NAN HUA PRIMARY SCHOOL
CONTINUOUS ASSESSMENT 2 – 2014
PRIMARY 5

SCIENCE

BOOKLET A

20 Multiple Choice Questions (40 marks)

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.

Marks Obtained

Booklet A		/ 40
Booklet B		/ 40
Total		/ 80

Name: _____ ( ) **Class: P 5** _____

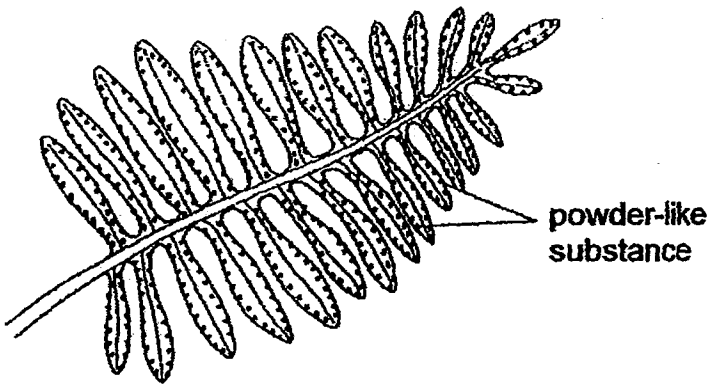
Date : 21 August 2014 **Parent's Signature:** _____

Section A: (20 x 2 marks = 40 marks)
For each question from 1 to 20, 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. Plants are living things that can reproduce.
Which statement explains why plants need to reproduce?

(1) Plants take in carbon dioxide.
(2) Plants provide food for animals.
(3) Plants provide oxygen for animals.
(4) Plants need to ensure that their own kind can continue to exist.

2. John shifted to his new home at a new estate that planted many different plants. After a year, most of the plants flowered. He noticed one particular plant that had no flowers. He studied the plant carefully and found a powder-like substance under its leaves as shown below.



From the information above, which statement about this plant is correct?

(1) The plant reproduces from spores.
(2) The powder-like substance is pollen grains.
(3) The plant has buds on its leaves that grow into new plants.
(4) The powder-like substance protects the plant from caterpillars that feed on its leaves.

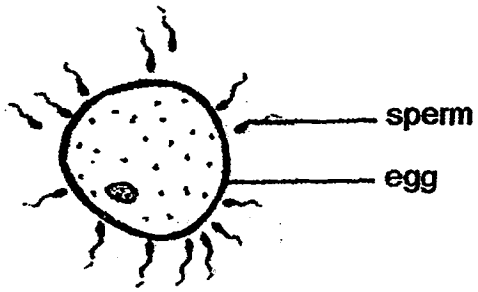
3. The chart below shows the family tree of the Tan family and their traits.

Father	Mother	Josh
Short hair Straight hair Double eyelids Black eyes Short nails	Long hair Curly hair Single eyelids Blue eyes Long nails	Short hair Curly hair Double eyelids Blue eyes Short nails

From the information above, how many characteristics did Josh inherit from his father and mother?

	Father	Mother
(1)	1	2
(2)	1	3
(3)	2	2
(4)	2	3

4. The diagram below shows an egg and some sperms.

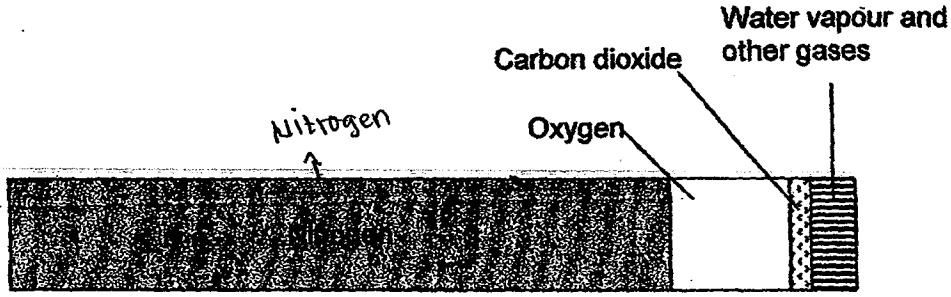


Which of the following statements about human reproduction are **incorrect**?

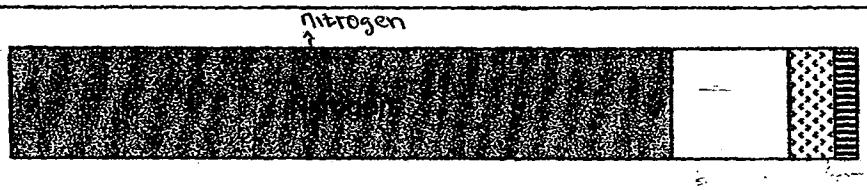
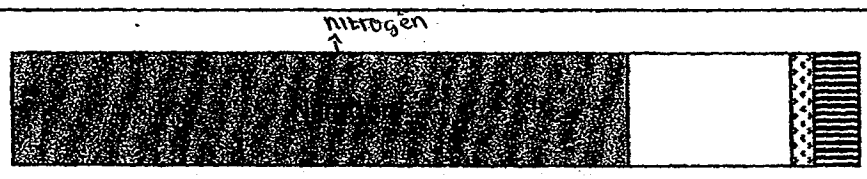
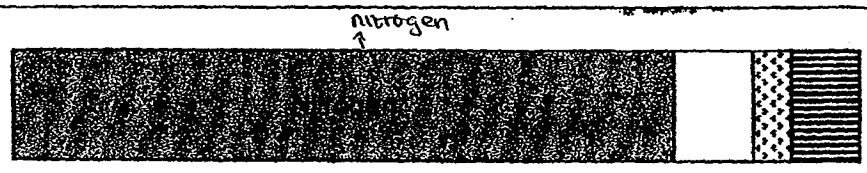
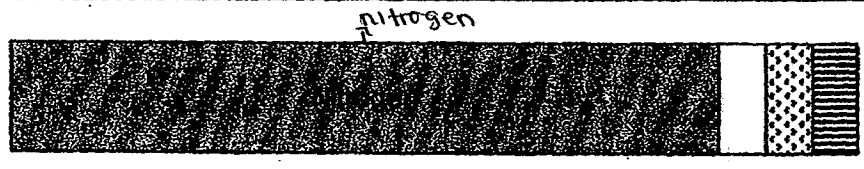
A The sperms are produced by the male.
B The male produced many sperm because many sperms are needed to fertilise the egg.
C The egg released by the ovary matures in the womb before meeting the sperm.
D The fertilised egg becomes a zygote and develops into a foetus.

