Rosyth School
Continual Assessment 1 for 2012
STANDARD SCIENCE
Primary 5

Total Marks: 50

Name: _____

Class: Pr 5 - _____ Register No. _____ Duration: 1 h 15 min

Date: 29 February 2012 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 Parts, Part I and Part II.
4. For questions 1 to 15 in Part I, 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 given in the Part II.

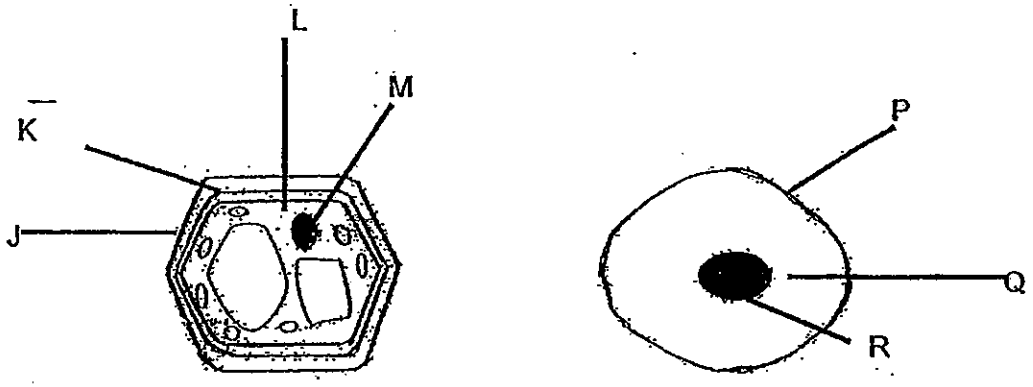
	Maximum	Marks Obtained
Part I	30 marks	
Part II	20 marks	
Total	50 marks	

* This booklet consists of 16 pages.

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. Miss Koh examined two cells under a microscope.



Which parts of the cells are correctly matched to its functions?

	Parts	Functions
(1)	J and Q	Controls what enters or leaves the cell.
(2)	K and P	Maintains the firmness of the cell.
(3)	L and Q	A jelly-like substance which allows cell activities to take place.
(4)	M and R	Controls the movement of substances in and out of the cell.

2. Which of the following statements are correct?

A: All plant cells have a cell wall.
B: All plants are made up of cells.
C: All plant cells have chloroplast.
D: All plant cells are similar in shape.

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

3. Kevin placed some plant cells in a red coloured liquid. The cells were not coloured red and remained the same size after some time.

   He decided to remove the cell wall of the plant cells. He placed the cells in the red coloured liquid again.

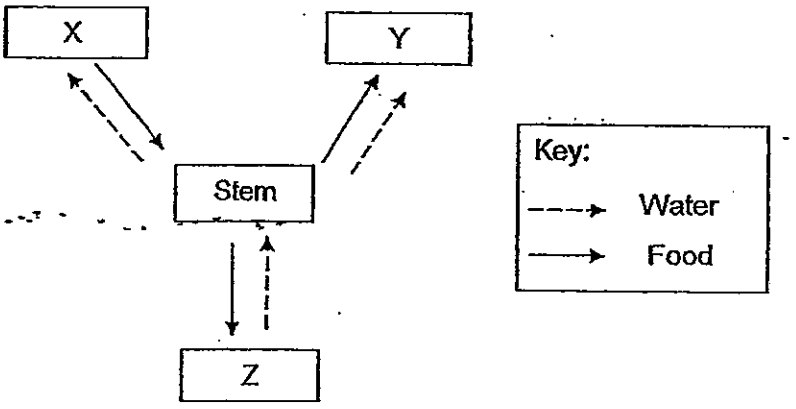
   What would he observe after some time?

