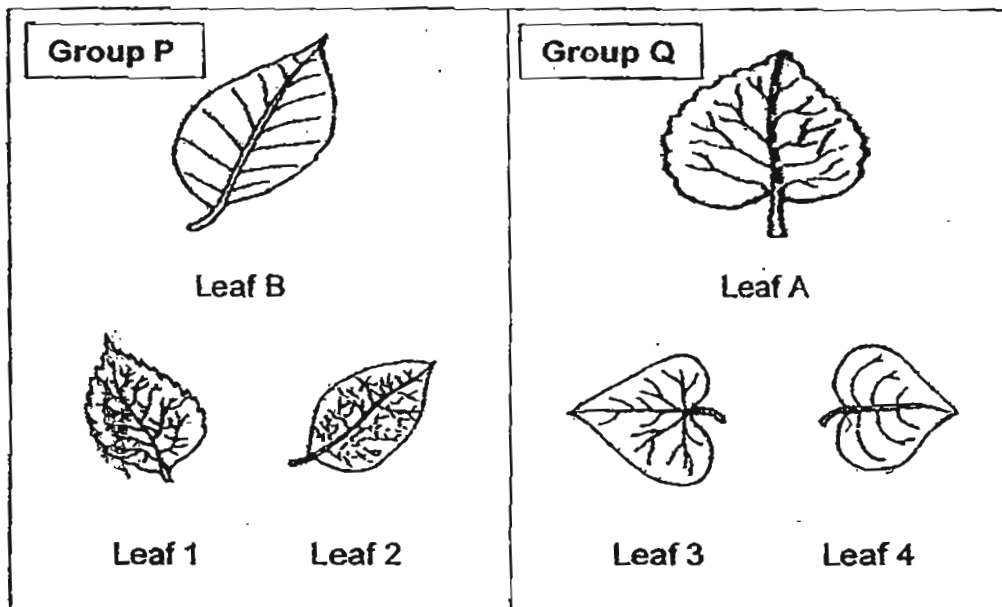


Leaf A



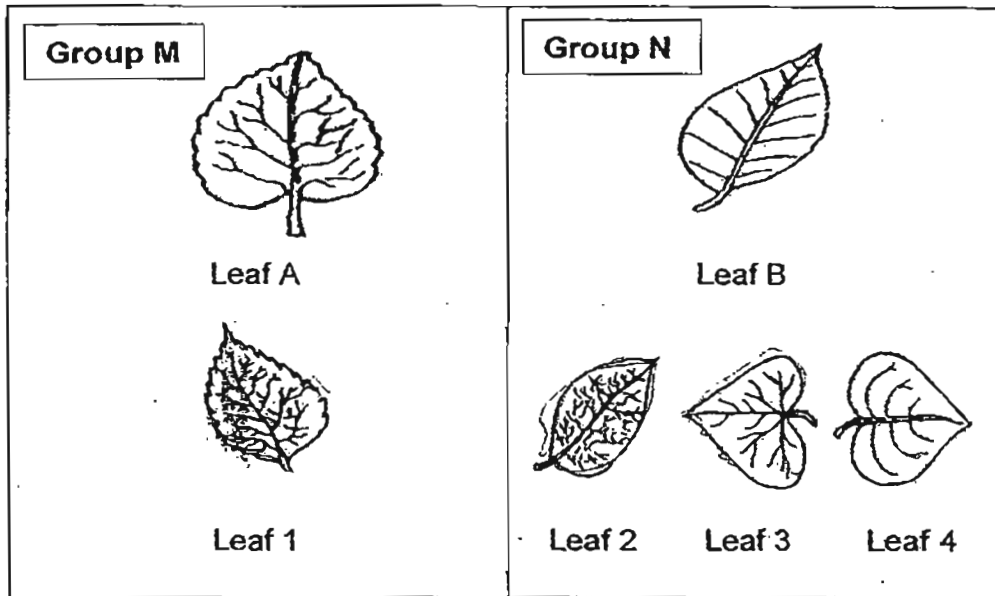
Leaf B

(a) Alex and Tim were told to group the leaves A and B based on the similarities they shared with some other leaves (1, 2, 3 and 4). Alex grouped the leaves as shown below.