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

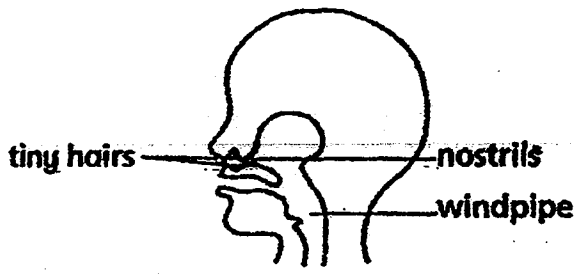
5. The diagram below shows the composition of gases in the air we breathe in.



Which of the options below correctly shows the changes in the composition of gases in the air we breathe out?

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

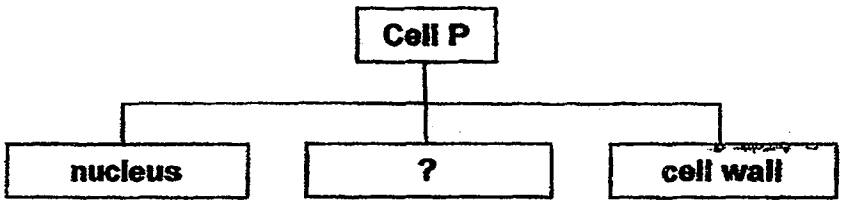
6. The diagram below shows part of the human respiratory system.



What is the function of the tiny hairs in the nostrils?

(1) They trap air to keep our nose warm.
(2) They moisten the air before entering our windpipe.
(3) They remove germs and viruses in the air we breathe in.
(4) They trap dirt and dust particles in the air we breathe in.

7. Jared studied Cell P under a microscope and listed some parts of the cell below.

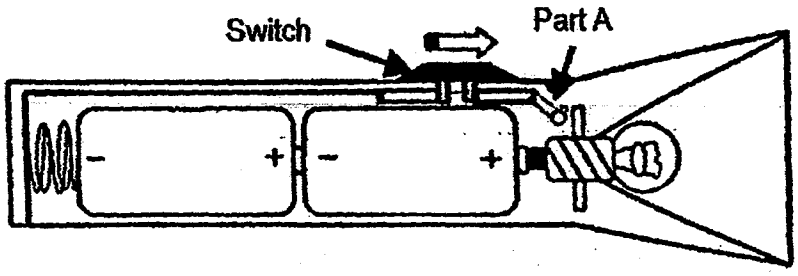


Which of the following part(s) could definitely be found in Cell P?

A chloroplast
B cytoplasm
C cell membrane

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

8. The diagram below shows a cross-section of a torchlight.



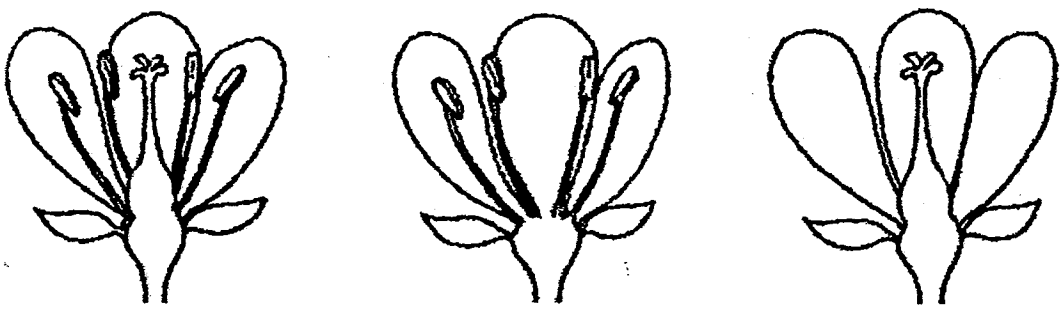
When the switch is pushed forward, Part A moves forward to close the circuit and the bulb lights up.
James brought a similar torchlight to his school camp. When he returned from the camp, he found that the bulb did not light up when he pushed the switch.

Which of the following could be the possible reasons why his torchlight was not working?

A The bulb had fused.
B The battery had gone flat.
C The torchlight casing had a chipped corner.
D The positive ends of both batteries were connected to each other.

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

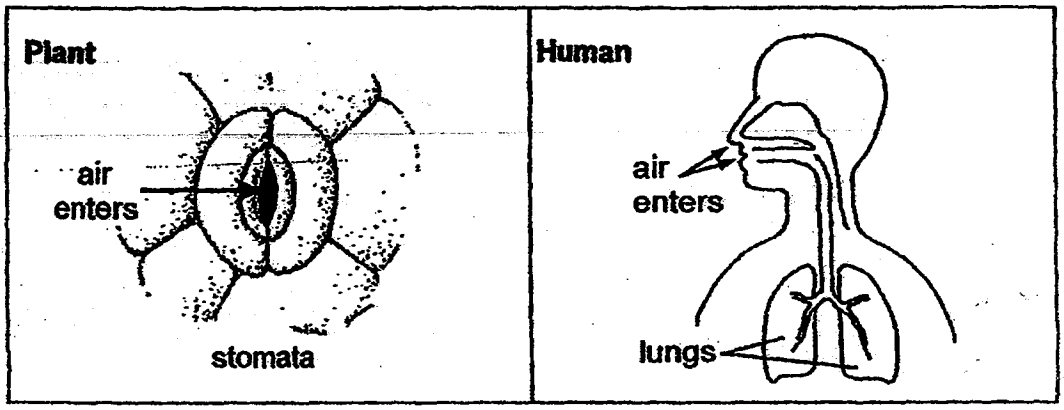
9. Three flowers, A, B and C, had some petals removed from one side as shown in the diagrams below.



Which of the flower(s) will **not** be able to develop into a fruit?

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

10. The diagrams below show how the exchange of gases occur in plants and humans.

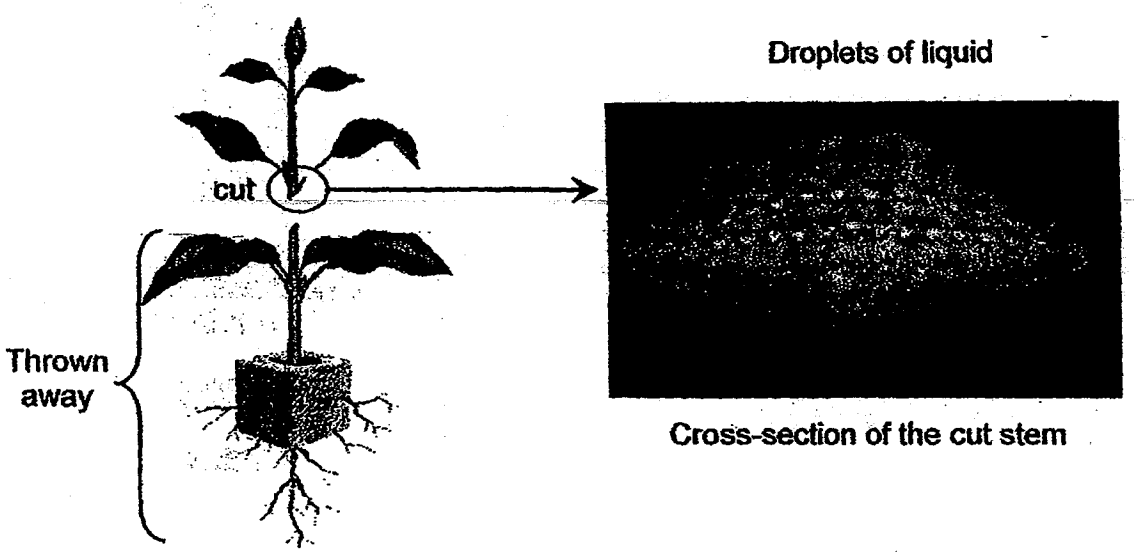


Which of the statements below are true about the way the plant and the human carry out gaseous exchange?

