

TAO NAN SCHOOL

PRIMARY 5 SCIENCE MID-YEAR EXAMINATION – 2010

Name: _____ () Date: 12 May 2010

Class: P5 _____

Duration: 1h 45min

BOOKLET A

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all questions.

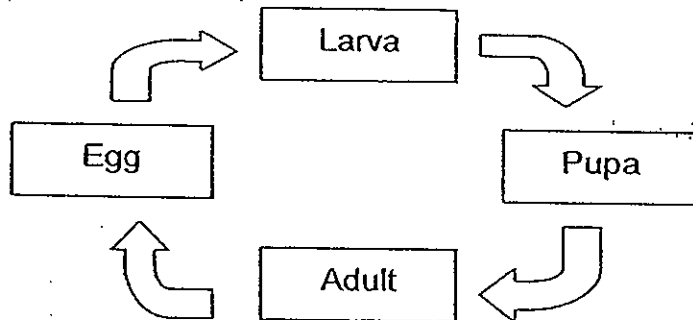
	Score	Marks
Section A		60
Section B		40
Total		100

Parent's signature: _____

Section A (30 x 2 marks)

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

1. Study the life cycle below.



Which of the following do the above life cycle belong to?

- (1) Butterfly and Mosquito
- (2) Butterfly and Cockroach
- (3) Grasshopper and Mosquito
- (4) Cockroach and Mealworm beetle

2. A few rats were placed in a sealed container for one hour. Which of the following shows how the amount of gases in the container had changed after one hour?

	Carbon Dioxide	Oxygen	Water Vapour
(1)	Decreased	Increased	Increased
(2)	Increased	Decreased	Decreased
(3)	Decreased	Increased	Remained the same
(4)	Increased	Decreased	Increased

3. Which of the following substances is/ are transported by blood?

- A Water
- B Oxygen
- C Digested Food
- D Carbon Dioxide

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

4. Compare the activities below. Arrange them, according to their effect on a person's heart rate, in ascending order.

- A Sleeping
- B Sprinting in a race
- C Jogging in the park
- D Reading a magazine

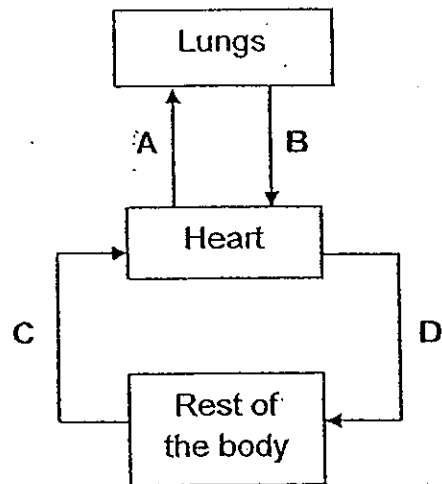
- (1) A,B,C,D
- (2) A,D,C,B
- (3) B,C,D,A
- (4) C,B,D,A

5. Which of the following about blood vessels in humans is/are true?

- A Arteries have thick and muscular walls.
- B Blood in veins flow away from the heart.
- C Blood vessels contain red blood cells only.
- D Capillaries have thin walls and they connect arteries to veins.

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

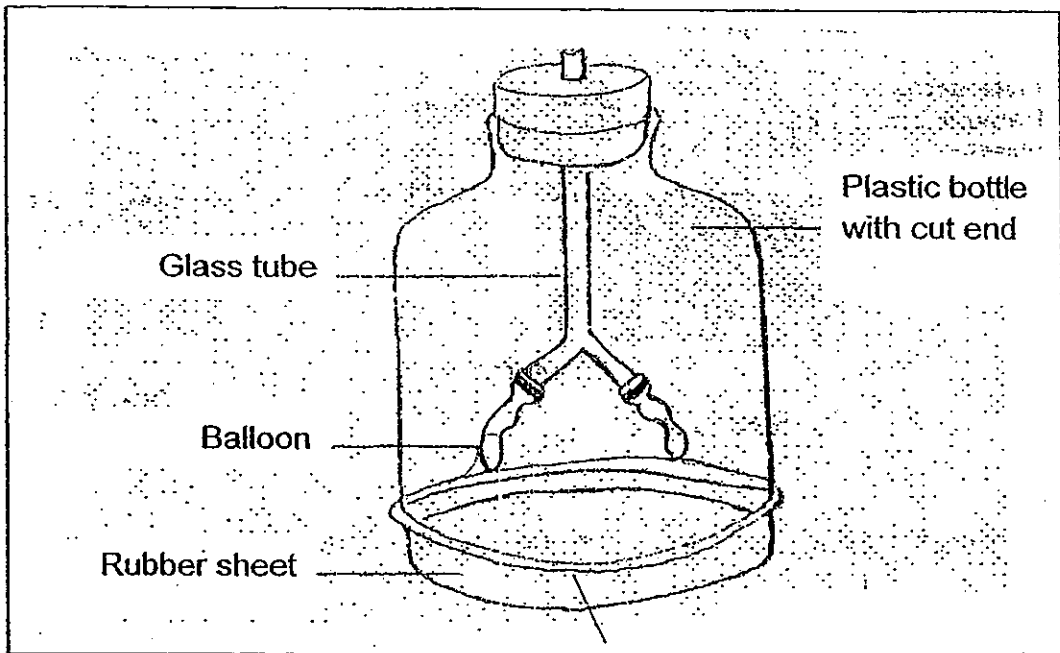
6. Arrows A, B, C and D represent blood flowing in a human body. The arrows represent the direction of blood flow.



Which of the following is correct?

- (1) A is rich in oxygen.
- (2) B is rich in carbon dioxide.
- (3) C is richer in oxygen than D
- (4) D is richer in oxygen than A.

7. Sally used the apparatus below to represent the respiratory system of the human body.



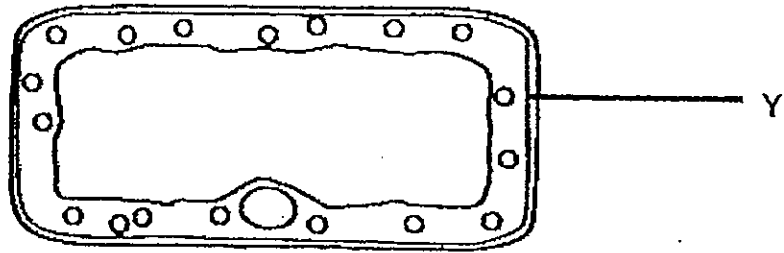
Which of the following will be observed when she uses the apparatus to show air being exhaled?

	Movement of rubber sheet	Balloons
(1)	Upwards	Inflate
(2)	Downwards	Inflate
(3)	Upwards	Deflate
(4)	Downwards	Deflate

8. Which of the following is **not** found in the cells of a rubber seed?

- (1) Nucleus
- (2) Cytoplasm
- (3) Chloroplast
- (4) Cell membrane

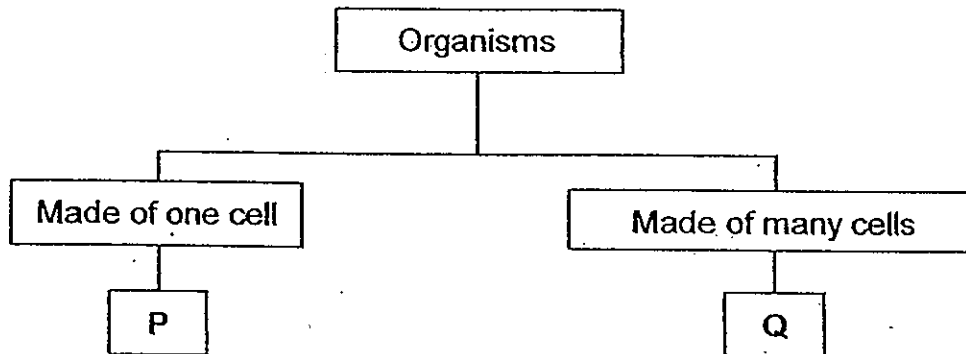
9. The diagram below shows a cell from a green leaf.



What is the main function of Y?

- (1) It controls all cell activities.
- (2) It gives the cell a fixed shape.
- (3) It allows the cell to make food.
- (4) It controls substances moving in and out of the cell.

