

NANYANG PRIMARY SCHOOL

PRIMARY FIVE SCIENCE

CONTINUAL ASSESSMENT 2

2009

BOOKLET A

Date : 27th August 2009

Duration : 1 h 45 min

Name : _____ ()

Class: Primary 5 ()

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature:

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.**

Let A consists of 16 printed pages including this cover page.

SECTION A (30 x 2 marks = 60 marks)

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

1. Which one of the following systems helps to transport oxygen to all parts of the body?

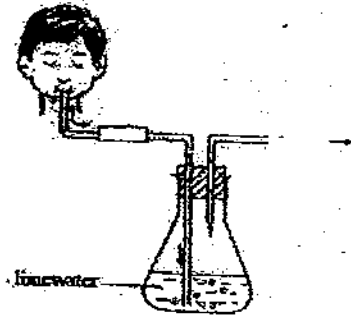
- | | |
|------------------------|----------------------|
| (1) Circulatory system | (2) Digestive system |
| (3) Respiratory system | (4) Muscular system |

2. Which of the following animals breathe through gills?

- | | |
|-----------|-----------|
| A Frog | D Whale |
| B Shark | E Tadpole |
| C Dolphin | |

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

3. Ahmad poured some limewater into a flask, he then blew air into it through a tube. After a while he noticed that the limewater in the flask turned cloudy.



Which one of the following is the reason why the limewater in the flask turned cloudy?

- (1) Carbon dioxide is found in the air.
- (2) The exhaled air contained carbon dioxide.
- (3) The exhaled air contained more carbon dioxide than inhaled air.
- (4) Carbon dioxide and nitrogen caused the limewater to turn cloudy.

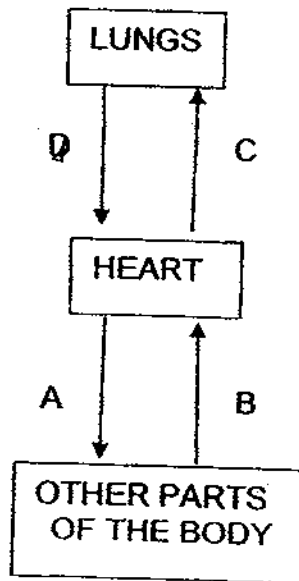
4. Which of the statements are true about the heart?

- A The heart pumps blood to all parts of the body
- B The heart is also part of the respiratory system.
- C The heart pumps blood by relaxing and contracting.
- D The heart only pumps oxygen to all parts of the body.

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

- (2) B and D only
- (4) C and D only

5. The arrows A, B, C and D represent blood vessels carrying blood in our body.



Which pair of blood vessels carry blood poor in oxygen?

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

- (2) A and D
- (4) C and D

6. Which of the following organisms are single-celled organisms?

- A moss
- B yeast
- C paramecium
- D bacterium

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

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

7. Wei Han was asked to measure his heartbeats per minute as he performed different activities. Which one of the tables below shows correctly the possible heartbeats per minute for each activity?

(1)

Activity	Heartbeats per minute
Leisure walking	75
Reading	80
Climbing a mountain	95
Jogging	105

(2)

Activity	Heartbeats per minute
Reading	75
Jogging	80
Climbing a mountain	95
Leisure walking	105

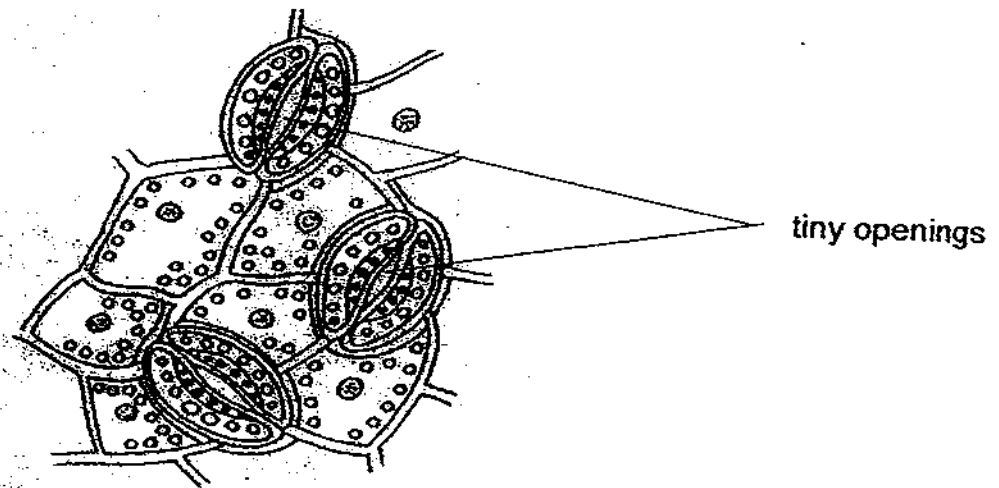
(3)

Activity	Heartbeats per minute
Leisure walking	75
Reading	80
Jogging	95
Climbing a mountain	105

(4)

Activity	Heartbeats per minute
Reading	75
Leisure walking	80
Jogging	95
Climbing a mountain	105

8. The diagram below shows the tiny openings on the underside of a leaf.

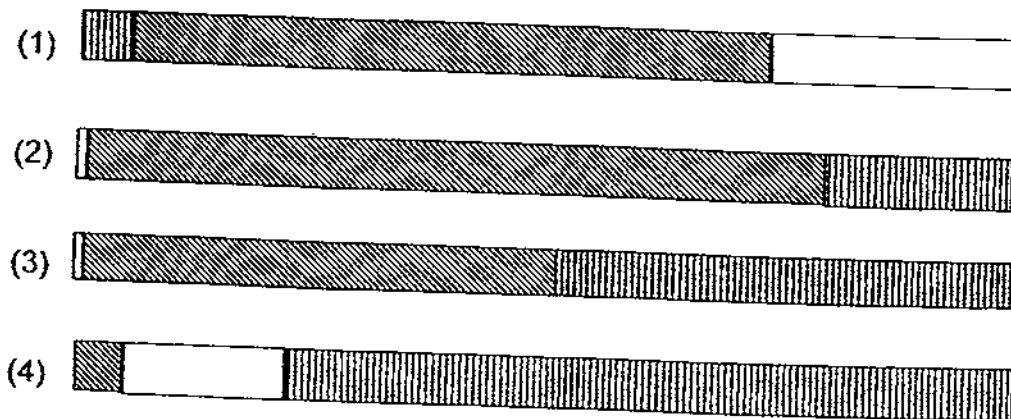


These openings help the plant to _____.

- A remove excess water vapour.
- B exchange gases with the surroundings
- C absorb sunlight for the cells to make food.

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

9. Air is made up of carbon dioxide, nitrogen, oxygen and water vapour. Which of the following best shows the approximate proportion of carbon dioxide, nitrogen and oxygen in the air?



10. The tubes which transport water are found in the _____ of the plant.

- A stem
- B roots
- C leaves
- D flowers

(1) A only

(3) B, C and D only

(2) A and B only

(4) A, B, C and D

11. Which one of the following tables below shows the correct substances needed and produced during photosynthesis and respiration?