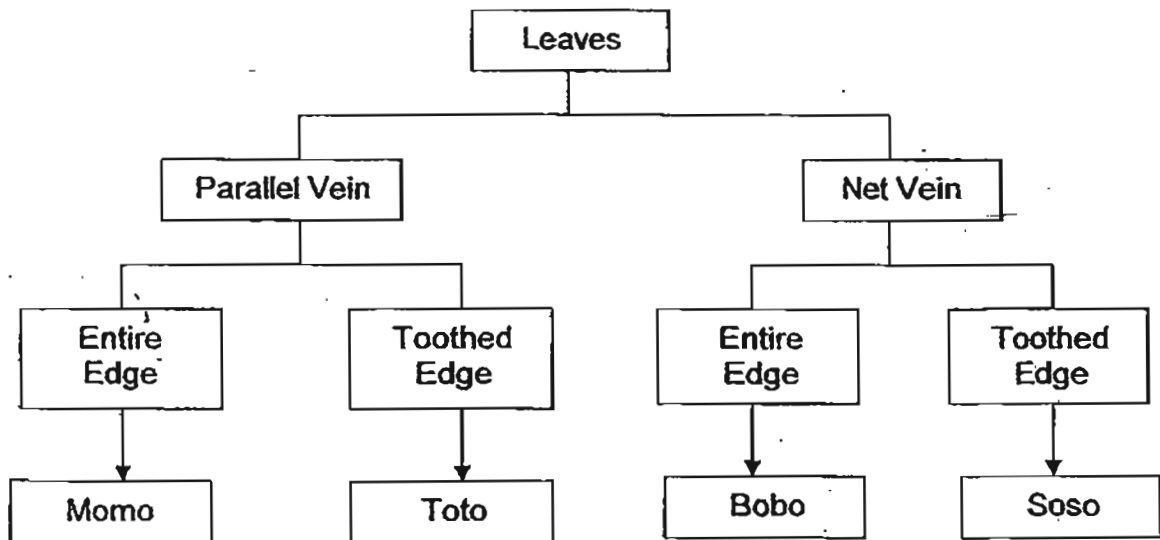
(i) Describe how Alex grouped the leaves into two groups, P and Q. [1m]

Tim, regrouped the leaves as shown below.

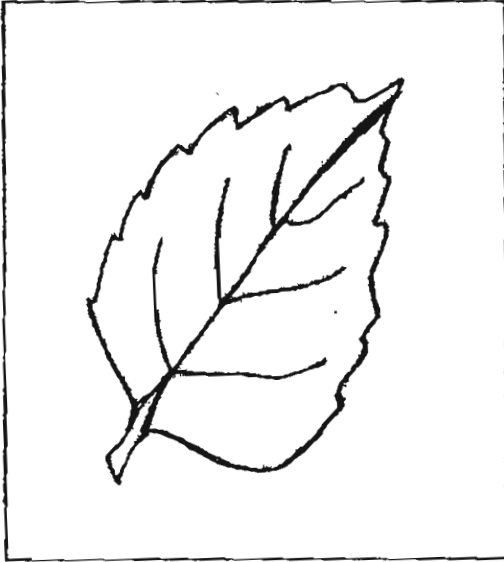


(ii) Describe how Tim grouped the leaves into two groups, M and N. [1m]

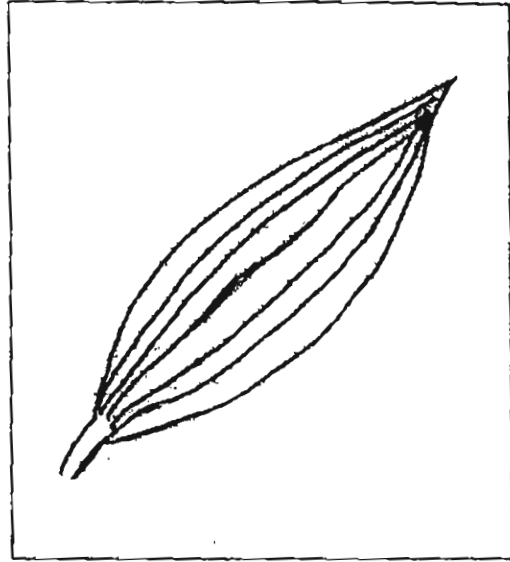
(b) Alex was given another four leaves which he had to identify with the help of the classification chart shown below.