	Colour of the cell	Size of the cell
(1)	Turned red	Remain the same size
(2)	Did not turn red	Remain the same size
(3)	Turned red	Change in size
(4)	Did not turn red	Change in size

4. Which of the following statements about the plant transport system is not true?

   (1) It has food-carrying tubes and water-carrying tubes.
   (2) One set of tubes carries water from the roots to all parts of the plant.
   (3) One set of tubes carries food from the leaves to all parts of the plant.
   (4) The plant transport system transports carbon dioxide throughout the plant.

5. The diagram below shows the net direction in which food and water are transported to different parts of a plant.



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

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

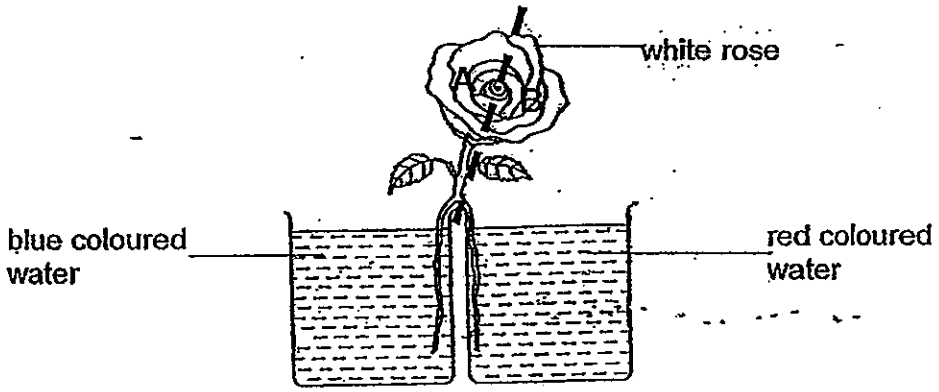
6. Peter wanted to investigate if the colour of dye will affect the amount of water absorbed by plants.
The table below shows the conditions of his set-ups, J, K, L and M.

Plant	J	K	L	M
Amount of water(ml)	300	300	300	200
Colour of dye	green	yellow	yellow	green
Amount of colour dye (ml)	5	10	5	10
Location of plant	window	garden	window	garden

Which set-ups should Peter use for his experiment?
(1) J and K only
(2) J and L only
(3) K and M only
(4) L and M only

7. Johan mixed some red and blue coloured water in a beaker. He observed that the colour of the water had turned purple.

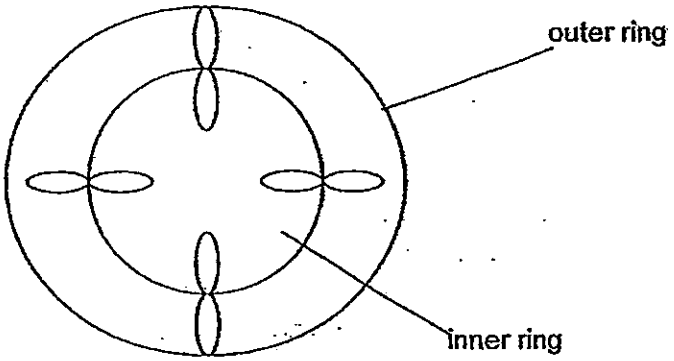
Next, he investigated with a white rose stalk. He cut the stalk and placed it in two separate beakers of red and blue coloured water as shown below.



What colour(s) would he observe on the flower on parts A and B after a few days?

	A	B
(1)	Blue	Purple
(2)	Red	Blue
(3)	Purple	Purple
(4)	Blue	Red

8. Rachel had a stalk of a white carnation flower. The diagram below shows the cross-section of the stem with the water carrying and food carrying tubes.

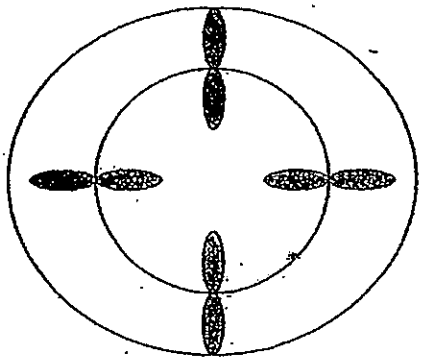


Rachel placed the stalk in a beaker of blue-coloured water. After six hours she observed that the white flower had turned blue. What would the cross-section of the stem look like after six hours?