(1)

	Photosynthesis	Respiration
Substances needed	Carbon dioxide Water	Oxygen Food
Substances produced	Oxygen Sugar	Carbon dioxide Water

(2)

	Photosynthesis	Respiration
Substances needed	Food Water	Carbon dioxide Sugar
Substances produced	Oxygen Water	Carbon dioxide Water

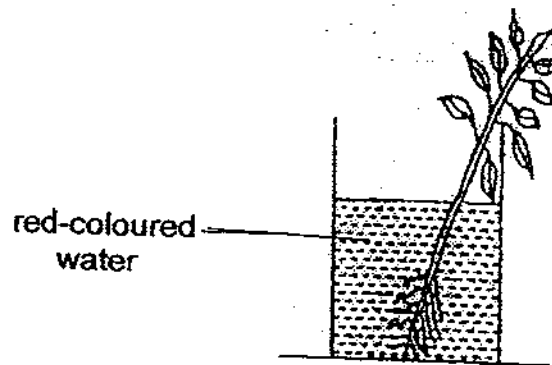
(3)

	Photosynthesis	Respiration
Substances needed	Carbon dioxide Water	Oxygen Water
Substances produced	Carbon dioxide Food	Oxygen Sugar

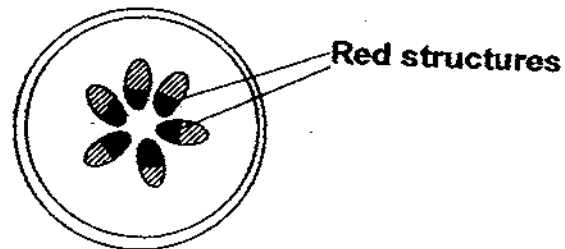
(4)

	Photosynthesis	Respiration
Substances needed	Oxygen Water	Carbon dioxide Water
Substances produced	Oxygen Sugar	Carbon dioxide Food

12. Pamela put a balsam plant in a beaker of red-coloured water. The next day she cut a cross section of the stem of the balsam plant.



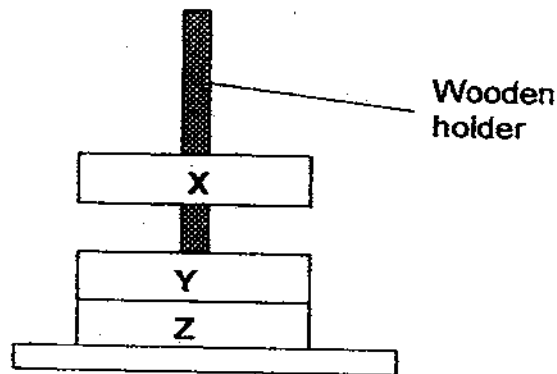
After cutting, she saw red-coloured structures in the cross section of the stem.



The above experiment showed that the structures _____.

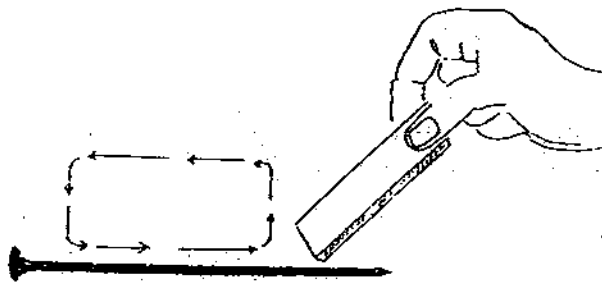
- (1) store excess water for the plant
 - (2) absorb water and mineral salts.
 - (3) transport food to other parts of the plant.
 - (4) transport water from the roots to other parts of the plant.
13. Magnets have many uses in our daily lives.
Which one of the following does not make use of magnets?
- | | |
|------------------|---------------|
| (1) Battery | (2) Speaker |
| (3) Refrigerator | (4) Telephone |

14. Mrs Lim put three ring magnets, X, Y and Z, through a wooden holder as shown below. She noticed that magnet X floated above magnet Y but magnet Y did not float above magnet Z.



Which one of the following statements correctly explains why magnet X floats above magnet Y?

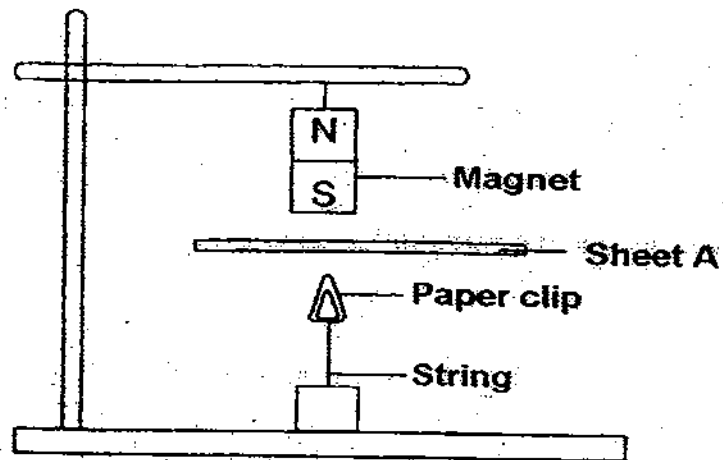
- (1) Both the magnets are made of steel.
 - (2) Both the magnets can attract and repel each other.
 - (3) The unlike poles of magnets X and Z are facing each other.
 - (4) The two poles of magnets X and Y facing each other are like poles.
15. Suresh used a magnet to find out its effect on an iron nail. He used one end of the magnet to stroke the nail as shown below. After a certain number of strokes, he placed the nail near some iron filings.



What do you think is the hypothesis for this experiment?

- (1) The magnet has to be stroked in one direction only.
- (2) The nail could be magnetised by stroking it with a magnet.
- (3) After 50 strokes on the nail, it picks up the greatest amount of filings.
- (4) The number of strokes made by a magnet on a nail would affect the strength of the magnetised nail.

16. A bar magnet was held above a paper clip tied to a weight by a string. The magnet pulled the paper clip up. When Sheet A was placed between the magnet and the clip, the paper clip dropped.



What material could Sheet A be made of?

- A iron
- B wood
- C plastic
- D copper

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

17. A, B, C and D are parts of a flower and an animal.

Types of sex cells produced	Parts of a plant	Parts of an animal
Female cell	A	C
Male cell	B	D

Which one of the following options correctly states the parts of a flower and an animal that produce female and male reproductive cells?

	A	B	C	D
(1)	ovule	filament	womb	testes
(2)	stigma	pollen grain	ovule	testes
(3)	pollen grain	ovule	testes	ovary
(4)	ovary	anther	ovary	testes