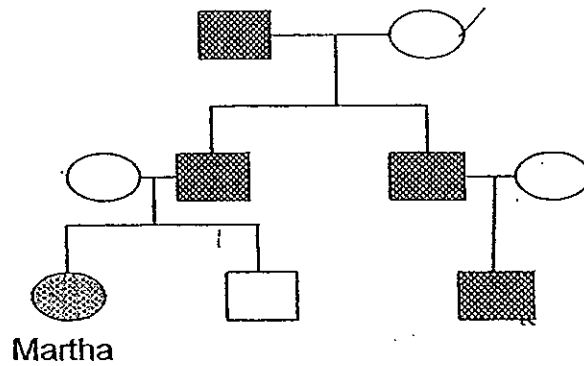
10. Study the classification chart below.



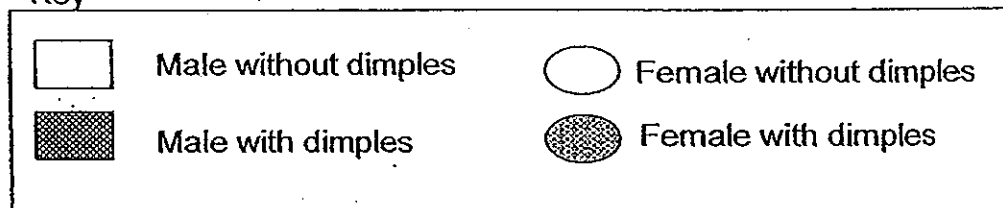
Which of the following can P and Q be?

	P	Q
(1)	Amoeba	Paramecium
(2)	Lung Fish	Cow
(3)	Bacterium	Blood
(4)	Yeast	Ant

11. Study Martha's family tree below carefully.



Key



Based on Martha's family tree above, which of the following is true?

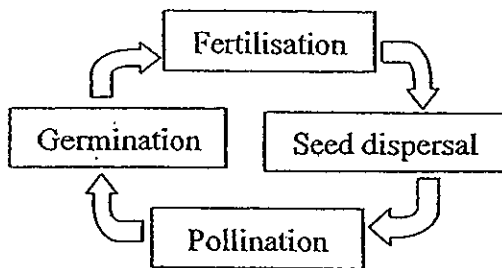
- (1) Martha's aunt has dimples.
- (2) Martha's grandmother has dimples.
- (3) Martha inherited her dimples from her mother.
- (4) Martha's cousin inherited dimples from his father.

12. Which one of the following is made up of more than one cell?

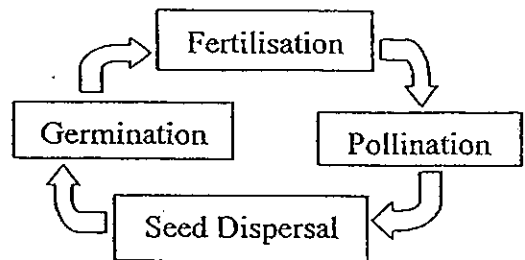
- (1) A sperm
- (2) An ovary
- (3) A pollen grain
- (4) An unfertilised human egg

13. Which of the following shows the sequence of reproduction of a flowering plant in one cycle?

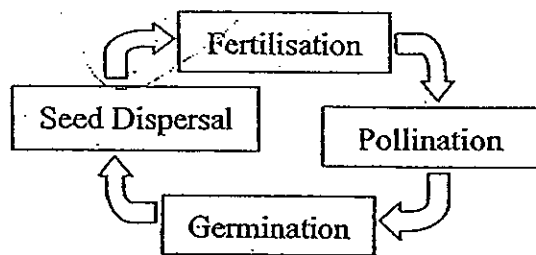
(1)



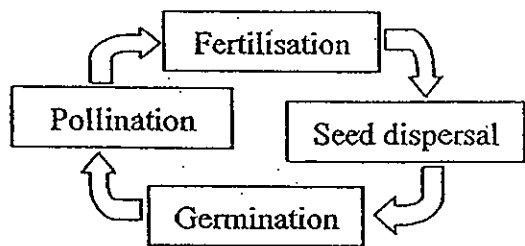
(2)



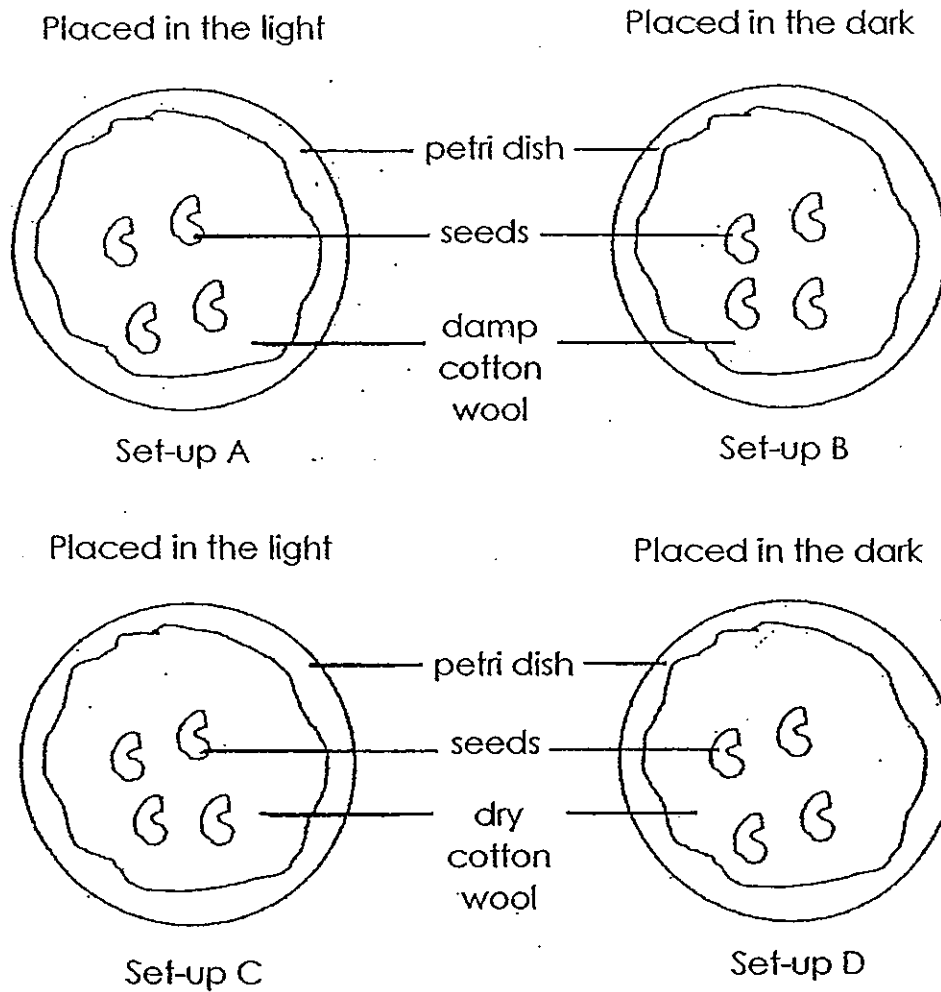
(3)



(4)



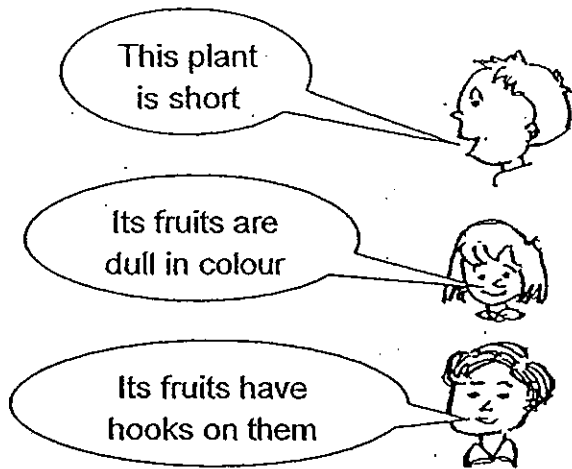
14. Limin set up an experiment as shown below.



At the end of the experiment, she observed that the seeds grew into seedlings in Set-up A and Set-up B but not in Set-up C and Set-up D. What did Limin find out from her experiment?