A Both the plant and human take in oxygen from the air.
B The amount of air entering the human body changes with the breathing rate.
C The plant controls the amount of air entering or leaving by changing the size of the stomata.

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

11. Study the diagram below carefully.

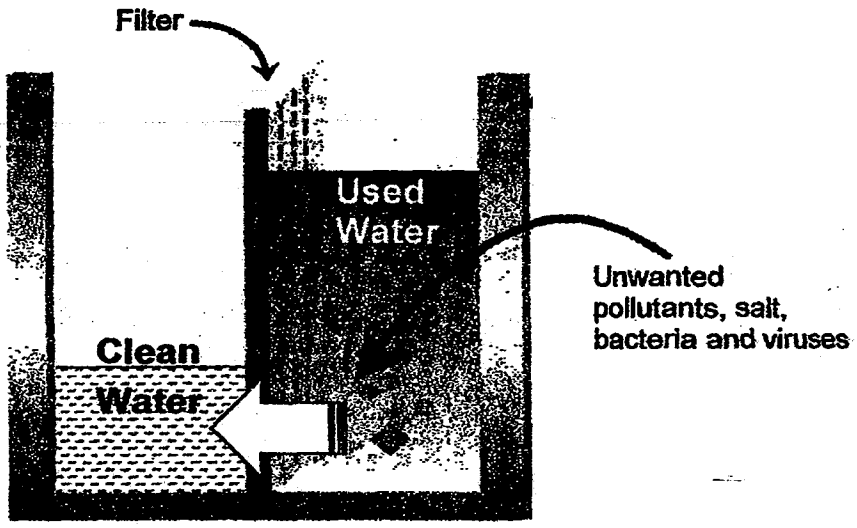


The plant was cut in half and the bottom half was thrown away. The cross-section of the cut stem of the upper half of the plant was observed. Droplets of liquid can be seen coming out as shown in the diagram above.

Which one of the following statements about the observation is correct?

(1) The stem was attacked by pests since it was cut and exposed.
(2) As the food-carrying tubes were cut, food was flowing out from the tubes.
(3) As the water-carrying tubes were cut, water was flowing out from the tubes.
(4) As the food and water carrying tubes were cut, food and water were flowing out from the tubes.

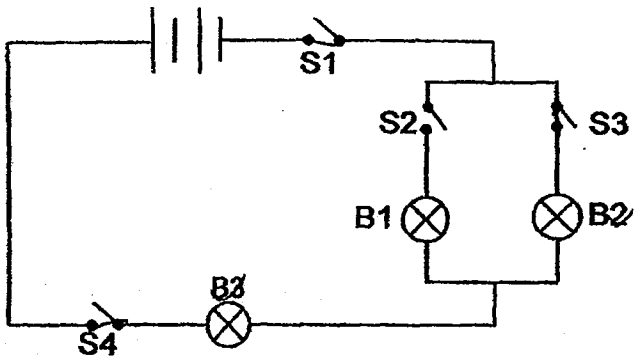
12. Jamie visited the Singapore NEWater plant. She learnt that water is recycled for use in our country. In one of the processes, used water is passed through a special filter that does not allow unwanted pollutants, salt, bacteria and viruses to pass through it.



Jamie immediately remembered her Science lessons about cells.
Which part of the cell has similar function as the filter?

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

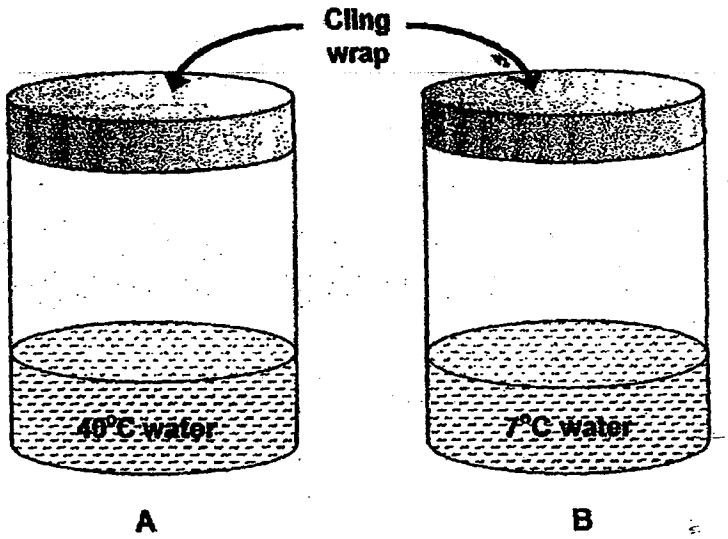
13. Bulbs B1, B2 and B3, and switches S1, S2, S3 and S4 are connected in a circuit as shown below. All switches and bulbs are working properly.



Which switches must be closed in order for B2 and B3 to light up?

(1) S1 and S3 only
(2) S2 and S4 only
(3) S1, S2 and S4 only
(4) S1, S3 and S4 only

14. Adrian set up an experiment with cups A and B, each containing the same amount of water at different temperatures as shown below. The cups were placed in an air-conditioned room at 20°C.



Which statements below about cups A and B are correct?

A There was more heat in cup A than in cup B.
B Water droplets would be found on the inner surface of cup A.
C Water droplets would be found on the outer surface of both cups.

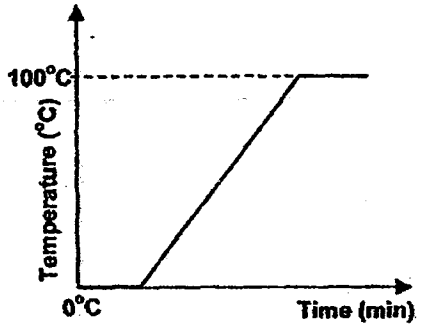
(1) A only
(2) C only
(3) A and B only
(4) A and C only

15. Which of the following statement(s) is/are true about our digestive system?

A Digestion is completed in the stomach.
B The digested food is absorbed into the blood stream in the small intestine.
C The large intestine continues to digest the food after the small intestine.
D Water is added to the undigested food in the large intestine.