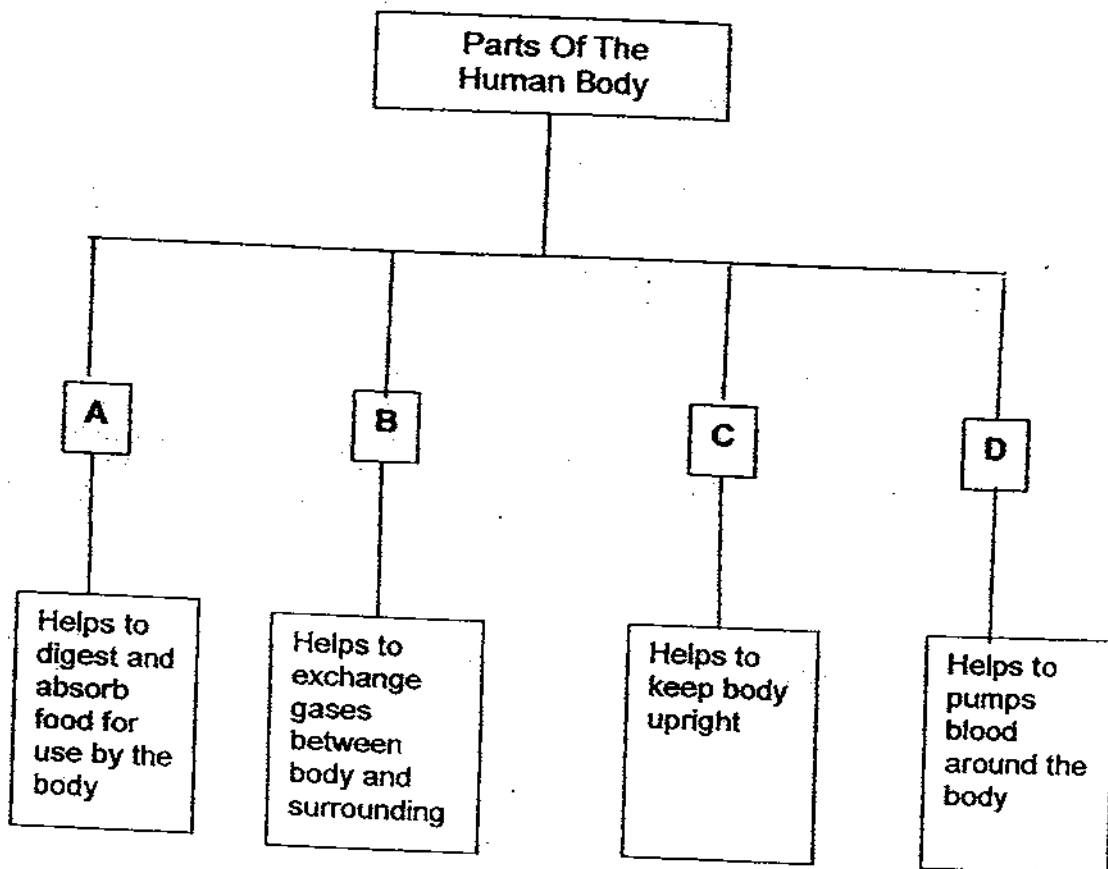
18. Which of the following can be found in human blood?

- A Veins
- B Arteries
- C Capillaries

- D Plasma
- E Red blood cells
- F White blood cells

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

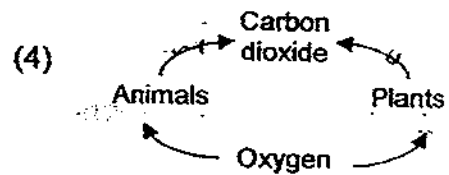
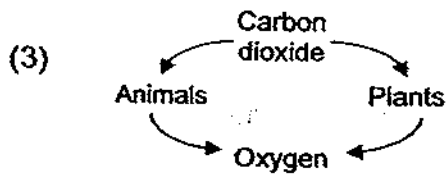
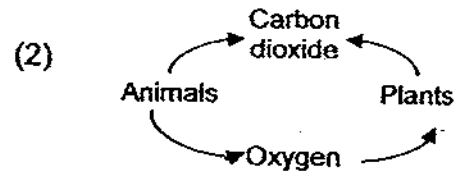
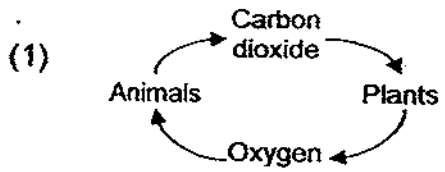
19. Look at the classification chart below.



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

	A	B	C	D
(1)	Stomach	Nose	Muscles	Arteries
(2)	Small intestine	Lungs	Skeleton	Heart
(3)	Gullet	Skin	Skeleton	Veins
(4)	Mouth	Lungs	Bones	Heart

20. Which one of the following diagrams shows the exchange of gases between living things and their environment that occur both in the day and at night?



21. Susan observed 3 cells, X, Y and Z. She recorded her observations in the table below.

Cell Structure	Cell X	Cell Y	Cell Z
Nucleus	Present	Present	Absent
Cell Wall	Present	Present	Absent
Cytoplasm	Present	Present	Present
Chloroplast	Absent	Present	Absent
Cell Membrane	Present	Present	Present

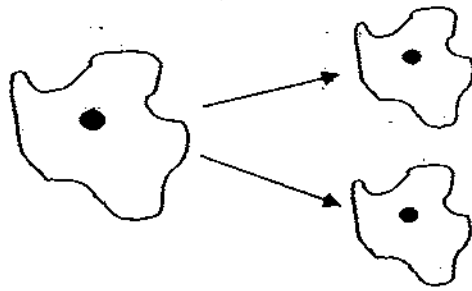
Based on the information in the table above, which of the following statements are true?

- A. Cells X and Y are regular in shape but Cell Z is not.
- B. Cells Z is an animal cell but Cell X and Y are plant cells.
- C. Cells X and Y can divide to form new cells but cell Z cannot.

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

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

22. The diagram below shows a single-celled organism dividing itself to form two new organisms.



at the beginning

after five minutes

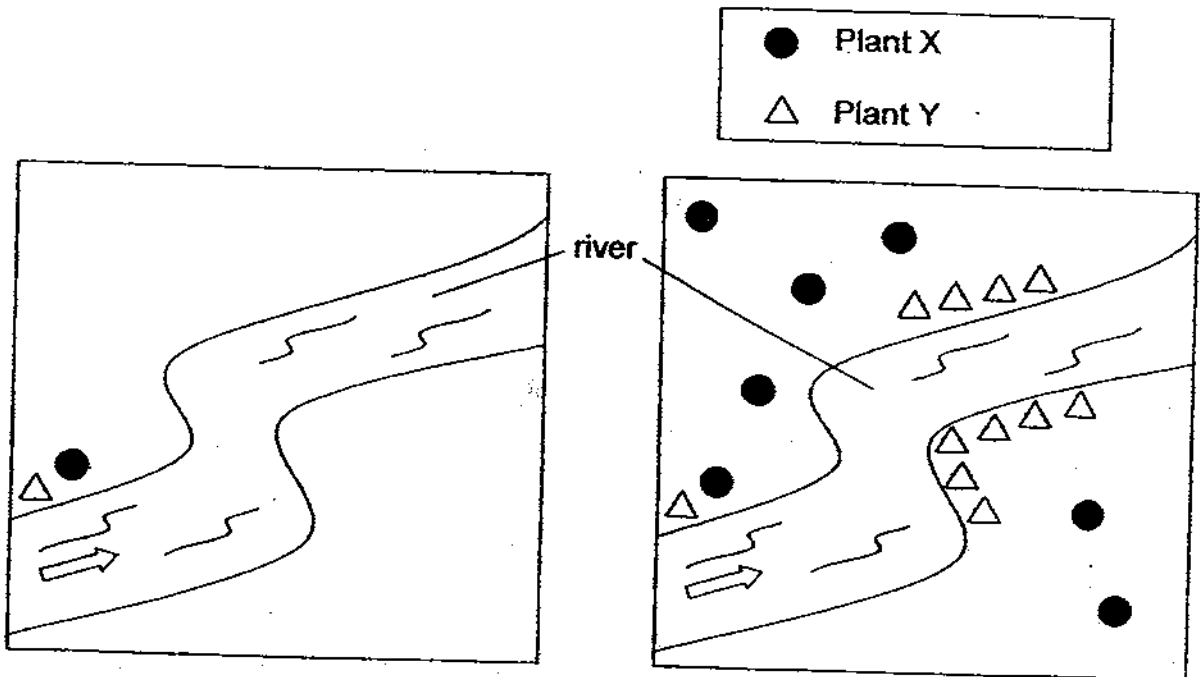
If there is sufficient food and water for all the single-celled organisms to continue living, how many organisms are present at the end of twenty minutes?