- (1) Seeds need light to grow into seedlings.
- (2) Seeds need water to grow into seedlings.
- (3) Seeds need warmth to grow into seedlings.
- (4) Seeds need cotton wool to grow into seedlings.

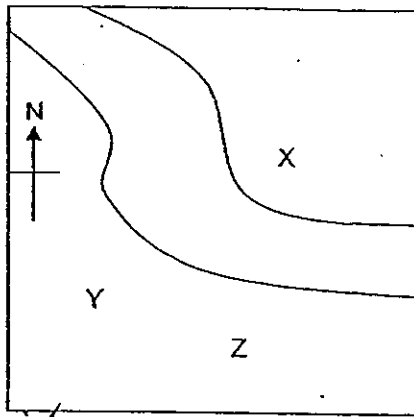
15. Three children noticed a plant and made the following observations.



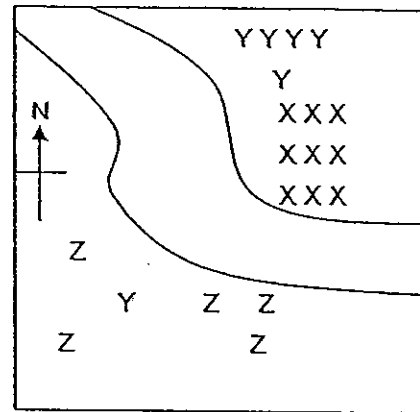
Based on their observation, how are the fruits of this plant dispersed?

- (1) By wind
- (2) By water
- (3) By animals and man
- (4) By splitting open forcefully

16. In June, three different types of wild plants, X, Y and Z, were found on an island. In December, the three different types of plants had multiplied. The wind had been blowing in the north-east direction and the animals living on the island cannot swim or fly.



June



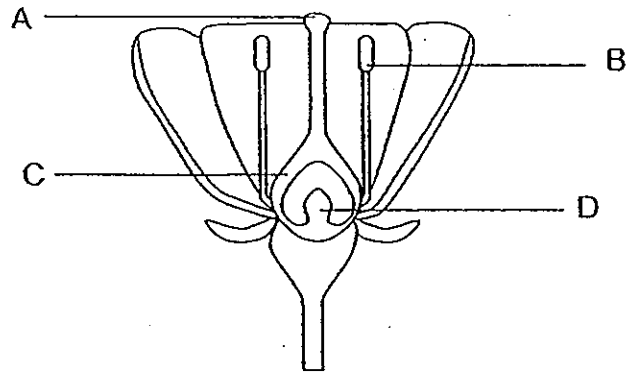
December

How are the fruits and seeds of these plants dispersed?

	X	Y	Z
(1)	Splitting open forcefully	Wind	Water
(2)	Splitting open forcefully	Water	Animals
(3)	Water	Wind	Splitting open forcefully
(4)	Splitting open forcefully	Wind	Animals

Study the diagram of a bisexual flower below and answer the questions, 17 and 18.

17.



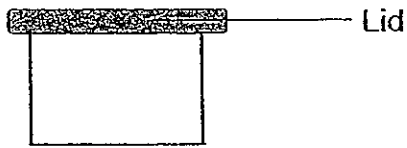
Which part of the flower, A, B, C or D, will develop into a fruit after fertilisation?

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

18. Which parts of the flower, A, B, C or D, are necessary for pollination to occur?

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

19. The container below has a capacity of 800 cm^3 .

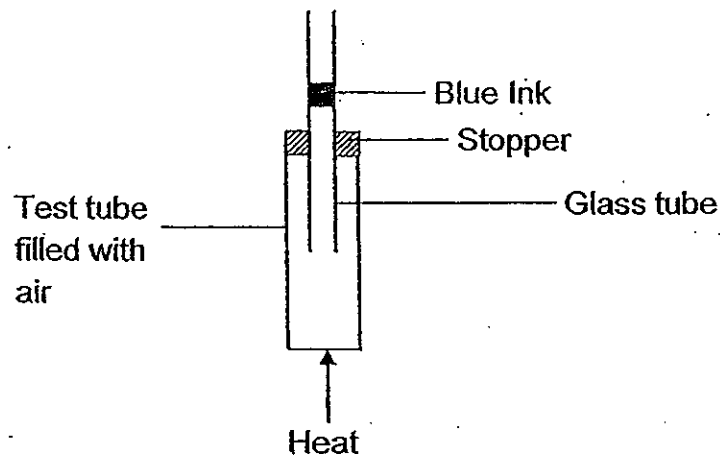


Which of the following can the container contain?

- A 600 cm^3 of air
- B 900 cm^3 of oil
- C 1000 cm^3 of flour
- D 1000 cm^3 of pure oxygen

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

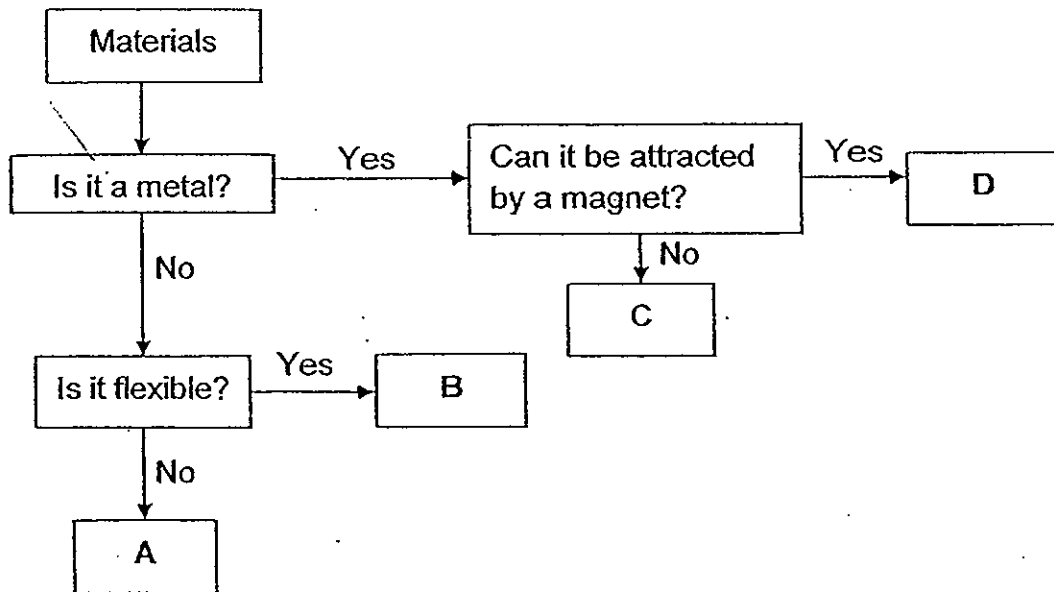
20. Study the set-up below.



As the test tube was being heated, Rita noticed that the blue ink moved up the glass tube. What caused the blue ink to move up the glass tube?

- (1) The blue ink expanded and moved upwards.
- (2) The glass tube expanded and the blue ink was pushed upwards.
- (3) The air in the test tube expanded and pushed the blue ink upwards.
- (4) The test tube expanded and the blue ink was pushed upwards.

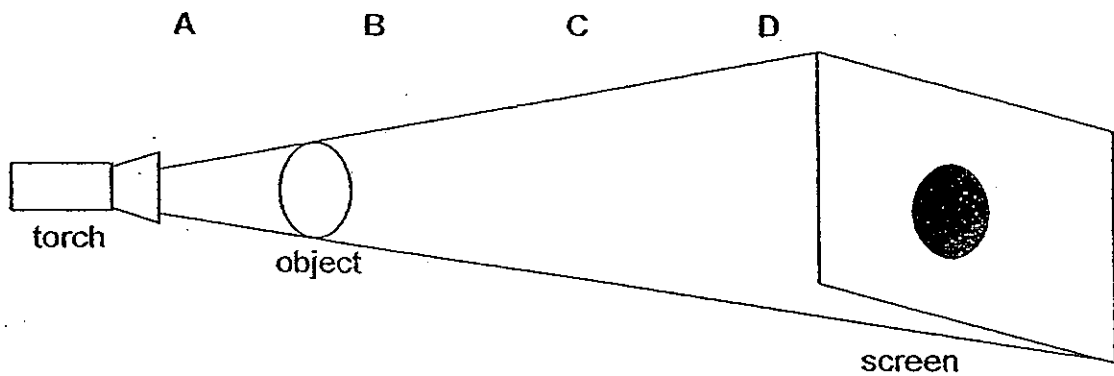
21. Study the flow chart below.