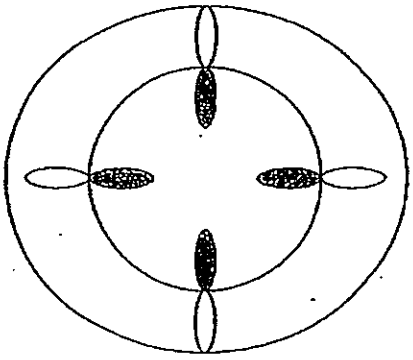
Denotes the area is stained blue

Denotes the area is not stained blue

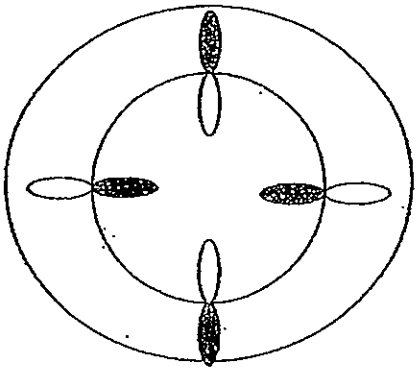
(1)



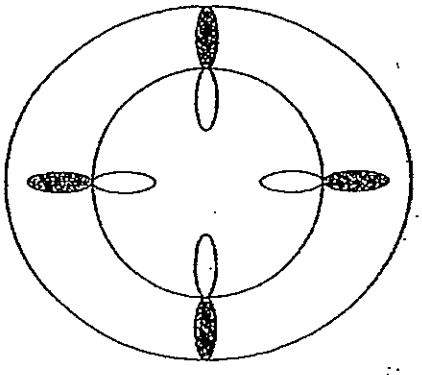
(2)



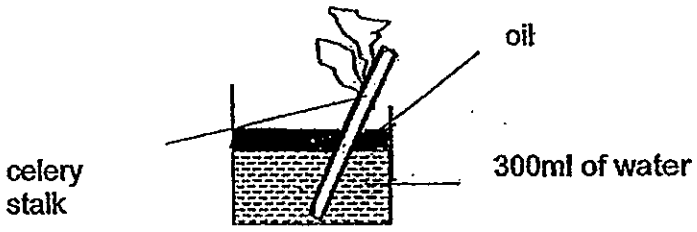
(3)



(4)

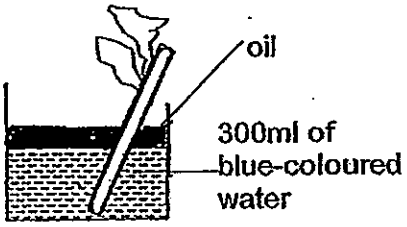


9. May wanted to find out if celery stalk absorbs water. She set up the experiment as shown below.

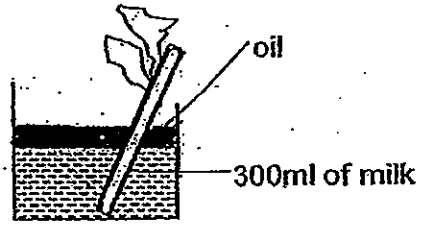


Which one of the following should she use as a control?

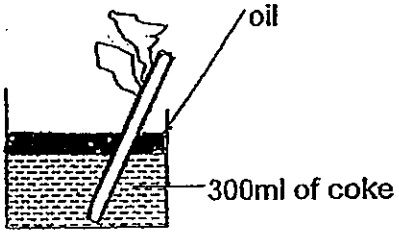
(1)



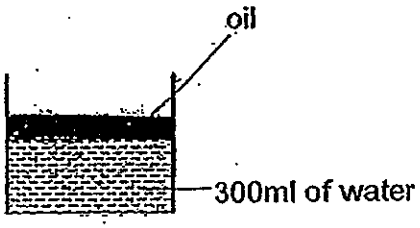
(2)