- (1) 8
(3) 31
- (2) 16
(4) 32
23. Which of the following statements are true of both the plant transport system and the human circulatory system?
- A Both systems transport only food.
B Both systems are made up of only tubes to transport substances.
C In both systems a liquid transports substances to all parts of the organisms.
D Both systems transport oxygen, carbon dioxide, and food to all parts of the organisms.
- (1) C only
(3) A, B and C only
- (2) A and C only
(4) B, C and D only

24. Which of the following statements about the artery and the vein are true?

- A. The wall of the artery is thicker than the vein.
B. Both the artery and vein carry the same substances to other parts of the body.
C. The artery carries blood away from the heart while the vein carries blood to the heart.
D. The vein allows substances to get into the blood stream but the artery does not.
- (1) A and B only
(3) A, B and C only
- (2) A and D only
(4) B, C and D only

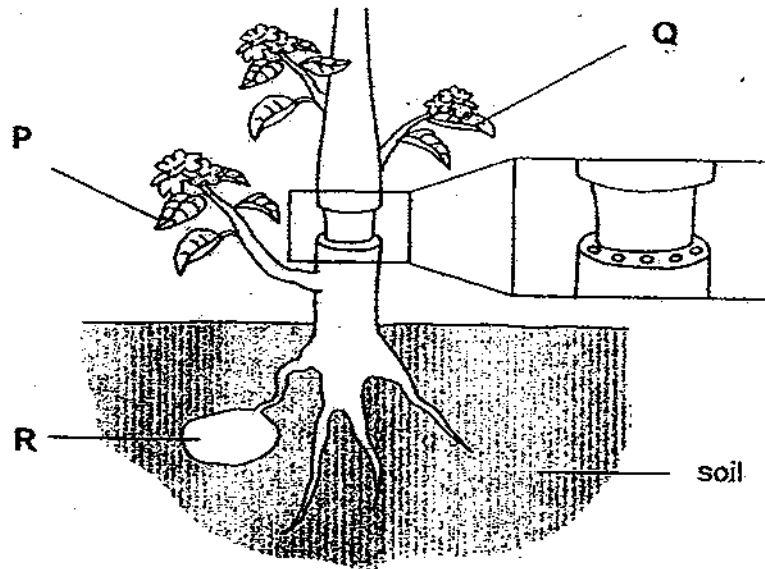
25. David wanted to find out the methods of dispersal of plants X and Y. He counted the number of plants X and Y on a piece of land. After a few months, he looked at the same piece of land again. His observations are shown below.



Based on his observations, what are the methods of dispersal and characteristics of the fruits of plants X and Y that help in their dispersal.

	Dispersal method of X	Dispersal method of Y	Characteristic of fruit X	Characteristic of fruit Y
(1)	Animal	Water	Light	Heavy
(2)	Wind	Water	Feathery	Fibrous husk
(3)	Water	Wind	Heavy	Light
(4)	Water	Wind	Fibrous husk	Feathery

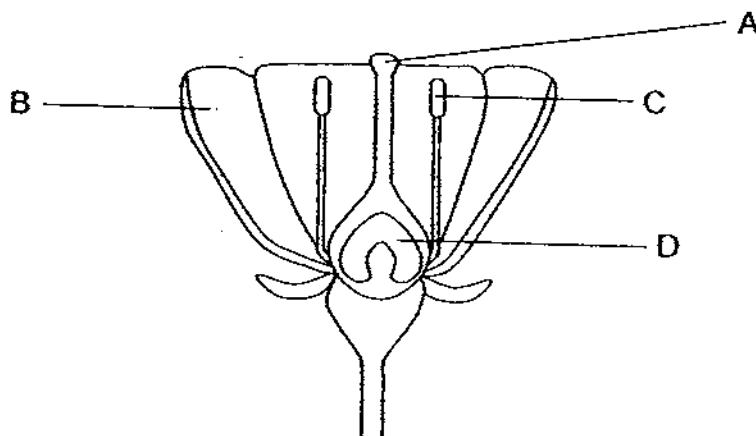
26. John removed an outer ring of a stem from a plant as shown below. P, Q and R are parts of the plant.



He came back after a week and noticed that R has grown bigger. Which of the following statements best explained his observation?

- (1) R could also make food.
- (2) Food made by P was stored in R.
- (3) Food made by P and Q were stored in R.
- (4) Water absorbed by the roots was stored in R.

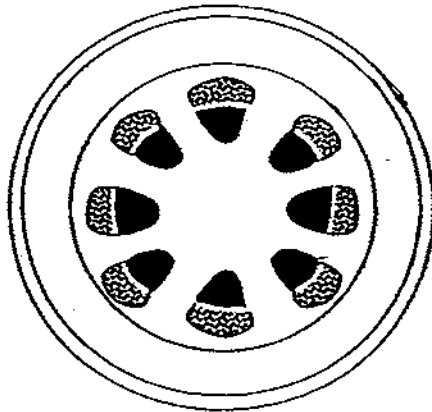
27. Study the diagram below.



Which one of the following parts has a similar function as the testes?

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

28. The cross section of the stem below shows the conducting vessels of the plant.



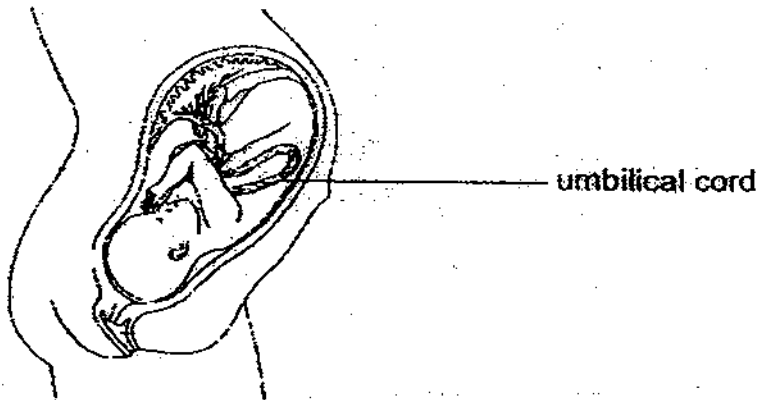
Which one of the following statements about the plant's transport system is false?

- (1) Phloem is closer to the centre of the stem than the xylem.
 - (2) Phloem transport food from the leaves to the other parts of the plants.
 - (3) Xylem transport water absorbed from the roots to the other parts of the plants.
 - (4) Phloem and xylem are the only conducting vessels in the transport system of a flowering plant.
29. Which of the following statement/s about a bird's nest fern and mushrooms is/are true?

- A They both reproduce by spores.
- B They both make their own food.
- C Both require the wind to ensure that their offspring do not grow in an over crowded environment.