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

	A	B	C	D
(1)	Wood	Cotton	Copper	Nickel
(2)	Glass	Nylon	Nickel	Copper
(3)	Nylon	Glass	Steel	Copper
(4)	Wood	Steel	Iron	Nickel

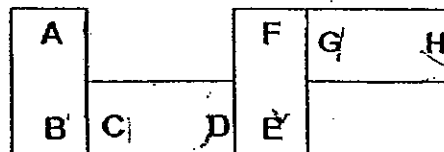
22. Osman shone light on an opaque object and a shadow is cast on a screen as shown below.



If Osman wants the biggest shadow to be cast on the screen, which of the following position of torchlight and position of object would produce the biggest shadow?

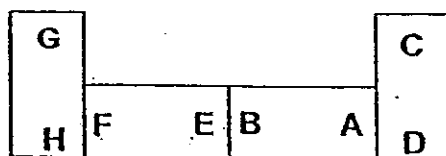
	Position of torchlight	Position of object
(1)	A	C
(2)	B	D
(3)	A	D
(4)	B	C

23. Siva is able to arrange 4 magnets as shown below.

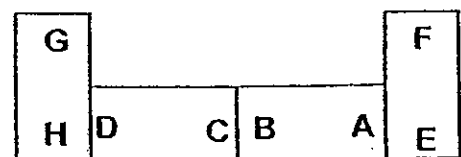


Which of the following is another possible arrangement?

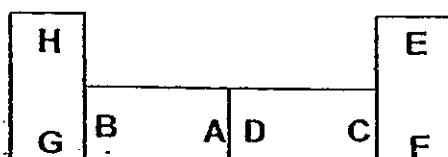
(1)



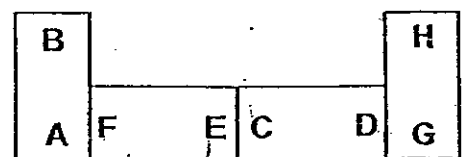
(2)



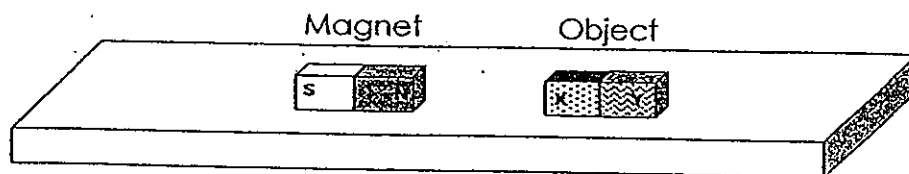
(3)



(4)



24. The ends of 3 objects, P, Q and R, are brought very near to the north-seeking pole of a magnet. The ends of the objects are marked as X and Y.



The table below shows the results of the experiment.

Object	End	Attracted to the magnet	Repelled by the magnet
P	X	Yes	No
	Y	Yes	No
Q	X	No	Yes
	Y	Yes	No
R	X	Yes	No
	Y	No	Yes

Which of the following is correct?

- (1) P is a magnet.
- (2) Q and R are magnetic.
- (3) End X of Q is a north-seeking pole.
- (4) End Y of R is a south-seeking pole.

25. The table below shows the melting points and boiling points of 3 unknown substances, X, Y and Z.

Substance	Melting Point (°C)	Boiling Point (°C)
X	28	102
Y	46	123
Z	24	88

Which of the substances, X, Y and Z is/are liquid(s) at 92°C?

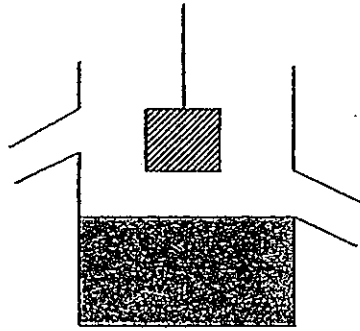
- (1) Z only
 - (2) X and Y only
 - (3) Y and Z only
 - (4) X, Y and Z
26. Rena wanted to find out if the exposed surface area of water affects its rate of evaporation. He put some water in 4 containers and left them in the same place for 10 hours. The results are shown in the table below.

Container	Volume of water at the start of the investigation (ml)	Volume of water at the end of the investigation (ml)
A	60	29
B	60	36
C	60	24
D	60	44

What can you infer from the results shown in the table above?

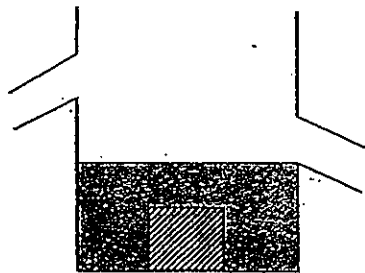
- (1) Water evaporated the fastest in Container D.
- (2) The least volume of water evaporated from Container C.
- (3) More water evaporated from Container A than Container B.
- (4) Less water evaporated from Container C than Container D.

27. A wooden block was immersed in a container filled with water as shown below.

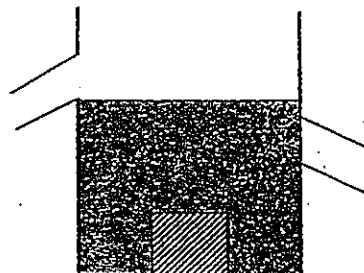


Which of the following shows what would happen to the water level?

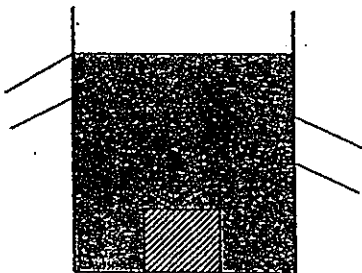
(1)



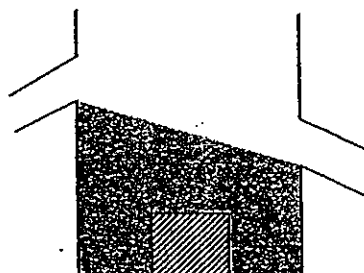
(2)



(3)



(4)

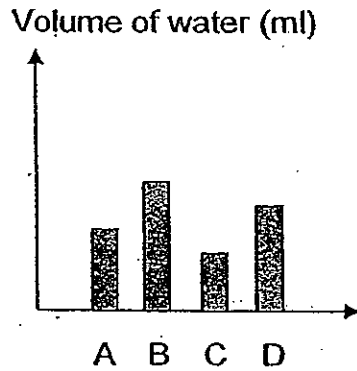


28. Four identical beakers, A, B, C and D were filled with the same volume of water. They were left in four different places for 24 hours as shown in the table below.

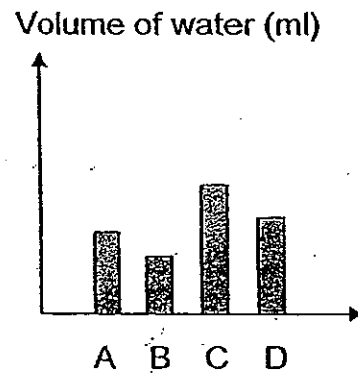
Beakers	A	B	C	D
Condition of place	Cloudy Windy	Sunny Windy	Cloudy Non-windy	Sunny Non-windy

Which of the following graphs shows the volume of the water in A, B, C and D after 24 hours?