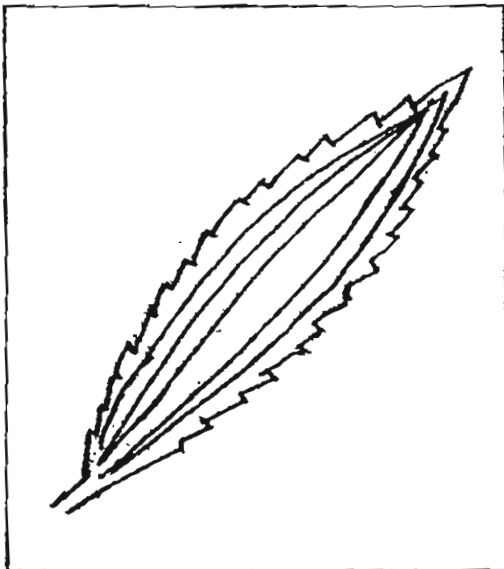
Observe the four leaves carefully and help identify them as Momo, Toto, Bobo and Soso. [2m]



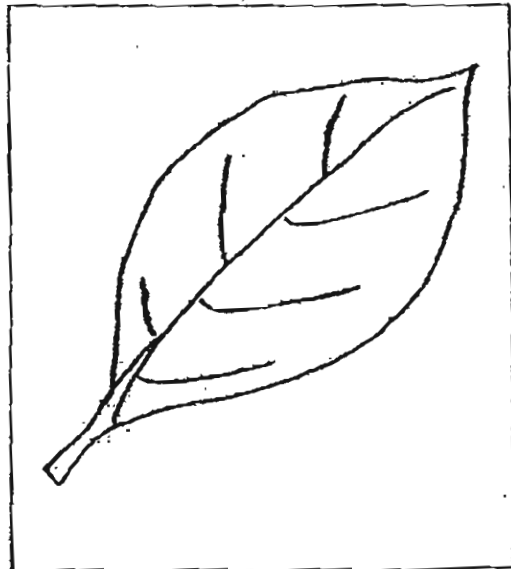
(i) _____



(ii) _____

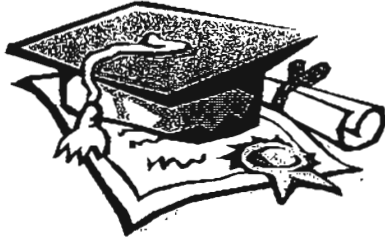


(iii) _____



(iv) _____

End of Paper

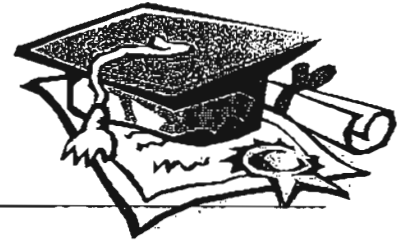


ANSWER SHEET

EXAM PAPER 2011

**SCHOOL : ROSYTH PRIMARY
SUBJECT : PRIMARY 5 SCIENCE**

TERM : CA1



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

16)a)Cell wall. Since the cell wall gives the plant cell its shape and protect it, it has the same function as the skeleton.

b)Cell A can carry out cell division because it has a nucleus which controls all activities to take place.

c)Cell division is important to human beings because it ensures the human beings to grow.

17)a)To find out if the organism survives better in the presence of sunlight or in the dark.

b)The organisms need light.

18)a)The plant had wilted and it is not standing upright.

b)The cytoplasm and vacuole have reduced in size because the plant is lack of water.

c)Water helps the plant stays firm to be upright.

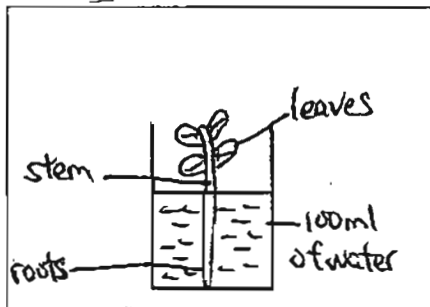
19)a)A: Phloem Tube B: Xylem Tube

b)It transports water and mineral salts from the roots to all parts of the plant.

20)a)The leaves would be blue.

b)The water carrying tubes/xylem tubes in the stem carried the blue water to the leaves.

21)a)



b)To prove/confirm that the plant takes in water through the roots.

22)a)i)They contract and relax to push the food down to the stomach.
ii)They mix the food with juices.
b)The cells in the stomach have different function than the gullet.

23)a)i)Leaves in Group P are oval in shape while leaves in Group Q are heart shape.
ii)Leaves in Group M have toothed/jagged edge while the leaves in Group N have entire/smooth edge.
b)i)Soso ii)Momo iii)Toto iv)Bobo