



**NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2018
PRIMARY 5**

SCIENCE

BOOKLET A

28 Multiple Choice Questions (56 marks)

Total Time for Booklets A and B : 1 hour 45 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		/ 56
Booklet B		/ 44
Total		/ 100

Name: _____ ()

Class: P 5

Date : 3 May 2018

Parent's Signature:

Section A: (28 x 2 marks = 56 marks)

For each question from 1 to 28, 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. Which statement(s) about cells is/are correct?

- A A cell is the smallest living thing.
- B Every living thing is made up of many cells.
- C Cells in a living thing grow bigger as the living thing grows bigger.

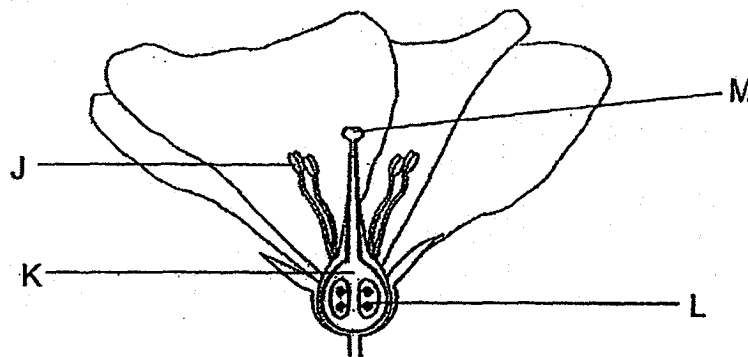
- (1) A only
- (2) B only
- (3) A and B only
- (4) A, B and C

2. Which statement(s) about reproduction of plant is/are correct?

- A Flowering plants only reproduce from spores.
- B Plants reproduce so that their own kind will continue to exist.
- C All the characteristics of the parent plants will be passed on to its offspring.

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

3. The diagram below shows the cross-section of a flower.



Which one of the labelled parts helps to receive pollen grains during pollination?

- (1) Part J
- (2) Part K
- (3) Part L
- (4) Part M

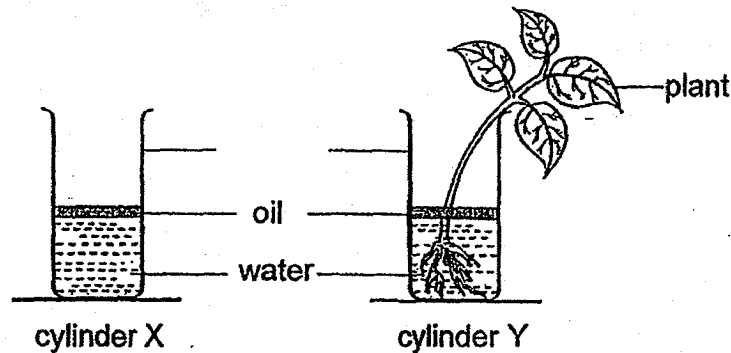
4. The table below shows the comparison between the sexual reproduction in humans and plants.

	Human	Plant
Organ that produces the male reproductive cell	Testis	A
Female reproductive cell	B	Egg
Process X	Fertilisation	C
After Process X	D	Seeds are formed

Which of the following correctly shows the missing information in the table above?

	A	B	C	D
(1)	Anther	Egg	Fertilisation	Baby is formed
(2)	Pollen grains	Ovary	Fertilisation	Fruit is formed
(3)	Pollen grains	Egg	Pollination	Fruit is formed
(4)	Anther	Ovary	Pollination	Baby is formed

5. Mary carried out an experiment to find out if plants take in water. She poured equal amount of water into cylinders X and Y which are of the same size. She then placed both cylinders in the same location as shown below.