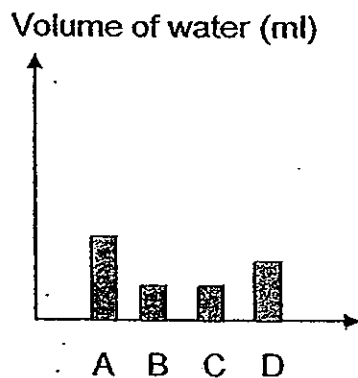
(1)



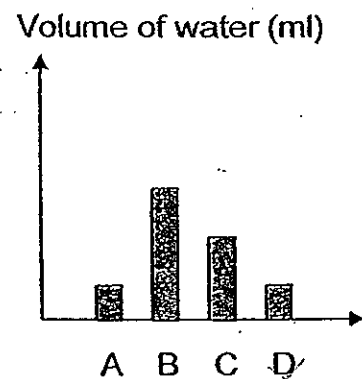
(2)



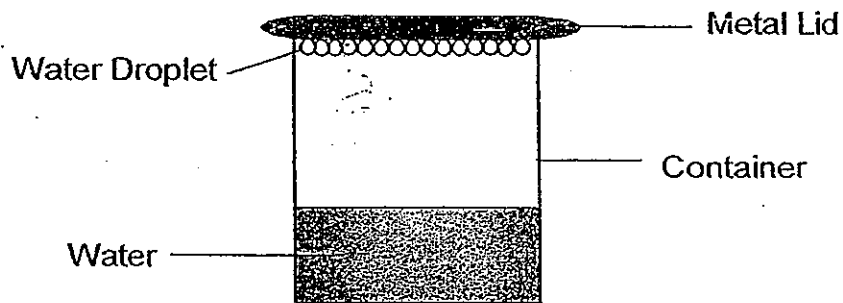
(3)



(4)



29. Ramesh poured water into the container below. He then placed a metal lid over the container and left it in his classroom. At the end of 15 minutes, Ramesh noticed that there were water droplets on the under surface of the lid.

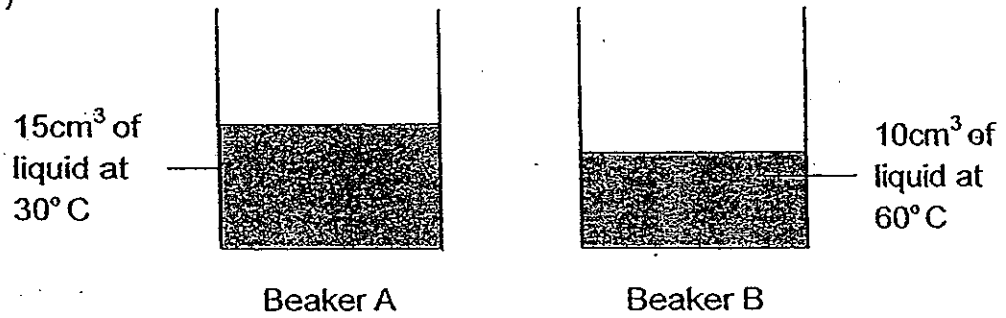


What inference can you make based on the experiment above?

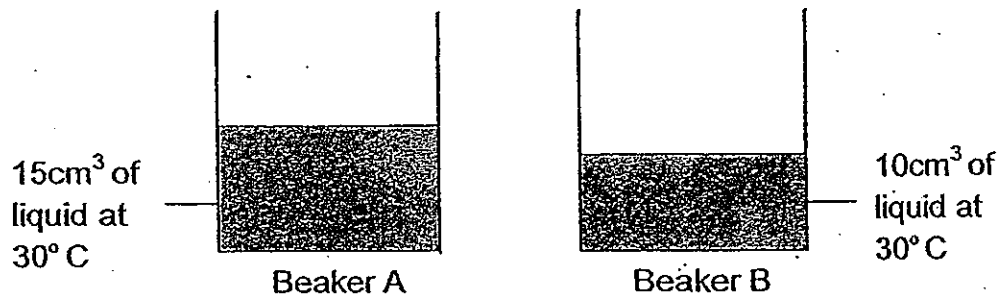
- (1) The metal lid was cooler than the air in the container.
- (2) The water in the beaker was cooler than the metal lid.
- (3) The water rose to form water droplets when it was cooled.
- (4) The water vapour in the surrounding air condensed on the metal lid.

30. Which of the following can be used to investigate if the temperature of a liquid affects the rate of evaporation of the liquid?

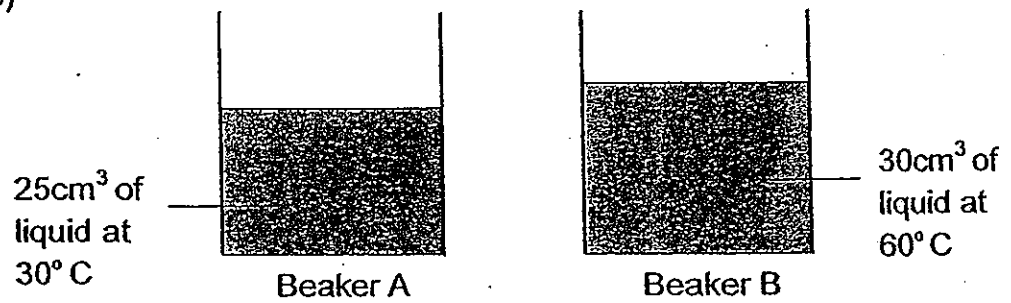
1)



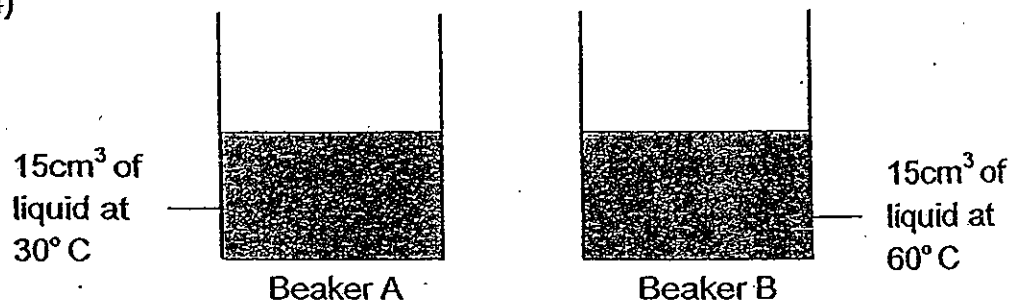
2)



3)



4)



TAO NAN SCHOOL

PRIMARY 5 SCIENCE MID-YEAR EXAMINATION – 2010

Name: _____ () Date: 12 May 2010

Class: P5 _____

Duration: 1h 45min

BOOKLET B

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

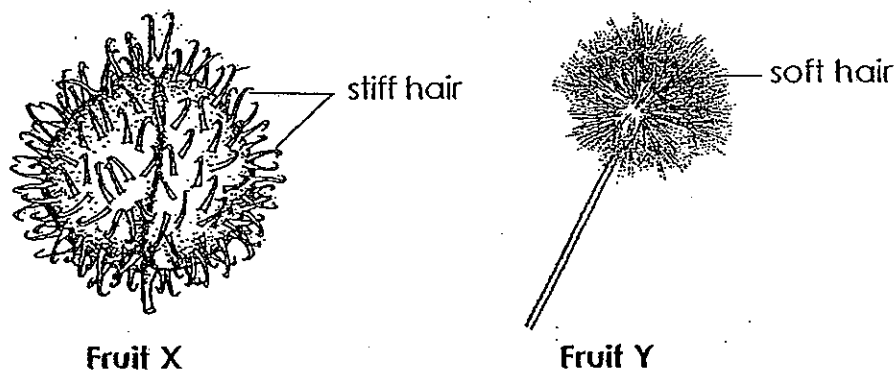
Answer all questions.

	Score	Marks
Section B		40

Section B (40 marks)

For the questions, 31 to 44, write your answers in the spaces provided.