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

16. Jeanette put some ice cubes into a beaker and heated them over a Bunsen burner over a period of time until it boils. The change in temperature over the whole process was shown in the graph below.

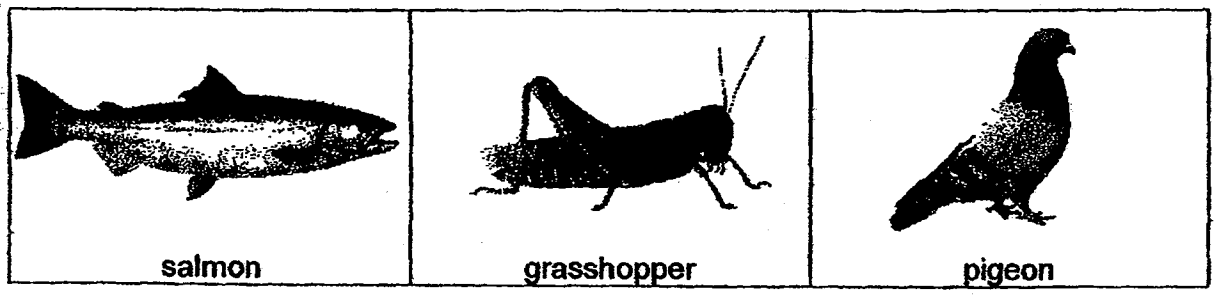


Jeanette repeated the experiment again and placed another flame below the beaker.
Which of the following statements correctly describe what happened when an additional Bunsen burner was added to heat the ice cubes?

A It shortened the time for the ice to melt and start boiling.
B Most of the additional heat from the second burner would be lost to the surroundings.
C The extra heat from the additional burner was used by the ice cubes or water to change its state.
D The heat from the second additional burner caused the temperature of the water to increase beyond 100°C.

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

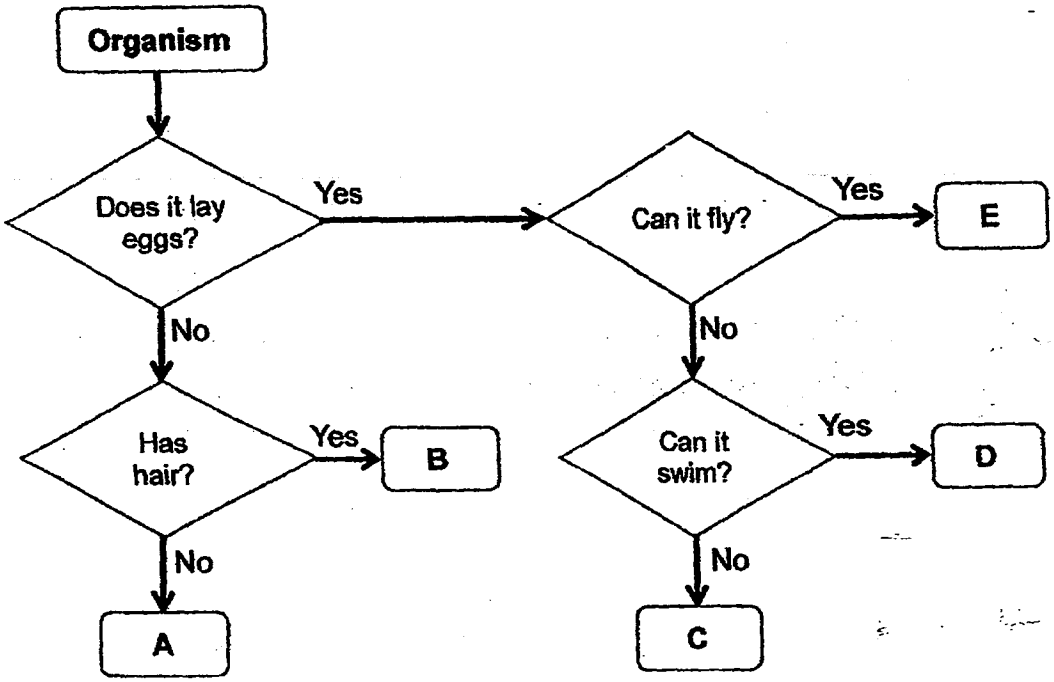
17. Study the animals below carefully.



What is one common characteristic among these three animals?

(1) How they breathe
(2) The way they move
(3) Their outer covering
(4) The way they reproduce

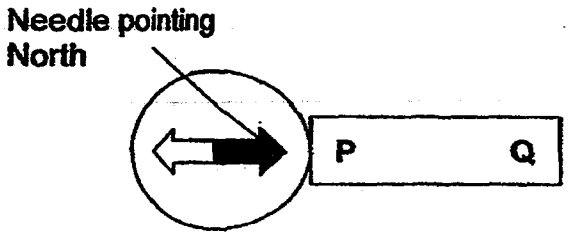
18. Study the chart below carefully.



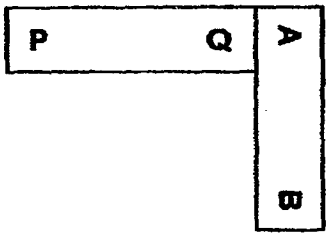
Which one of the following correctly matches the animals to the letters, A, B, C, D and E, in the flowchart above?

	Penguin	Guppy	Rabbit	Eagle
(1)	B	D	C	A
(2)	C	D	B	E
(3)	D	A	B	E
(4)	E	A	C	D

19. Bar magnet X with poles, P and Q, was brought near a compass as shown in the diagram below.



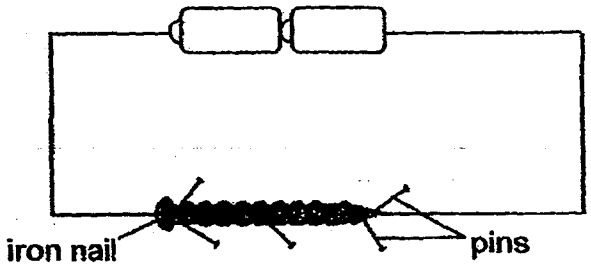
When another bar magnet Y, with poles A and B, was brought near bar magnet X, they attracted to each other as shown below.



Which one of the following correctly identifies poles P, Q, A and B?

	Bar Magnet X		Bar Magnet Y	
	P	Q	A	B
(1)	North	South	North	South
(2)	North	South	South	North
(3)	South	North	North	South
(4)	South	North	South	North

20. Sammi prepared a setup as shown below. She coiled the insulated wire 10 times round the iron nail.



However, the iron nail could only attract 5 pins as shown in the diagram.
Which of the suggestion(s) below will enable her iron nail to attract more pins?

A Use a longer iron nail
B Coil the insulated wire more times around the iron nail
C Add more batteries in series

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

NAN HUA PRIMARY SCHOOL
CONTINUOUS ASSESSMENT 2 – 2014
PRIMARY 5

SCIENCE

BOOKLET B

14 Open-ended questions (40 marks)

Total Time for Booklets A and B: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.