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

30. Study the diagram of a baby in a womb below.



Which of the following may happen if the umbilical cord is blocked?

- A. The baby will die due to lack of oxygen.
- B. The baby will not receive enough nutrients.
- C. The baby is still able to get nutrients from the womb.

(1) A only

(2) A and B only.

(3) A and C only

(4) B and C only

NANYANG PRIMARY SCHOOL

PRIMARY 5 SCIENCE

**CONTINUAL ASSESSMENT 2
2009**

BOOKLET B

Date : 27th August 2009

Duration : 1 h 45 min

Name : _____ ()

Class: Primary 5 ()

Marks Scored:

Booklet A:		60
Booklet B :		40
Total :		100

Parent's signature: _____

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.**

Booklet B consists of 15 printed pages including this cover page.

Section B (40 marks)

Write your answers to questions 31 to 44 in the spaces provided.
Marks will be deducted for misspelt key words.

31. During breathing, air is inhaled (taken in) and exhaled (given out). Complete the table to show two differences between inhaled air and exhaled air. (2m)

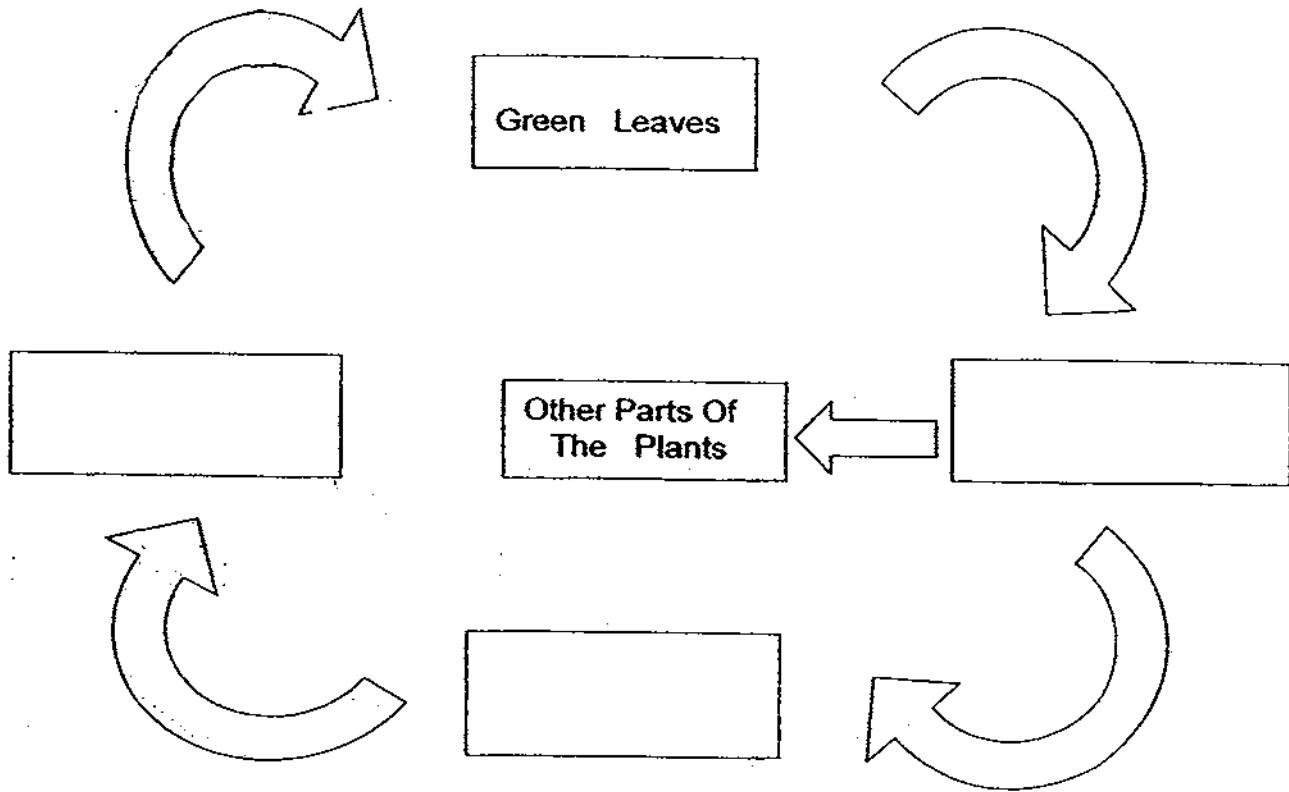
	Inhaled Air	Exhaled Air
a.		
b.		

32. John placed a potted flowering plant in a special room with light of similar brightness as sunlight. To improve the circulation in the room, there was a fan which blew in all directions. The plant was provided with sufficient water. At the beginning of the experiment, there were no flowers in bloom. As the weeks passed, he noticed that the plant produced flowers that eventually turned into fruits even though the plant was the only organism in the room.

- a) Suggest a reason why pollination and fertilisation could take place in the absence of other organisms. (1 m)

- b) What will happen to the ovules after fertilisation? (1 m)

33. The chart below shows the transport system in a flowering plant.

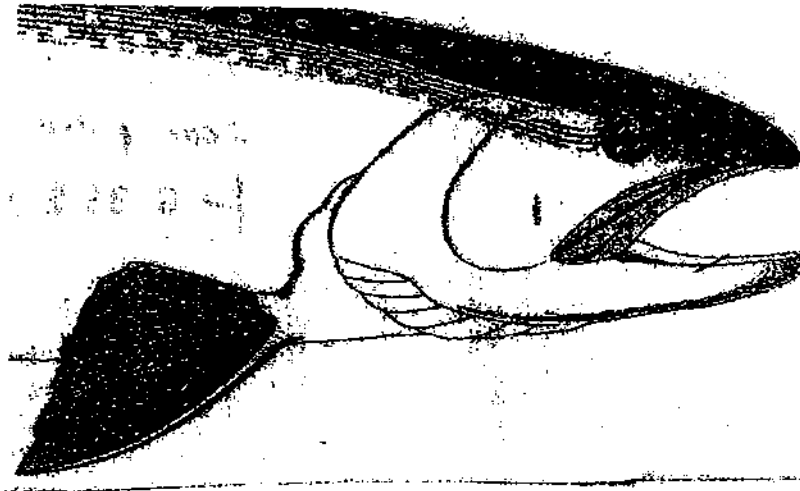


ai) Shade the arrows that represent the movement of water and minerals salts in the plant. (1m)

ii). Write the word "phloem" in the correct box above. (1m)

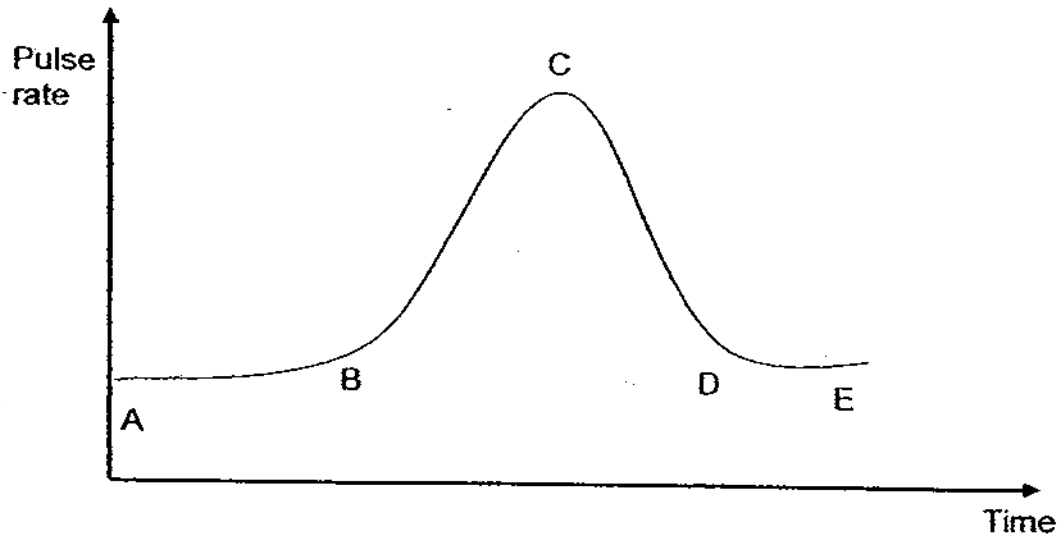
33b) Look at the diagram below.