31. Study the pictures below.



(a) How is the Fruit X dispersed? [1]

(b) Describe the characteristic(s) that allowed it to be dispersed in the method in (a) [1]

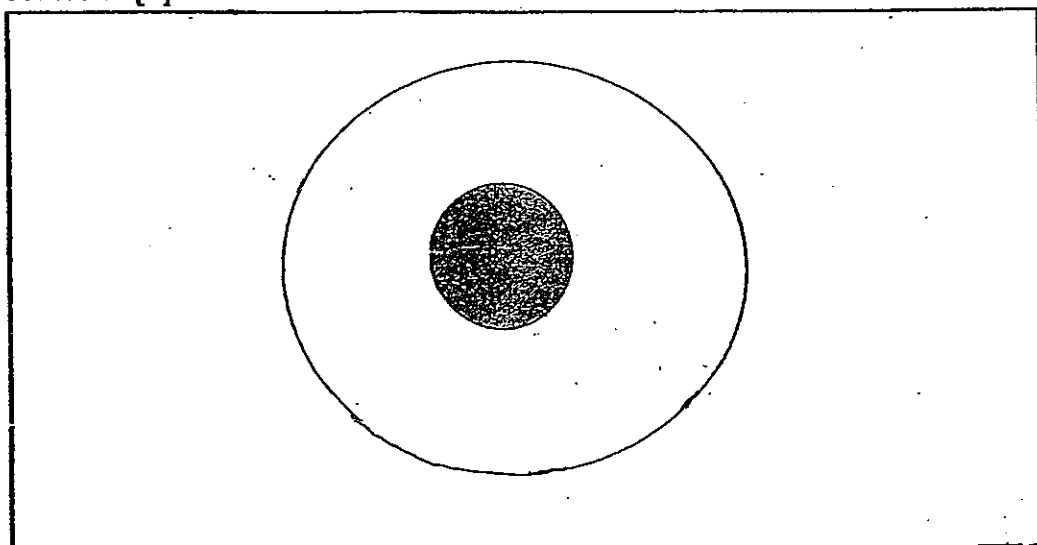
(b) Besides having soft hair, what is another characteristic that Fruit Y must have in order to be dispersed by its method of dispersal?. [1]

32. Label the following parts of the cell:

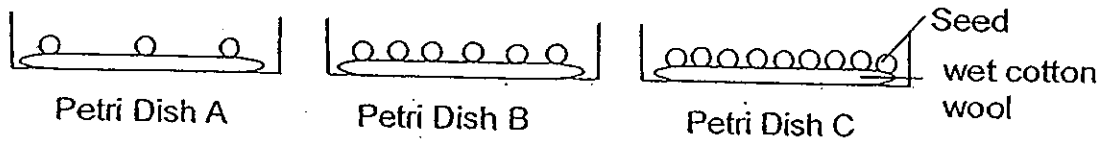
Cytoplasm

Cell membrane

Nucleus [2]



- 33 Mary conducted an experiment to find out how the number of seeds affects the height of the seedlings. She germinated different number of seeds in each petri dish as shown below. She measured the height of the seedlings after 2 weeks. She repeated the experiment two more times.



The results are shown in the table below.

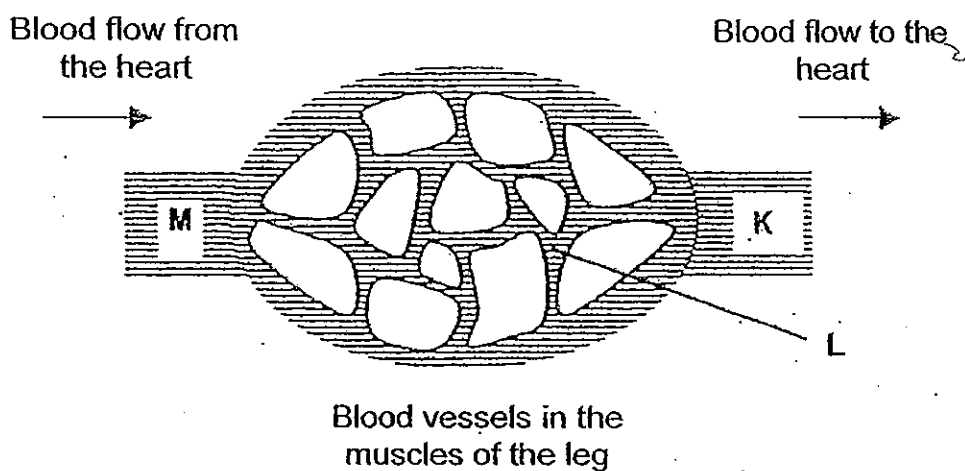
	Average Height Of The Seedlings In Each Petri Dish (cm)		
	Petri Dish A	Petri Dish B	Petri Dish C
First Try	4	10	14
Second Try	4	10	14
Third Try	5	9	15

- (a) What is the relationship between the number of seeds and the average height of the seedlings? [1]

- (b) Mary noticed that the seedlings in Petri Dish C are very long and thin. Explain why. [2]

- (c) List one variable that should be kept the same in this experiment. [1]

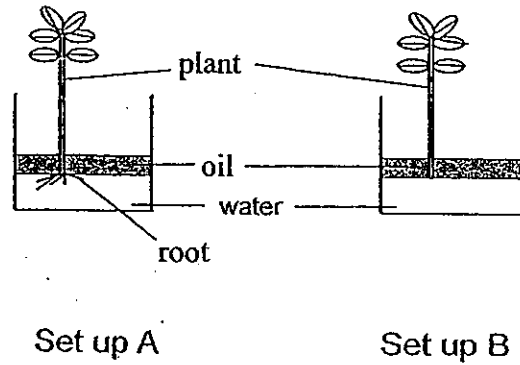
34. Study the picture below. M, R and K are blood vessels.



(a) What is the difference between the blood flowing in M and K? [1]

(b) Blood vessel L has thinner walls than blood vessel M. Explain why L has thinner walls. [2]

35. Study the diagram below. The aim of the experiment is to investigate if plants take in water through their roots.

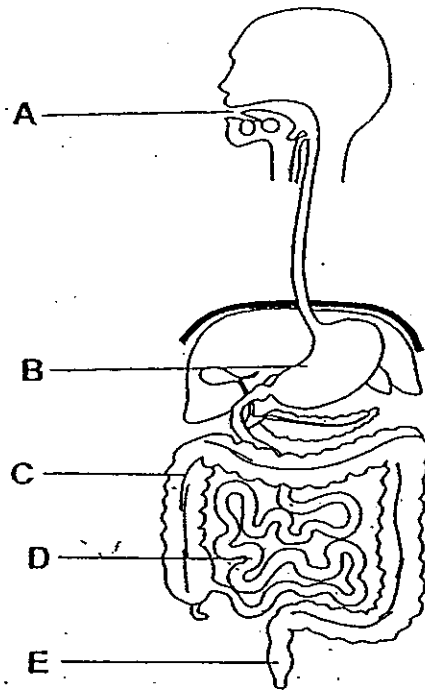


- (a) Which variable is changed in this experiment? [1]

- (b) Which set up was used as a control? [1]

- (c) What was the purpose of having a control in the experiment above? [1]

36. The diagram below shows the digestive system of a human body.



(a) Identify and label on the diagram the tube that connects the mouth to the stomach. [1]

(b) In which part A, B, C, D or E is digestion completed? [1]

(c) Identify the part(s) where no digestive juices is added. [1]

37. The diagram below shows 2 different views of the cells of a leaf.

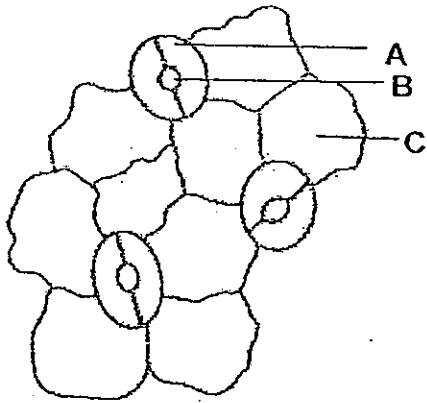


Diagram 1

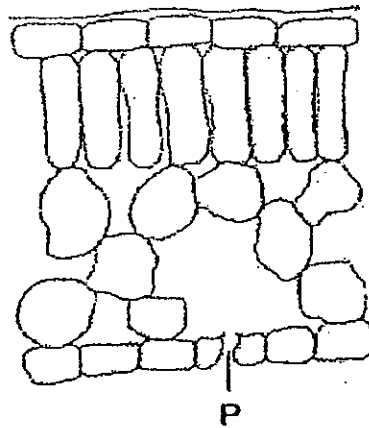
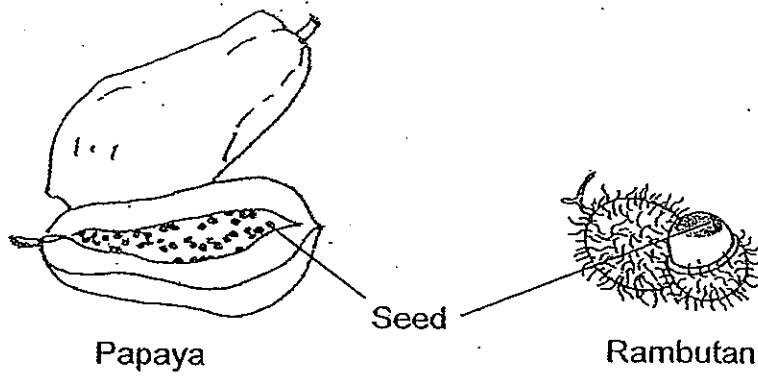


Diagram 2

(a) Which part, A, B or C in diagram 1 is the same as P in Diagram 2? [1]

(b) What is the function of P? [1]

38.