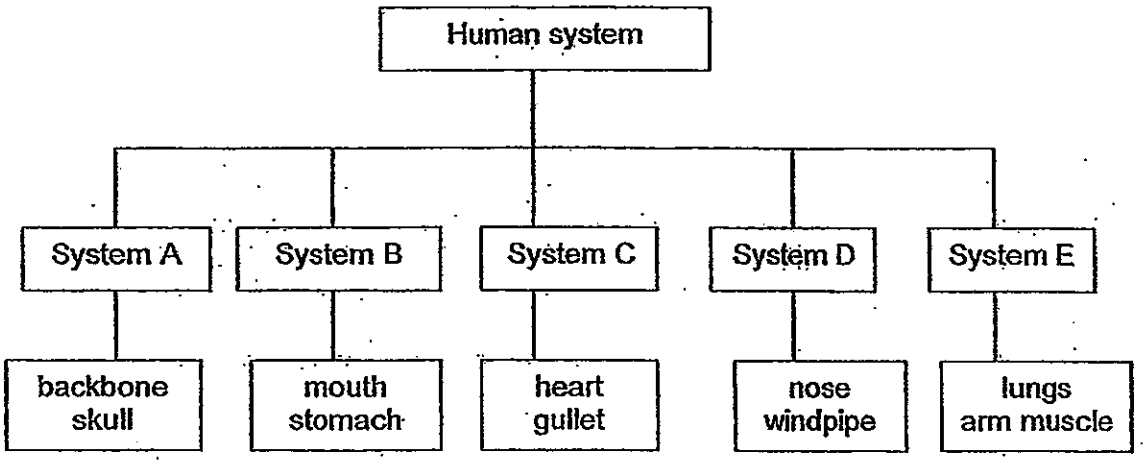
(3)



(4)



Study the classification chart below to answer questions 10 and 11.



10. What is the name of System A?

(1) Skeletal system
(2) Digestive system
(3) Circulatory system
(4) Respiratory system

11. Which of these systems above have organs that are wrongly classified?

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

12. Peter wanted to find out what type of soil was suitable for growing hibiscus plants. He planted 3 hibiscus plants of similar size in 3 pots, J, K and L. The pots were placed in the garden.

	J	K	L
Type of soil	garden soil	sand	clay
Colour of pot	blue	violet	purple
Amount of soil in each pot	500g	500g	500g
Amount of water per day	50ml	150ml	250ml

Which variable in the above set-ups would make the experiment not a fair test?

(1) Type of soil
(2) Colour of pot
(3) Amount of soil
(4) Amount of water per day

13. Which of the following are the functions of roots?

A: To hold the plant upright.
B: To store excess food for the plant.
C: To absorb water and mineral salts.
D: To anchor the plant firmly to the ground.

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

14. Which of the following correctly represents the path that water takes in a plant?

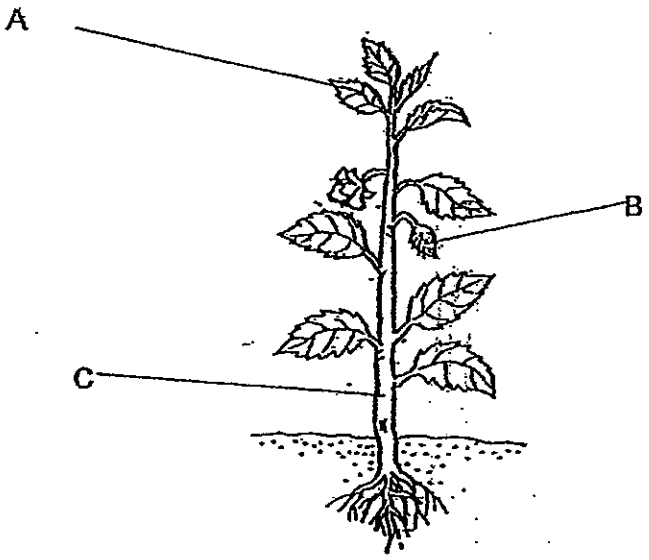
(1) root hairs ⟶ roots ⟶ water-carrying tubes in the stem ⟶ leaf.