Marks Obtained

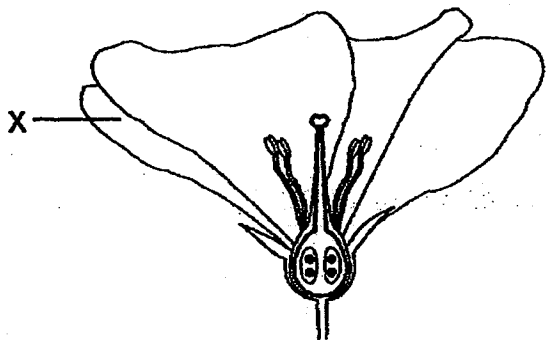
Section B		**/ 40**

Name: _____ ( ) **Class: P 5** _____

Date : 21 August 2014 **Parent's Signature:** _____

Section B: (40 marks)
Write your answers to question 21 to 34 in the spaces provided.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

21. The picture below shows the cross-section of a flower.



(a) Name two parts that belong to each of the following:

i) Male part of the flower : _____, _____ [1]

ii) Female part of the flower : _____, _____ [1]

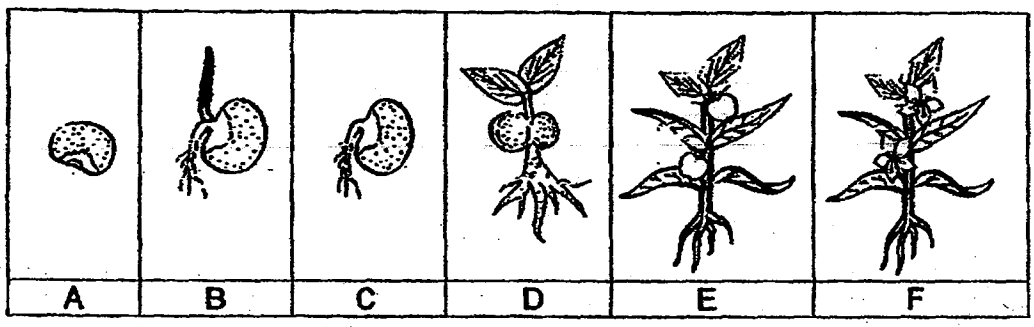
(b) Explain why part X is important in the reproduction process? [1]

_____

_____

Score	2½ / 3

22. The diagram below shows the process of development of a seed.



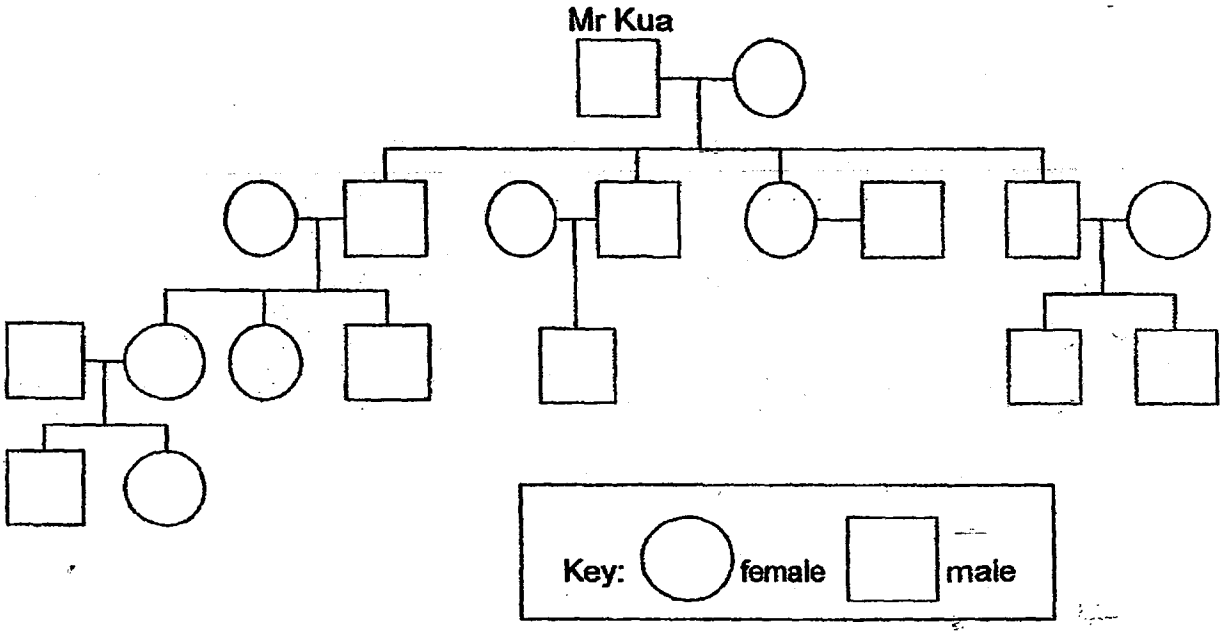
(a) Rearrange the diagrams in the correct order? [1]

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

(c) From the diagram above, identify the stage, A, B, C, D, E or F, where the seed leaves will no longer be needed. Give a reason. [1]

Score	3

23. The diagram below shows a detailed family tree of Mr Kua.



(a) Jeremy is Mr Kua's grandson. He has two siblings. Mark with a cross, X, and label "Jeremy" in the family tree above. [1]

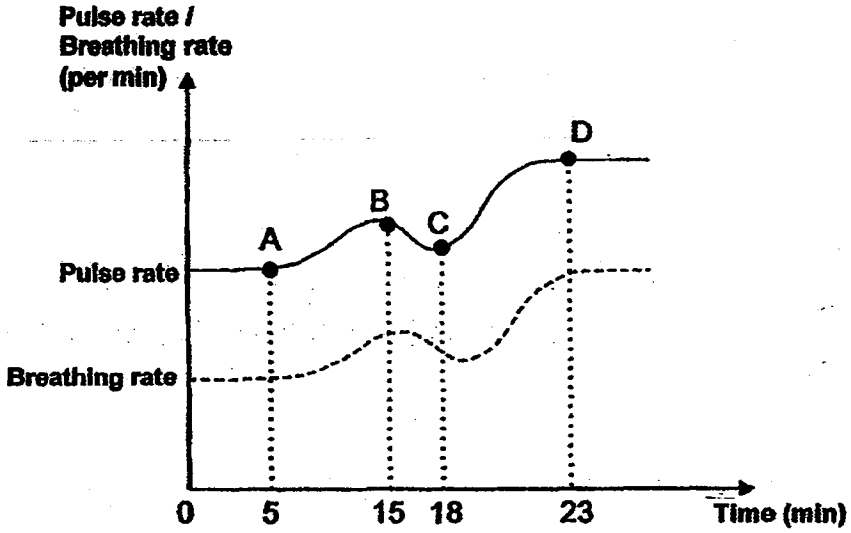
(b) Mr Kua can roll his tongue. What is the maximum number of females in the family who could inherit this trait? [1]

_____

_____

Score	/ 2

24. Joash was getting ready to do his NAPFA 1.6km run. Before he ran, he did his warm up exercises. The table below shows his breathing and pulse rates over time.