Matthew and George studied the fruits above. Matthew concluded that there are more ovules in a rambutan flower than a papaya flower while George argued that there are more ovules in a papaya flower than a rambutan flower.

(a) Who is correct? [1]

(b) Explain your answer in (a) [2]

39. Four food samples, H1, H2, H3 and H4, were tested for the presence of starch. Two drops of iodine solution were added to the food samples. The observations are recorded in the table below.

Sample	Observation
H1	Iodine turns blue black
H2	Iodine remains brown
H3	Iodine turns blue black
H4	Iodine turns blue black

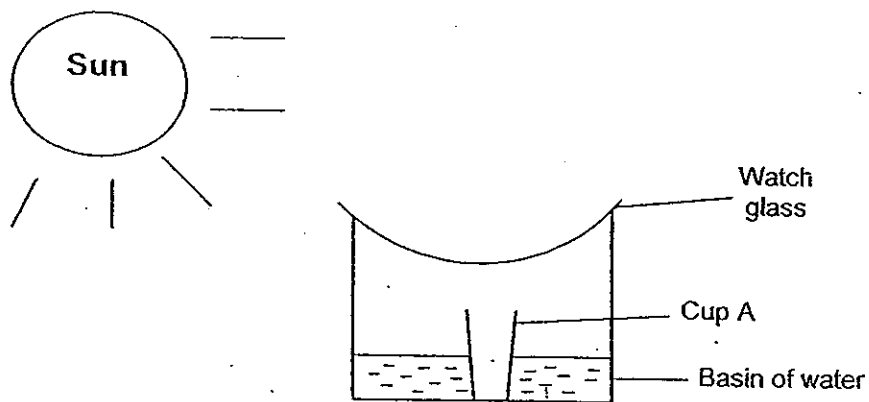
- (a) Which of the above food samples contains starch? [1]

Two drops of saliva were added to a fresh sample of H1. Two drops of iodine solution were then added to the sample. The observation was recorded in the table below.

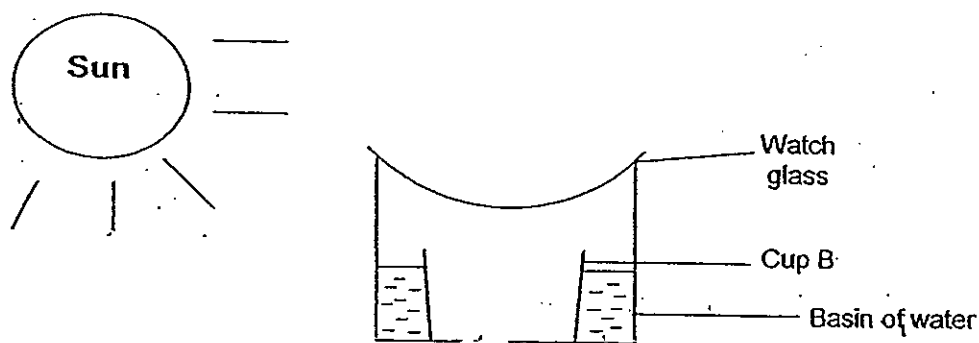
Sample	Observation
H1	Iodine remains brown

- (b) Explain why the iodine remains brown on the sample H1 that had saliva added to it. [1]

40. Study the set-up below.



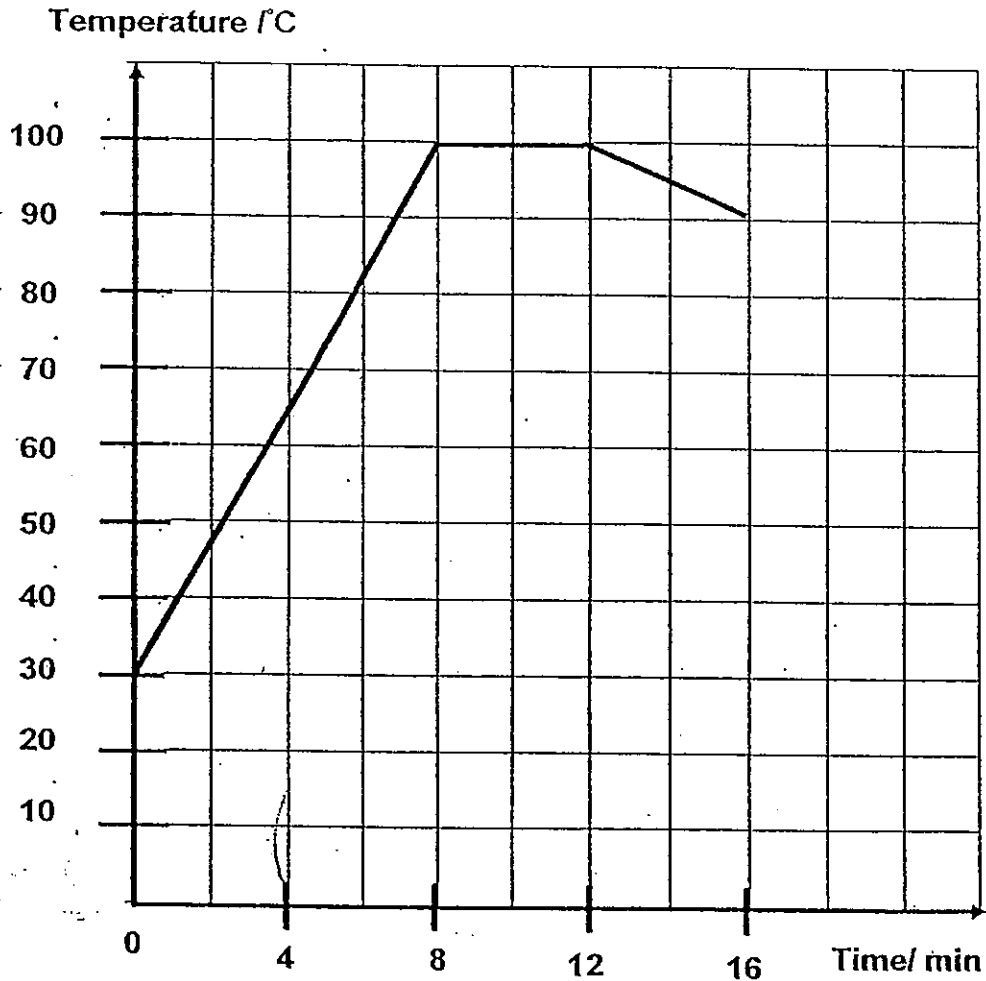
Water is found in Cup A after three hours. The volume of water in Cup A is measured. The experiment is repeated with the use of Cup B as shown below. The volume of water in Cup B is also measured after three hours.



(a) Explain how water is collected in the cup after 3 hours. [2]

(b) Less water is collected in Cup B as compared to Cup A. Explain why that happened. [2]

41. Wei Jie heated a beaker of water and recorded the results in the graph below.



- (a) What is the temperature of the water at the 4th minute? [1]

- (b) What is happening to the water between the 8th and 12th minute? [1]

- (c) ~~(b)~~ The temperature dropped slightly after the 12th minute even though Wei Jie continued to heat the water. What could Wei Jie have done to cause the drop in the temperature? [1]

42. Patricia has 2 solid metal balls of the same shape and size as shown below. However, the mass of Ball A is 180g and Ball B is 100g.