- i) Draw arrows on the fish to show the flow of water entering and leaving it during breathing. (1m)



- ii) Explain why the water that leaves the gills is poorer in oxygen than the water reaching the gills. (1m)

34. The graph below showed the change in Mary's pulse rate when she ran on the spot and stopped after some time.



a) At which point (A, B, C, D or E) did Mary start to run on the spot? (1m)

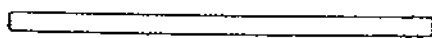
b) Complete the following pair of human systems that were working together when Mary ran on the spot. (2m)

i) Respiratory system and _____

ii) Skeletal system and _____

c) Explain how the pair of systems named in (bi) worked together to help Mary run on the spot. (2m)

35. Study the diagram below.



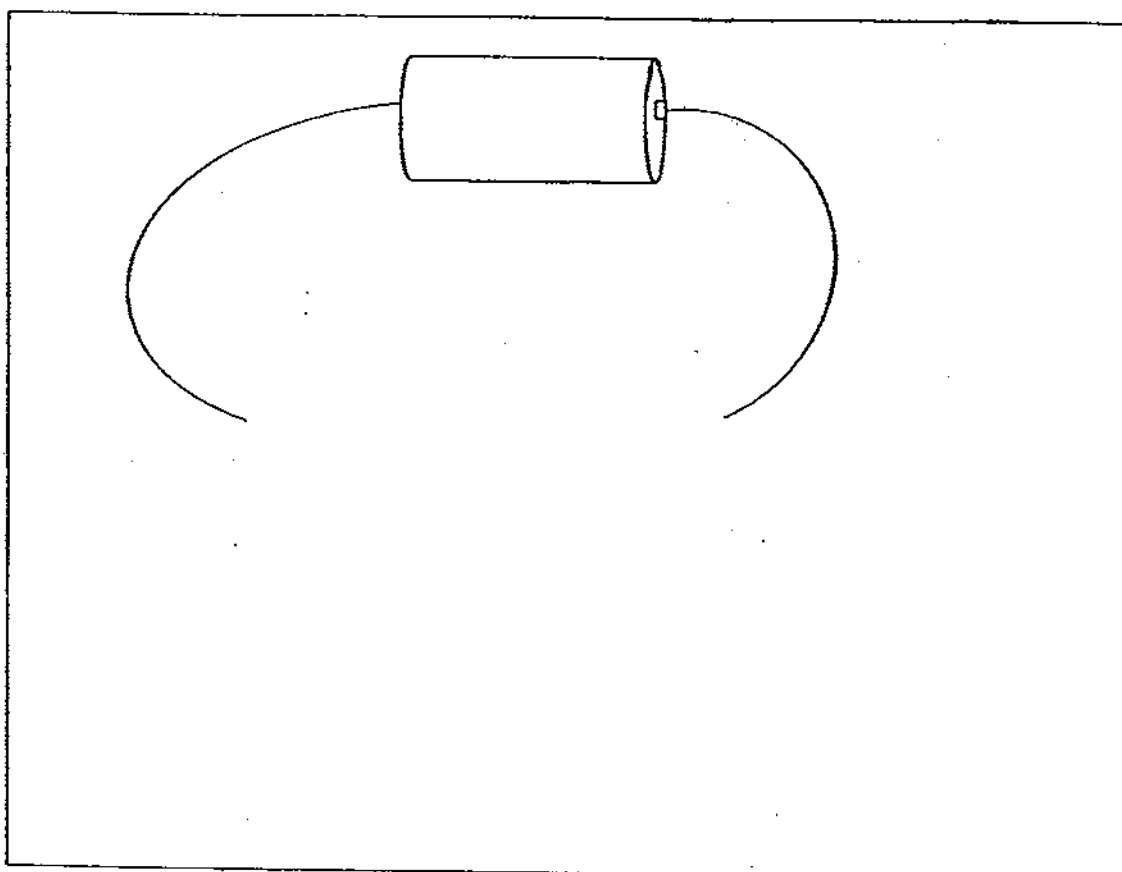
A copper rod



An iron rod

a) By choosing the correct rod above, complete the drawing of the electromagnet below. Label the diagram.

(2m)



b) Besides adding another battery, suggest another way to make an electromagnet stronger?

(1m).

36. The table below shows the average pulse rate of a human being at different ages.

Age (year)	Average pulse rate (beats per min)
1	120
8	85
25	75
65	65

- a) What is the relationship between age and pulse rate? (1m)

- bi) Based on the information in the table above only, what could possibly be the pulse rate of a healthy 40 year old adult? (1m)

- ii) Explain how the pulse rate of a healthy 8 year old boy increase to 120 beats per minute after performing a vigorous exercise. (1m)

37. Three 15 year old boys, Mathew, Halim and Liwei, wanted to find out whether exercises affect the breathing rates. They recorded the number of times they breathed in within a minute before and after exercising. The results were shown in the table below.

	Number of breaths per minute	
	1 min. before exercising	1 min after exercising
Mathew	15	24
Halim	18	42
Liwei	16	34

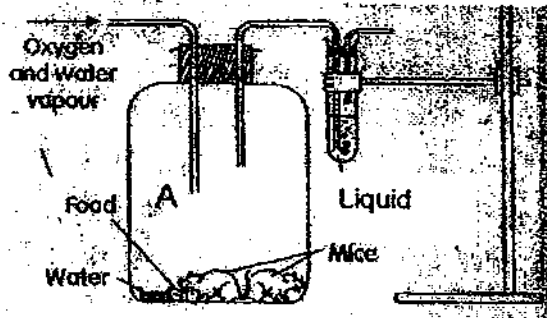
The boys studied the results and noticed that their breathing rates were very different from one another. They realised that their tests had not been fair. Identify two variables which they should keep constant to ensure that the test was fair?

(2m)

i)

ii)

38 The set-up below is used to find out whether living things give out carbon dioxide.



a) Name the liquid in the test tube.

($\frac{1}{2}$ m)

b) Write a hypothesis for the experiment.