(a) At which points, A, B, C or D, did he: [1]

(i) stop his warm up exercises: _____

(ii) start his running: _____

(b) Explain why Joash's breathing and pulse rate increased when he was running? [2]

_____

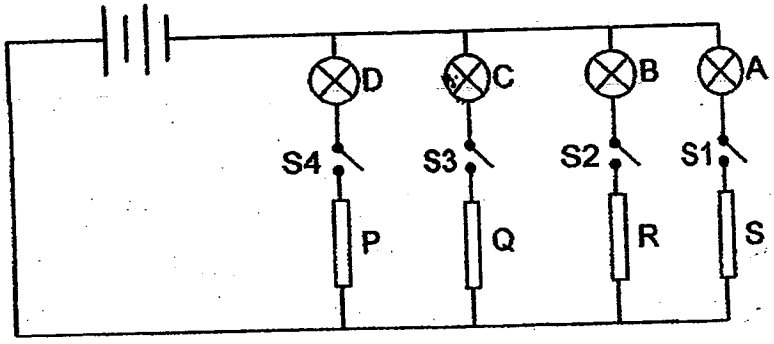
_____

_____

_____

Score	
	3

25. Ramesh did an investigation with 4 rods, P, Q, R and S, which could be electrical conductors or insulators. He used the circuit shown below for his investigation.



The table below shows what happened when the switches were closed.

Switches Closed — Bulb A — Bulb B — Bulb C — Bulb D

S1 and S2	not lighted	lighted	not lighted	not lighted
S2 and S4	not lighted	lighted	not lighted	lighted

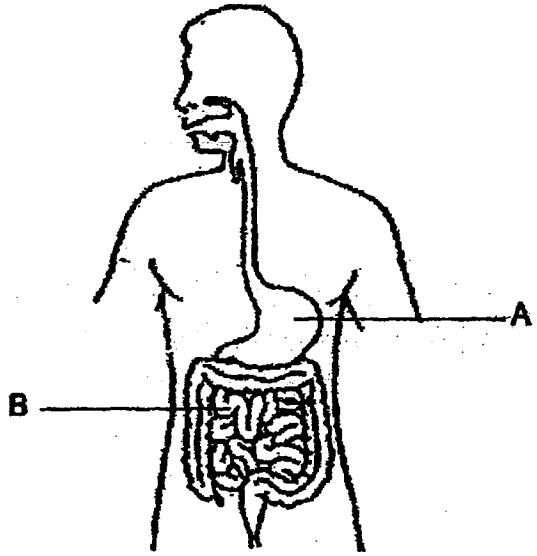
From the information provided above, put a tick (✓) in the table below to identify if rods P, Q, R and S are insulators or conductors of electricity. [2]

Rods — Conductor of electricity — Insulator of electricity — Not possible to tell

P			
Q			
R			
S			

Score	2

26. The diagram below shows the human digestive system.



(a) Identify the organs A and B. [1]

A: _____

B: _____

(b) Hossan's grandfather had his stomach removed due to cancer. Based on your understanding of the digestive system, will his grandfather's digestive system still be able to provide digested food needed by his body? [2]

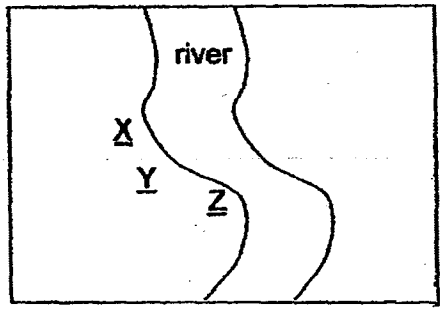
_____

_____

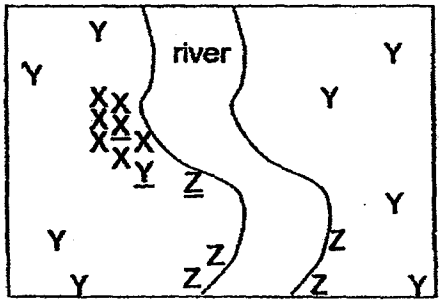
_____

Score 3

27. Three plants X, Y and Z were planted on a land next to a river as shown below.



After several years, more of the three plants were found as shown below. X, Y and Z represent the parent plants that were planted earlier.



(a) From the information provided above, match the plants X, Y and Z to the correct fruit in the table below. [2]

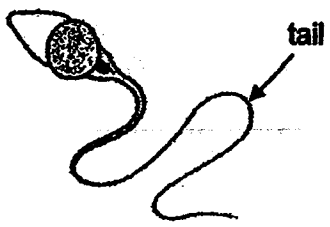
Fruit — Represented by X, Y or Z

Coconut	
Balsam	
Guava	

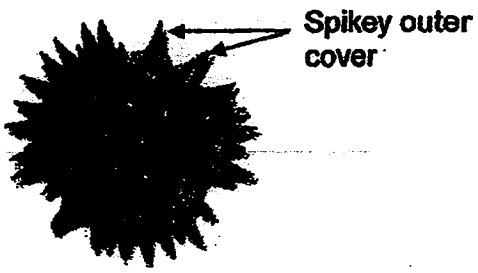
(b) Study the coconut and guava fruits in part (a). Explain why the guava seeds can be dispersed further away from the parent plant than the coconut? [2]

Score ____/4

28. The diagrams below show a sperm and a pollen grain.



Sperm



Pollen grain

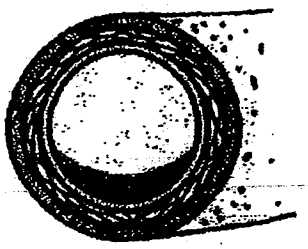
The sperm has a powerful tail that helps it swim up the womb of the female to meet the egg. The pollen grain, however, does not have a tail but it has a spikey outer cover.