(2) leaf ⟶ water-carrying tubes in the stem ⟶ root hairs ⟶ roots.

(3) leaf ⟶ food-carrying tubes in the stem ⟶ root hairs ⟶ roots.

(4) root hairs ⟶ roots ⟶ food-carrying tubes in the stem ⟶ leaf.

15. Refer to the diagram below.



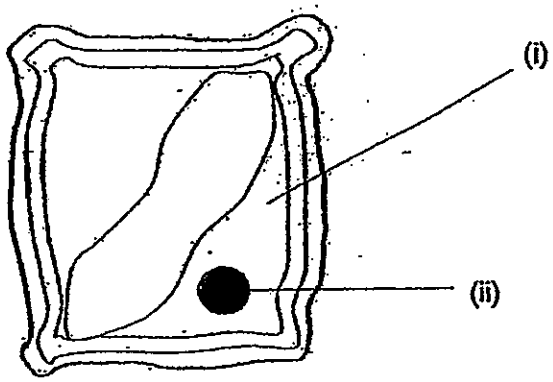
Which of the following statements about the plant parts A, B and C are true?

	A	B	C
(1)	It makes food for the plant.	It protects the seeds of the plant.	It supports the branches and the leaves.
(2)	It transports water to all parts of the plant.	It makes food for the plant.	It holds the plant firmly to the ground.
(3)	It stores food for the plant.	It makes food for the plant.	It absorbs nutrients for the plant.
(4)	It supports the branches and the leaves.	It transports water and food for the plant.	It makes food for the plant.

Part II (20 Marks)

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

16. Study the diagram of the cell below.



cell

(a) Label the parts of the cell in the blanks provided. (1m)

(i) _____

(ii) _____

(b) Is it a plant cell or an animal cell? Support your choice. (1m)

_____

_____

_____

17. Mindy and Jacob carried out an investigation with Cell X. She placed a Cell X in Liquid A and a Cell X in Liquid B as shown in the table below.

Type of liquid	Changes observed in the shape of the cell
A	No
B	Yes

(a) What is the aim of Mindy's experiment? (1m)

_____

_____

(b) Why was there a change in the shape of Cell X in Liquid B? (1m)

_____

_____

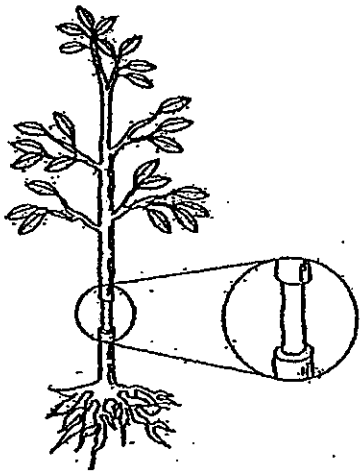
(c) Suggest a way to make Mindy's experiment more reliable. (1m)

_____

_____

_____

18. Mary cut the outermost covering of the branch of a plant as shown in the diagram below to remove one type of tubes found in the plant. She left the plant to continue to grow for 2 weeks.