(1m)

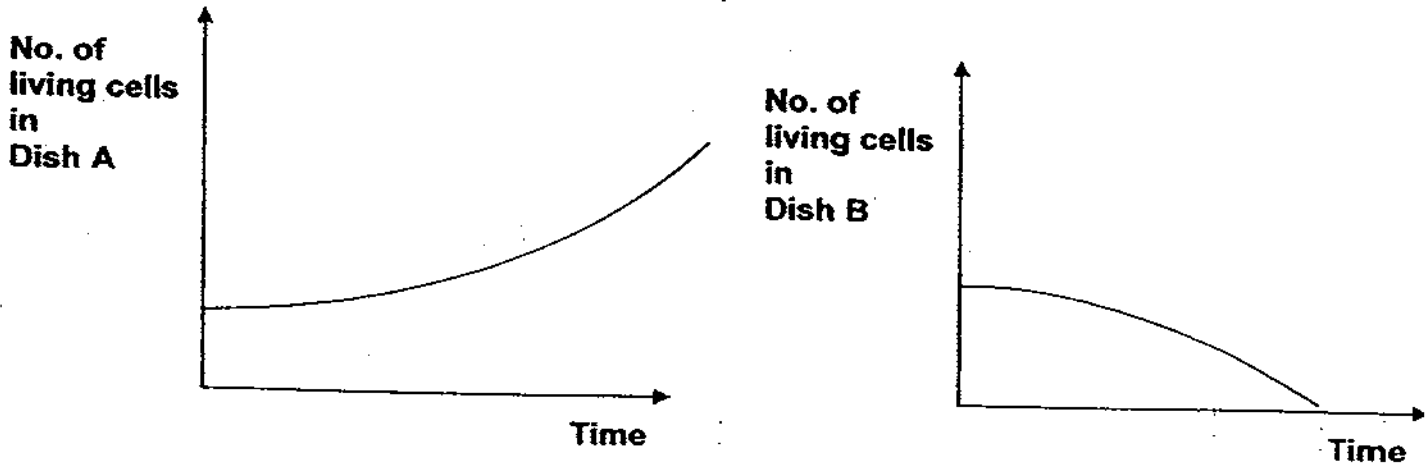
c) Predict what would happen to the mice when the end A is covered with plasticine?

($\frac{1}{2}$ m)

cii) Explain your prediction in (ci)?

(1m)

39. Devi placed the same number of a type of single-celled (unicellular) organisms in pure water in 2 different petri dishes, labelled A and B. She left A out in the open while B was placed in the dark. She monitored the number of living organisms in petri dish A and B over a span of a few days and plotted a graph as shown below.

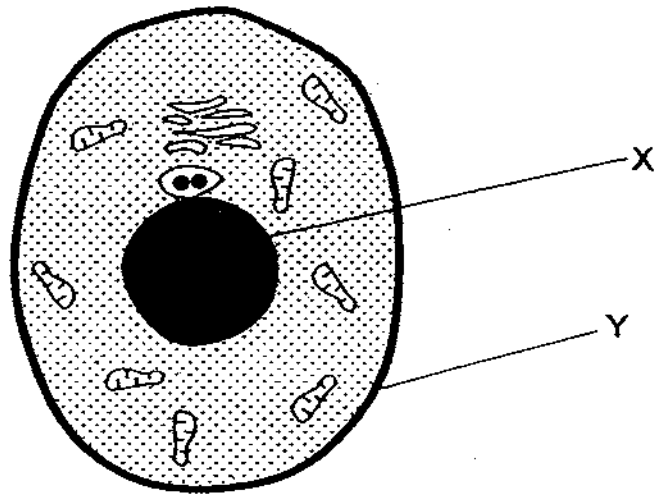


a) State the aim of the experiment. (1 m)

b) Based on the graphs above, state a conclusion of the experiment. (1 m)

c) Name 2 other conditions that it needs in order to survive? (2 m) 1 m

40 The diagram below shows a cell of the human body with cell structures X and Y.



a) Fill in the table below with one function of X and Y.

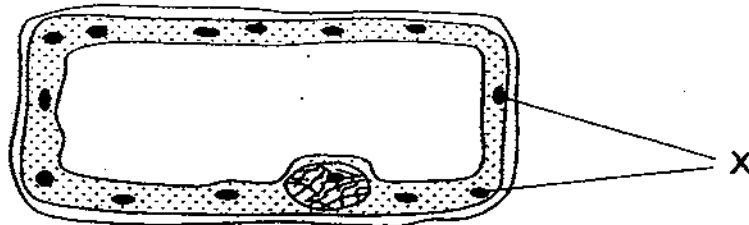
(2 m)

	Function
X	
Y	

b) How is this cell different from a typical plant cell?

(1 m)

41. Study the diagram of a cell below.



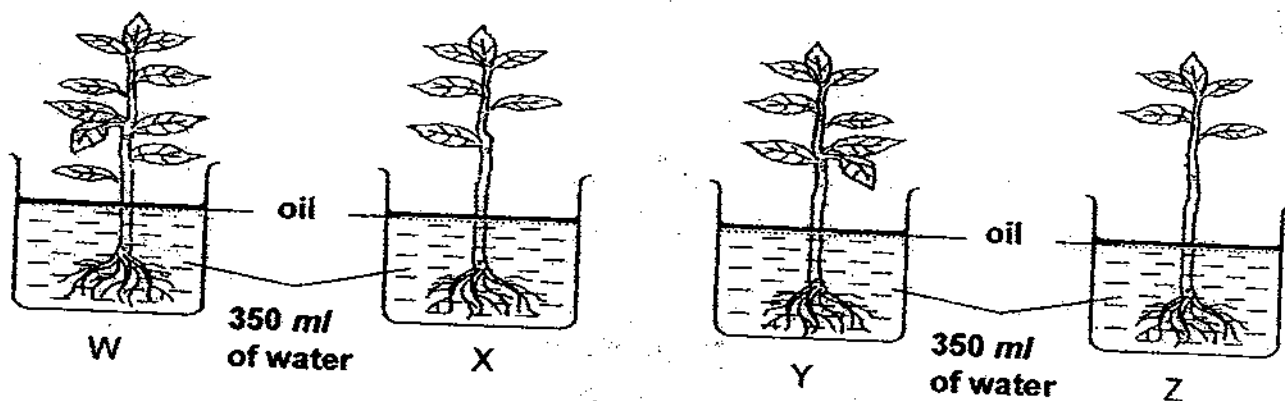
a) State the function of the part labelled X.

(1m)

b) Are cells with many X more commonly found on the upper side or under side of a leaf? Explain your answer.

(2m)

42 Jolene conducted an experiment by pouring ^{water} into each of the four beakers and placing four balsam plants in them. She then labelled them W, X, Y and Z. Later she poured a thin layer of oil on the surface of the water.



Three days later, she noticed that there were no changes in the number of leaves and recorded the following observations.