(a) Explain clearly how the spikey outer cover of the pollen grain helps it to be transferred to the stigma of another flower. [1]

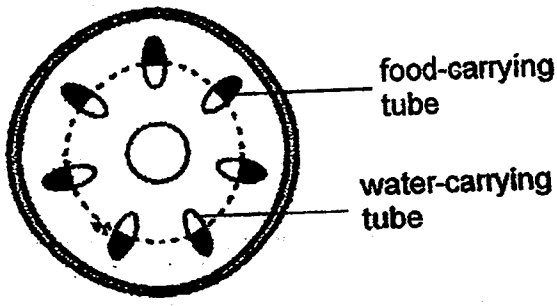
(b) In the reproduction process of both the flowering plant and human, a large number of pollen grains and sperms are produced. Explain clearly why this is so. [1]

Score	2

29. Study the diagrams below carefully.

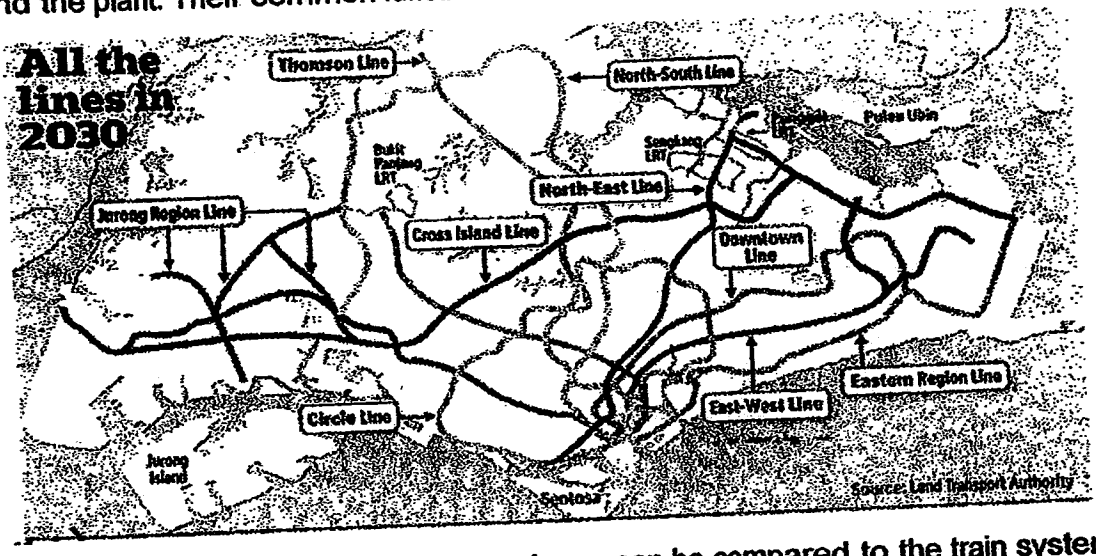


cross-section of a blood vessel



Cross-section of a plant stem

Both of the tubes shown above are parts of the transport systems of the human and the plant. Their common function is to transport materials.

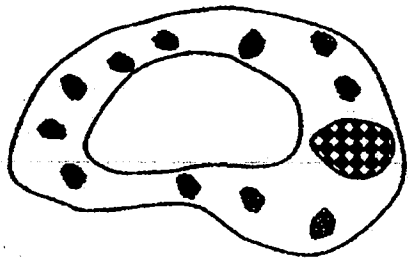


(a) The plant and human transport systems can be compared to the train system that transports people around.
If you study the train lines, it does not cover every part of Singapore.
What will happen if the plant and human transport tubes do not cover every part of the plant or human body? [2]

(b) Study the diagrams of the human and plant transport tubes.
State one observable difference between the human and plant transport tubes. [1]

Score	3

30. During a science lesson, Mohan was given a cell to observe under a microscope. He drew the cell he observed in his notebook as shown below.



Mohan was unable to identify the cell as his teacher had removed a part from the cell.

(a) Name the part that the teacher had removed. [1]

_____

(b) Other than the part that was removed, what other observation would help Mohan identify the type of cell. Explain your answer clearly. [2]

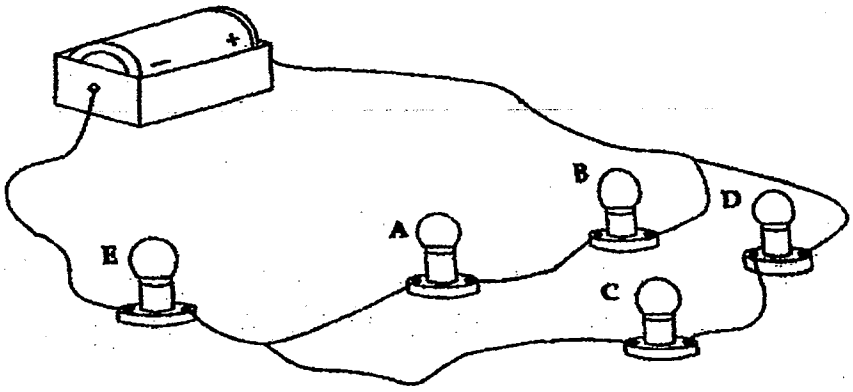
_____

_____

_____

Score	
	3

31. Jovis set up a circuit as shown in the diagram below. She was very happy that all the bulbs lighted up.



However, she did not identify a problem with this circuit. There was a possibility that if one of the 5 bulbs, A, B, C, D or E, fused, all the bulbs would not light up.

(a) Identify the bulb, if fused, would cause all the bulbs not to light up? Explain clearly why this happens. [1]

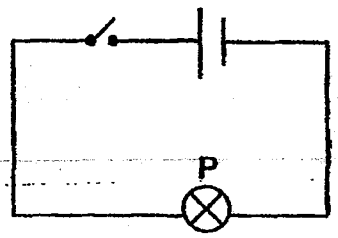
_____

_____

(b) Re-design the whole circuit for Jovis such that all the other bulbs would remain lighted even if one bulb or up to four bulbs are fused at the same time. Using symbols, draw the circuit diagram in the space below. [2]

Score	
	3

32. The diagram below shows a simple circuit.



Joe wanted to investigate the effect of adding bulbs in series to the circuit. He started by connecting a second bulb next to bulb P and a third bulb next to it. The number of batteries was unchanged. Each time he added a bulb, he used a datalogger to measure the brightness of bulb P (measured in lux).

NO. OF Bulbs Brightness of bulb (Lux)

One	10000
Two	5000
Three	1500

(a) Based on the table above, what is the relationship between the number of bulbs and the brightness of bulb P? [1]

(b) When Jack added the fourth bulb, his reading was zero. What could be the explanation for this? [1]

(c) Name 2 other variables that must be kept constant in this experiment. [1]

Score	
	3

33. The diagram below shows a simple water cycle.

(a) Identify the processes X and Y. [1]

X:_____

Y:_____

(b) Most of the earth's water is found in the seas and oceans which is salty. Furthermore, much of our fresh water resources like rivers and lakes are polluted by harmful or waste matter caused by human activities.