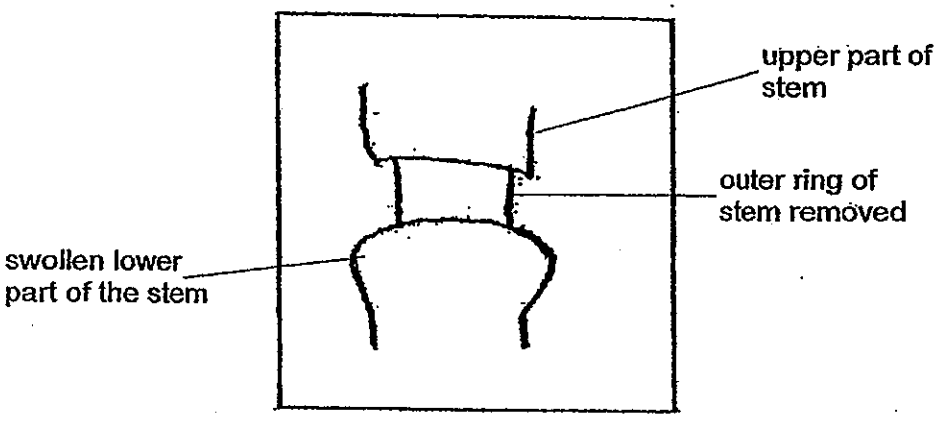


The leaves of the plant were still green after 2 weeks.

(a) Which type of tubes was removed in the outermost covering? (1m)

_____

Mary drew her observation of the stem as shown in the figure below.



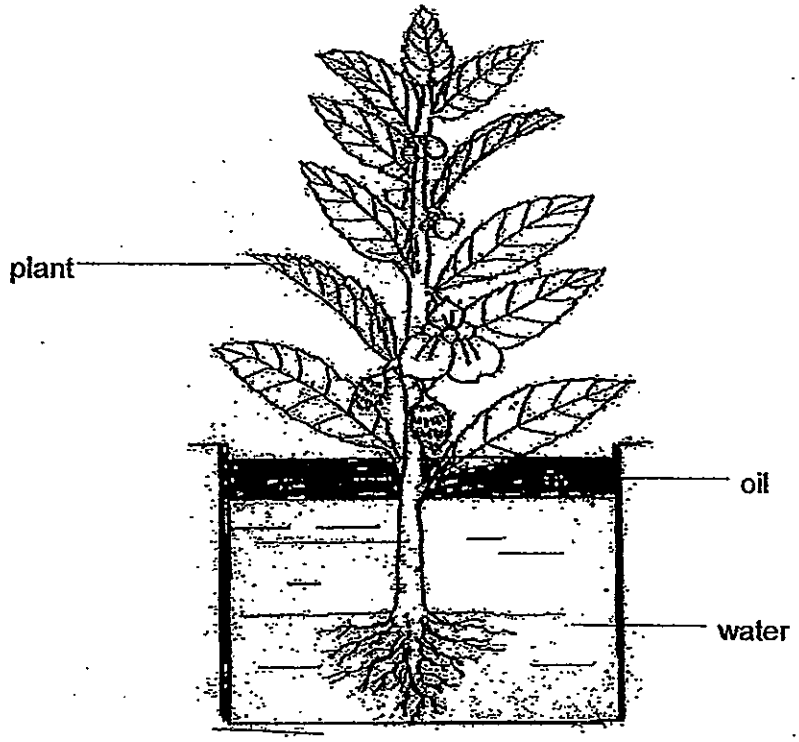
(b) Do you think her observation is correct? Explain why. (1m)

_____

_____

_____

19. Ah Teck set up an experiment in his room away from the window as shown below. He measured the amount of water at the start of the experiment and at the end of the experiment.



Amount of water at the start of the experiment	Amount of water at the end of the experiment
500ml	100ml

(a) Why was there a decrease in the amount of water? (1m)