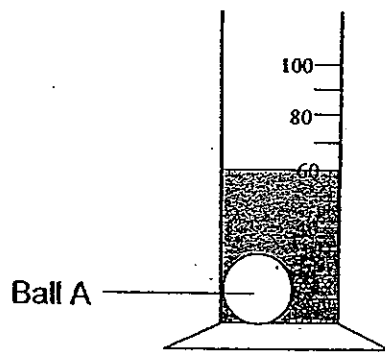


Ball A



Ball B

When she lowered Ball A into a measuring cylinder containing 30 cm³ of water, the water level rose to 60 cm³ as shown below.

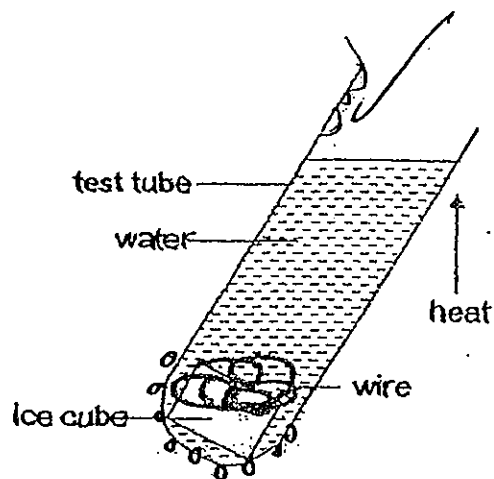


- (a) What is the volume of Ball A? [1]

- (b) Patricia removed Ball A and lowered Ball B into the water. Will the new water level be higher than, lower than or the same as when Ball A is lowered into the water? [1]

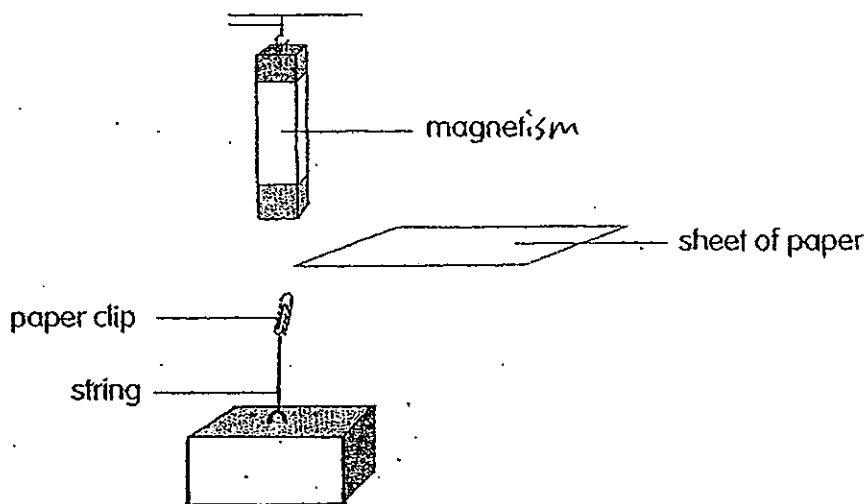
- (c) Explain your answer in (b). [1]

43. Sze Yi filled a test tube with water and placed an ice cube wrapped with wire into the test tube. The wire weighed the ice cube down. Thus the ice was kept at the bottom of the test tube. The water was heated as shown in the diagram below.



- (a) Sze Yi noticed water droplets forming on the test tube. Draw some water droplets at where it should be in the diagram above. [1]
- (b) Explain why the ice took a long time to melt. [1]

44. Andrew set up the experiment as shown below. The metal paper clip, tied to a string of length 4cm, was found to remain in air.

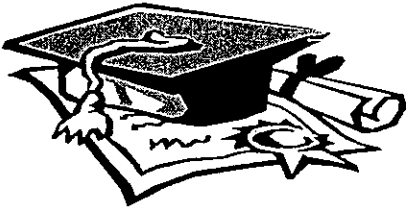


- (a) What will happen to the metal paper clip when a sheet of paper is placed between the bar magnet and the paper clip? Explain your answer. [2]

- (b) The magnet was heated for fifteen minutes. Andrew observed that the metal paper clip will drop unless he used a longer string of 8cm. Give a reason why he had to use a longer string of 8 cm. [1]

THE END



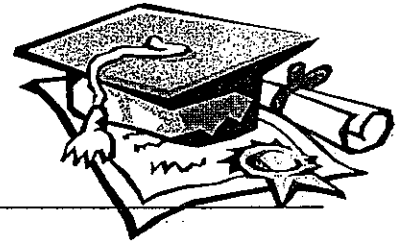


ANSWER SHEET

EXAM PAPER 2010

**SCHOOL : TAO NAN PRIMARY
SUBJECT : PRIMARY 5 SCIENCE**

TERM : SA1



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

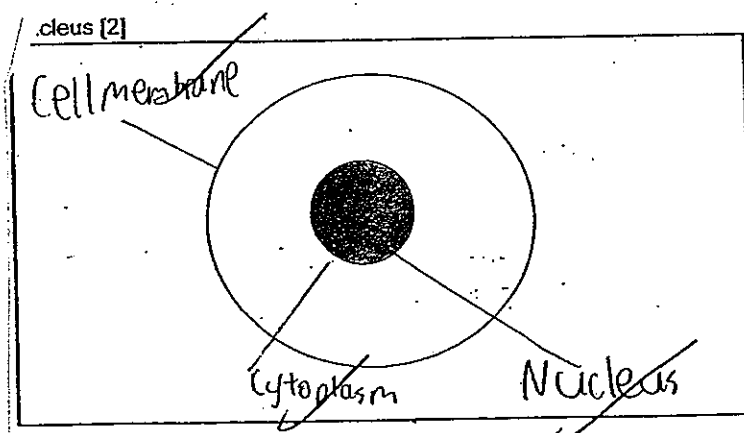
Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	2	3	1	4	3	3	2	3	1	2	1	4

31a) Fruit X is dispersed by animals and man.

31b) It has stiff hairs that allows it to hook onto animals' fur or human clothing.

31c) Fruit Y must also be light.

32)



33a) As the number of seeds increases, the average height of the seedlings also increases.

33b) Overcrowding has occurred. There is competition for space, mineral salts, water and sunlight.

33c) The type of petri dish.

34a) Blood vessel M in which blood flows from the heart is richer in oxygen than blood vessel K.

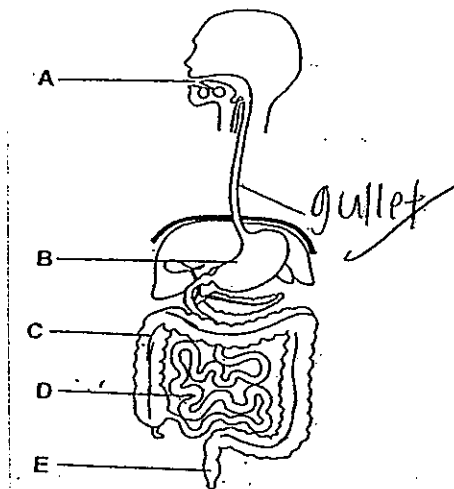
34b) To allow digested food and oxygen to enter tissue muscle for respiration.

35a) The presence of roots.

35b) Set up B.

35c) To confirm that water is taken only through the roots and not by any other means.

36a)



36b) Digestion is completed in Part D.

36c) Part C and E.

37a) Part B.

37b) The function of P is to allow the exchange of gases in the cells of a leaf to the surrounding air.

38a) George is correct.

38b) An ovule becomes a seed after fertilization and there are more seeds in a papaya than in a rambutan.

39a) H1, H3 and H4.

39b) The starch had been broken down into simple substances by saliva.

40a) Water in the basin evaporates into water vapour. The water vapour rises and touches the cool watch glass. The water vapour loses heat and condenses into water droplets which will fall into the container.

40b) When a smaller cup is used, there is a smaller exposed surface area of water for slower rate of evaporation.

41a) The temperature is 65°C.

41b) The water is boiling.

41c) He could have put several ice cubes in it.

42a) The volume of ball A is 30 cm³.

42b) It will be the same.

42c) The volume of ball B is the same as ball A as it is the same shape and size as ball A.

43a) Water is a poor conductor of heat, thus, heat travels through the water slowly to reach the wire which holds the ice cube down.

44a) The metal clip will not drop. Magnetism can pass through non-magnetic materials and paper is a non-magnetic material.

44b) When heated, the magnet's magnetism is weakened, so the paper clip had to be put nearer to the magnet.