How is it still possible to get a constant supply of fresh water through the water cycle? [1]

_____

_____

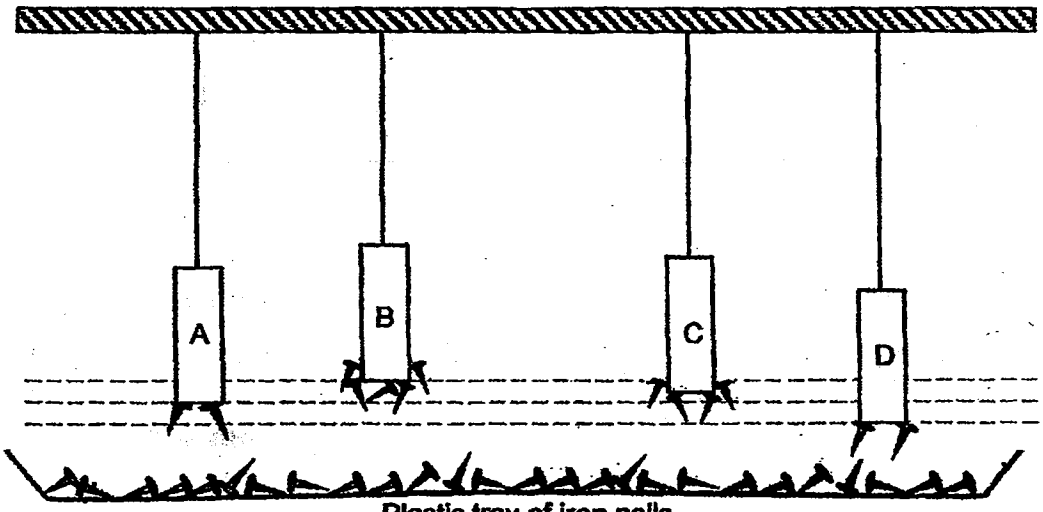
(c) From your answer in part (b), what energy is needed for the process to occur? [1]

_____

_____

Score	3

34. Bimal set an experiment to compare the magnetic strength of four magnets, A, B, C and D. The magnets were of the same size. He hung them up at various heights from a tray of nails.



From the result of his experiment as shown above, he could not conclude which magnet was the strongest.

(a) How should Bimal change his set so that he would be able to find out which magnet was the strongest? [1]

_____

_____

With the same setup above, Bimal replaced magnet B with a much stronger magnet Z of the same size.

(b) State 2 observations that could be made: [2]

i) _____

_____

ii) _____

_____

End of paper

Score	
	3

EXAM PAPER 2014
SCHOOL : NAN HUA
PRIMARY : P5
SUBJECT : SCIENCE
TERM : CA2

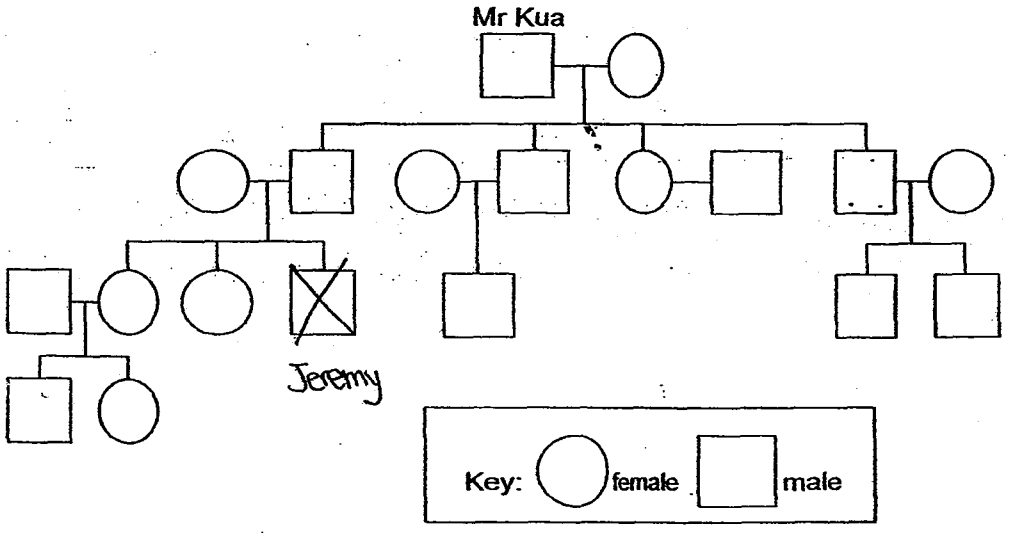
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
4	1	1	2	1	4	3	3	2	4	2	4	4	3	2	2	4

Q18	Q19	Q20
3	4	4

21)a)i)Anther, Filament ii)Stigma, Ovary
b)Part X (The petals) attract animals/insects to pollinate the flower/attract pollinators.

22)a)A,C,B,D,F,E
b)They provide food for the seed to germinate into a seedling.
c)D/E/F. The leaves have developed and able to make food for the seedlings.

23)a)



23)b)4.

24)a)i)B ii)C
b)More energy is needed so he breathed faster to take in more oxygen and his heart pumped faster to supply more blood rich in oxygen for respiration.

25)P : Conductor of electricity
Q : Not possible to tell
R : Conductor of electricity
S : Insulator of electricity

26)a)A: Stomach B: Small intestine
b)Yes. The small intestine is still able to (add digestive juices to)digest the food and pass the digested food to the circulatory system through the (small) intestinal wall.

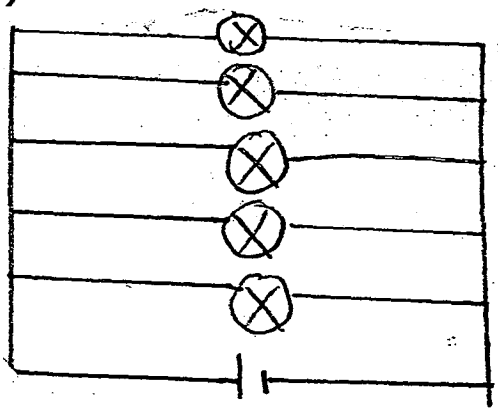
27)a)Z, X, Y
b)The guava seeds are eaten with the flesh and passed out when the animal had travelled far away. The coconut is dispersed by water so they are found along the riverside.

28)a)The spikey outer cover/spikes help the pollen grain to hook stick onto the animal's/insect's body.
b)The large number of sperms and pollen grains increase the chance that an egg is fertilised.

29)a)The part (of the human of plant)that the transport tubes do not reach will not receive food/water. These parts/cells at these parts will die.
b)The human has only on network/type/set of tubes but the plant has two net works of tubes.

30)a)Cell wall.
b)The cell has chloroplast to make food so it is a plant cell.

31)a)E. When Bulb E fused, electricity cannot flow through the circuit.
b)



32)a)As the number of bulbs increases, the brightness of bulb P decreases.
b)The battery was flat.
c)Type of bulb / Type of battery

33)a)X: Condensation.
Y: Evaporation.
b)Only water will evaporate to form water vapour so the rain that away fresh clean water.
c)Heat energy.

34)a)Bimal should place the magnet at the same height.
b)i)It will attract more than 5 iron nails.
ii)It will attract the magnet A.