_____

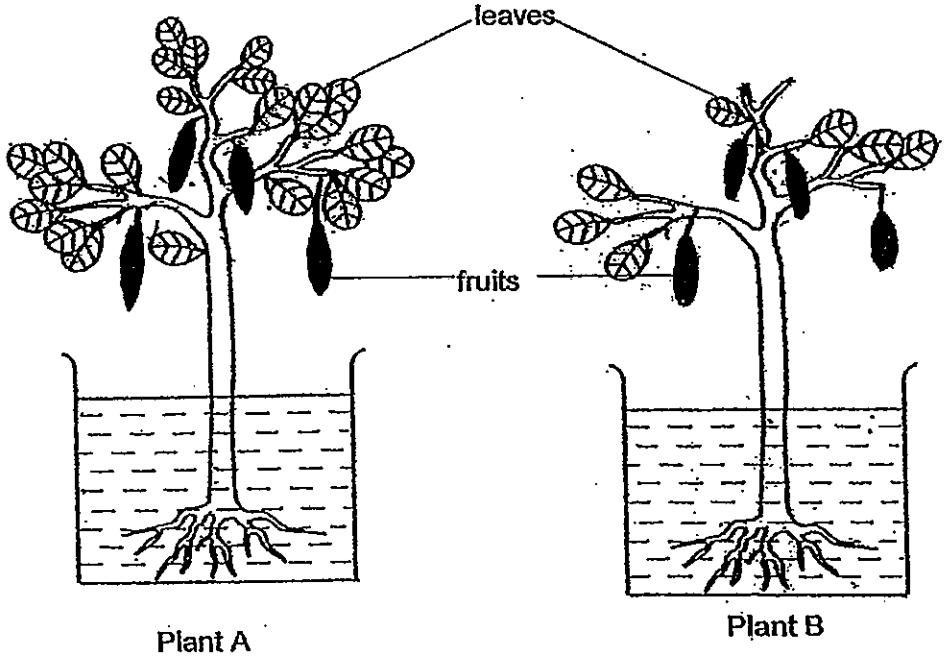
(b) What do you think will happen to the amount of water at the end of the experiment if Ah Teck had placed the set-up in his room near the window? (1m)

_____

_____

45

20. Mei Li set up an experiment as shown below. She wanted to find out how the number of leaves of a plant affects the rate at which food is stored in the fruits. She got two identical plants. Each plant has four fruits. The fruits are of the same size at the beginning of the experiment.



After 12 days, Mei Li measured the size of the fruits and recorded the results in the table shown below.

Day	Length of fruit (cm)	
	Plant A	Plant B
1	2	2
5	3	2
8	3.5	2.1
12	3.8	2.3

(a) How is food made in the leaves transported to the fruits? (1m)

_____

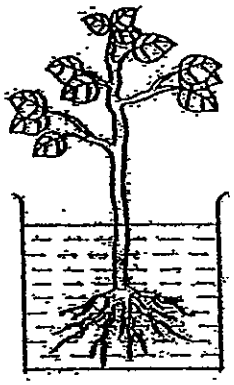
_____

(b) Based on Mei Li's results, what is the relationship between the number of leaves and the amount of stored food in the fruits? (1m)

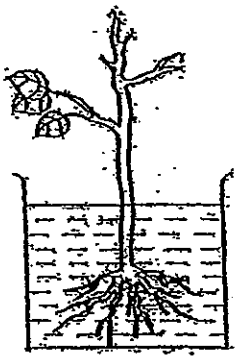
_____

_____

21. John placed two similar plants in two identical beakers, Beaker X and Beaker Y as shown in the diagram below. The beakers were filled with the same amount of water and placed by the window for a week. He made his observation after 2 days.



Beaker X



Beaker Y

(a) State the following variables for the experiment. (2m)

(i) Changed variable: _____

(ii) Unchanged variable: (not mentioned in the question)

_____

John observed that there was less water in beaker X than in beaker Y after 2 days.

(b) Explain the reason for his observation as stated above. (1m)