Beaker	W	X	Y	Z
Vol. of water left	250	257	253	261

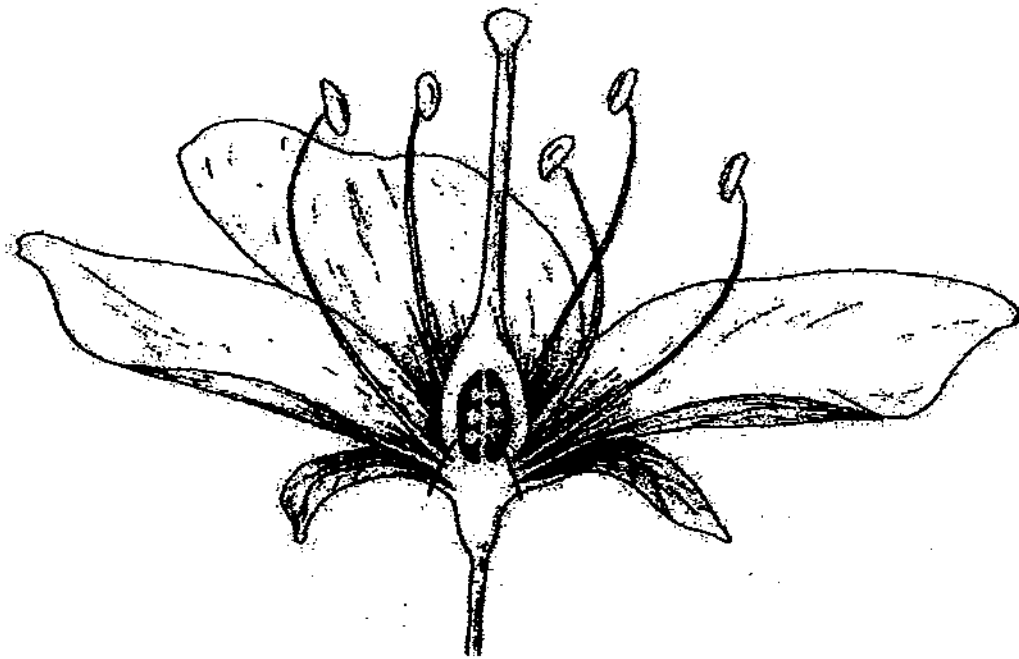
- a) State one condition, other than those mentioned above, that is necessary in order to make it a fair test. (1m)

- b) What is the purpose of putting a layer of oil on the surface of the water? (1m)

- c) State the relationship between the number of leaves on the plant and the amount of water that is left in the beakers. (1 m)

- d) Explain your answer in (c). (1m)

43. The diagram below shows a cross-section of a flower.

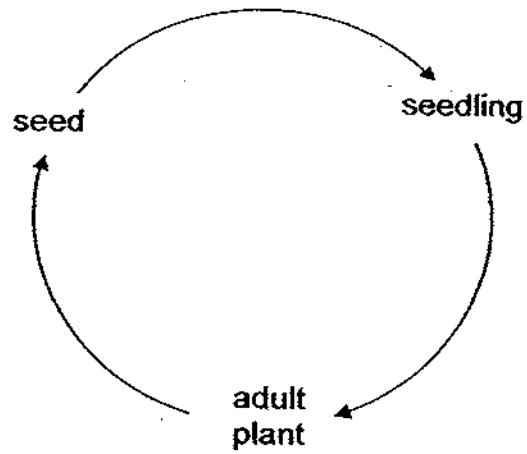


Based on the above diagram, put a '✓' under "True", "False" or "Not possible to tell" for each of the following statements.

(2 m)

		True	False	Not possible to tell
(i)	The flower will turn into a fruit that has many seeds.			
(ii)	The flower is pollinated with the help of insects only.			

44. Study the lifecycle of a plant below.



a) Name the processes that occur between the adult stage and the seed that lead to the production of seeds. (1m)

b) Name the process that has to occur before a seed becomes a seedling. (1m)

ANSWER SHEET

EXAM PAPER 2009

SCHOOL : NANYANG PRIMARY
SUBJECT : PRIMARY 5 SCIENCE

TERM : CA2

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

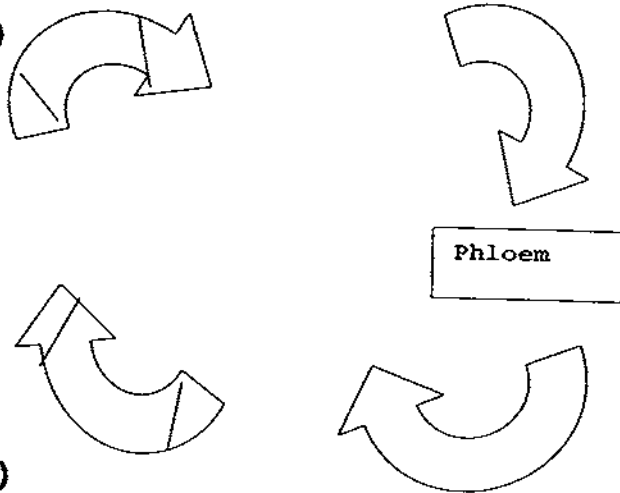
Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
2	2	4	4	2	1	3	2	2	3	1	3	2

31)a) More oxygen
 b) Less carbon dioxide

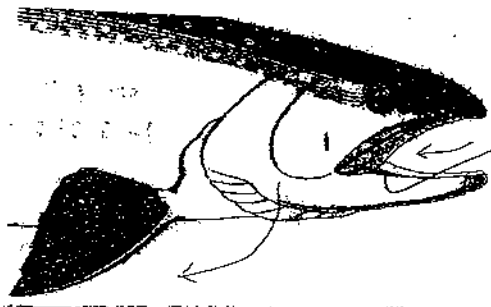
Less Oxygen
 More carbon dioxide

32)a) There is the male and the female on the flowering plant.
 b) The ovules will turn into seeds.

33)a)



b)i)



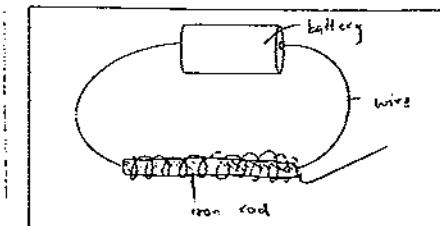
33)ii)When the water flows over the gills, the gills extract oxygen from the water. Before the water reaches the gills, oxygen has not been extracted, therefore, the water is richer in oxygen than water which has already flown over the gills and has oxygen extracted.

34)a)Mary started to run on the spot at Point B.

b)i)Circulatory System. ii)Muscular System.

c)The respiratory system takes in air into the body and the circulatory system carries the oxygen to all parts of the body.

35)a)



b)You can add more coils around the iron rod to make the electromagnet stronger.

36)a)As the age increases the pulse rate decreases.

b)It could be 70.

c)More oxygen and glucose needed quickly to transport to the muscular system and converted into and energy.

37)i)They type of exercise. ii)They should be in the same location.

38)a)Limewater.

b)Living things give out carbon dioxide.

c)They will die.

cii)The mice will not have enough oxygen to respire.

39)a)To find out whether the organism survives better in the prescience of sunlight or in the dark.

b)The type of cell used in the experiment needs light to divide.

c)Water and oxygen.

40)a)X: X controls the activities of the cell.

Y: Y controls the movement of material in and out of the cell.

b)This cell does not have a cell wall or chloroplasts.

41)a)X contains chlorophyll, which makes food for the plant.

b)The upper side of the leaf. Under the leaves, not much light, which is needed for the chloroplasts to make food, is found. On the upper side of the leaf, lots of sunlight can reach the chloroplasts, so chloroplasts are more commonly found on the upper side of the leaf.

- 42)a)Must be put in the same location.
b)It is to prevent the water from evaporating.
c)The more leaves there are, the less water left in the beaker.
d)With more leaves, the rate of transpiration is higher. With more leaves, the amount of water loss in the plant is more.

43)i)T ii)Not

- 44)a)Pollination, Fertilisation.
b)Germination.