_____

_____

_____

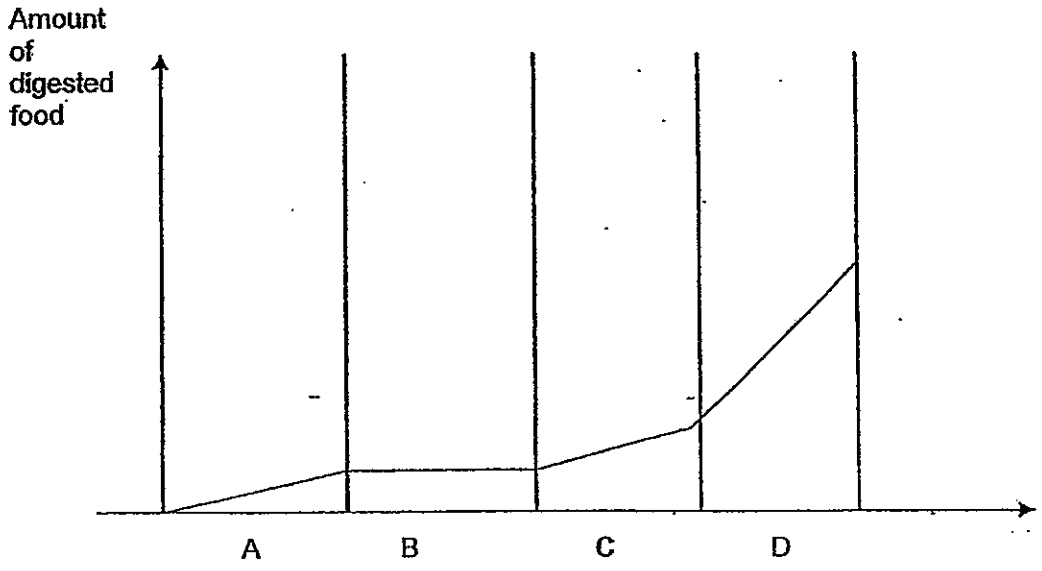
(c) State what happens to the water taken in by the plant. (1m)

_____

_____

_____

22. Ali drew a graph to show the amount of digested food in the different parts of a human digestive system. The graph is shown below.



Parts of a human digestive system

(a) Based on the graph, in which parts have digestion taken place? Support your answer. (1m)

_____

_____

Ali was given two objects, a plastic bag and a sponge.

(b) Which object should he use to make an analogy with the large intestine in the human digestive system? Explain why. (1m)

_____

_____

_____

_____

23. Ahmad conducted an experiment to investigate how different types of pollutants affect the growth of water lettuce. He filled 4 similar containers W, X, Y and Z with tap water. He then added 5 water lettuces into each of the containers. As shown from the table below, different types of pollutants were added into the containers. He left the set-ups near a window for 5 days.

Set-up	W	X	Y	Z
Amount of tap water(ml)	200	200	200	200
Amount of pollutants(ml)	0	50	50	50
Type of pollutants	—	petrol	bleach	ink

(a) What should Ahmad measure in his experiment at the end of 5 days? (1m)

_____

_____

(b) Name the changed variable in this experiment. (1m)

_____

_____

(c) What is the purpose of having set-up W? (1m)

_____

_____

End of Paper

ANSWER SHEET

EXAM PAPER 2012

SCHOOL : ROSYTH
SUBJECT : PRIMARY 5 SCIENCE

TERM : CA1

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

16)a)i)Cytoplasm ii)Nucleus
b)It is a plant cell. It has a cell wall.

17)a)Her aim is to find out if she could see changes observed in the shape of the cell.
b)Liquid B entered cell X.
c)Repeat the experiment.

18)a)Phloem tubes.
b)No. The upper part of the stem should be swollen as food cannot be transported to the roots.

19)a)The roots had absorbed the water.
b)There will be less decrease of water in the beaker.

20)a)The food made in the leaves would be transported through the phloem tube to the fruits.
b)The more the leaves the more the amount of stored food in the fruits.

21)a)i)Number of leaves. ii)Type of water.
b)More water of the plant in Beaker X was being absorbed than in the plant in Beaker X as the plant in Beaker X has more leaves than the plant in Beaker Y.
c)The water is being taken in by the roots and if sents to the xylem tube and the xylem tube sends it to all parts of the plant.

22)a)1)In Parts A ,C and D. 2)In these parts there was an increase of digested food when as in part B nothing was digested.

b)1)The sponge. 2)The large intestine absorbed water from the undigested food and the sponge also absorbs water. 3)Therefore he used the sponge to make an analogy with the large intestine.

23)a)He wanted to measure the number of water lettuce that would be alive.

b)Type of pollutant.

c)Is to prove that pollutants affect the growth of water lettuce.