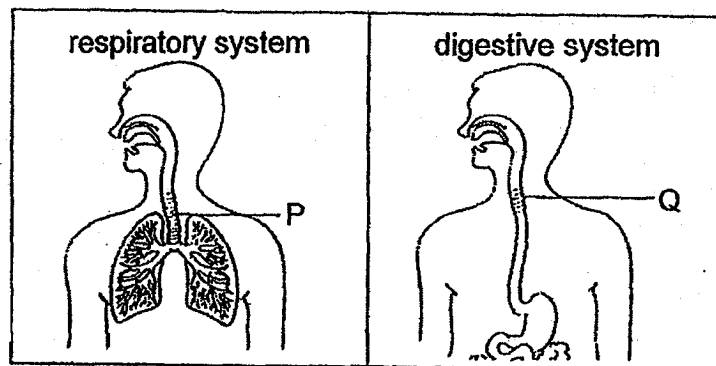


Why did Mary set up cylinder X?

- A To confirm that the plant took in the water.
- B To measure how much water had evaporated away.
- C To act as a control for the experiment to compare the results against cylinder Y.

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

6. The diagrams below show the respiratory system and part of the digestive system.



Which of the following statements is/are true about organ P and organ Q?

- A Organ Q transports food but not organ P.
- B Organ P and Q transport both water and food.
- C Organ P transports oxygen only but not organ Q.

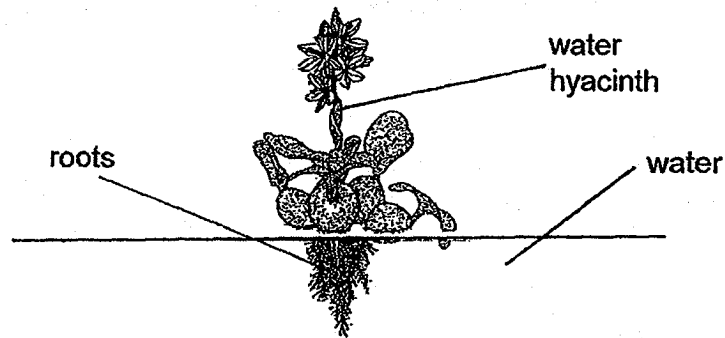
- (1) A only
- (2) B only
- (3) A and B only
- (4) A and C only

7. What will happen if we do not have bones in our body?

- A We will faint constantly.
- B We will not be able to move.
- C Our body will not have any shape.
- D Some of our organs will not be protected.

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

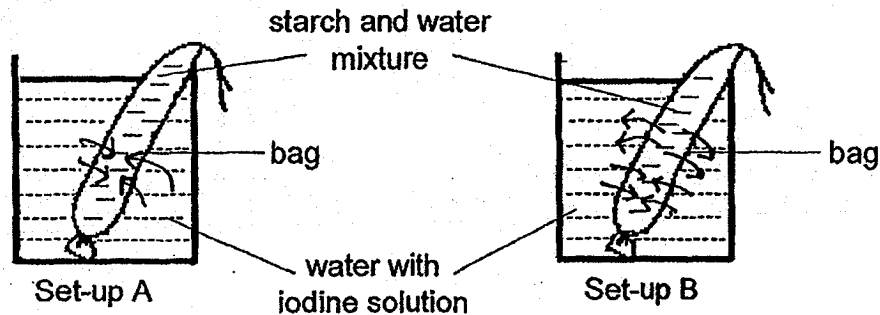
8. Which of the following are possible functions of the roots of the floating plant below?



- A Make food for the plant.
- B Take in dissolved mineral salts.
- C Hold the plant firmly to the ground.
- D Take in water for all parts of the plant.

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

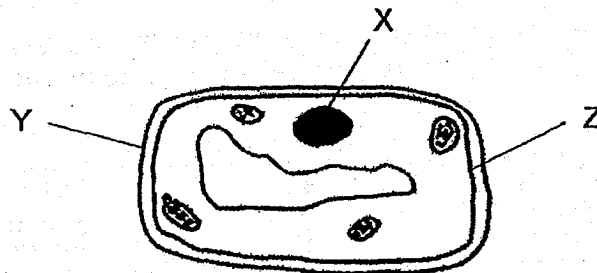
9. Janice conducted an experiment using bags made of two different materials. She poured starch and water mixture into the bags and left them in beakers of water with iodine solution. Iodine solution turns dark blue when it comes into contact with starch.



After one day, she recorded what she observed in the table below.

	Set-up A	Set-up B
Starch and water mixture	turned dark blue	turned dark blue
Water with iodine solution	remained brown	turned dark blue

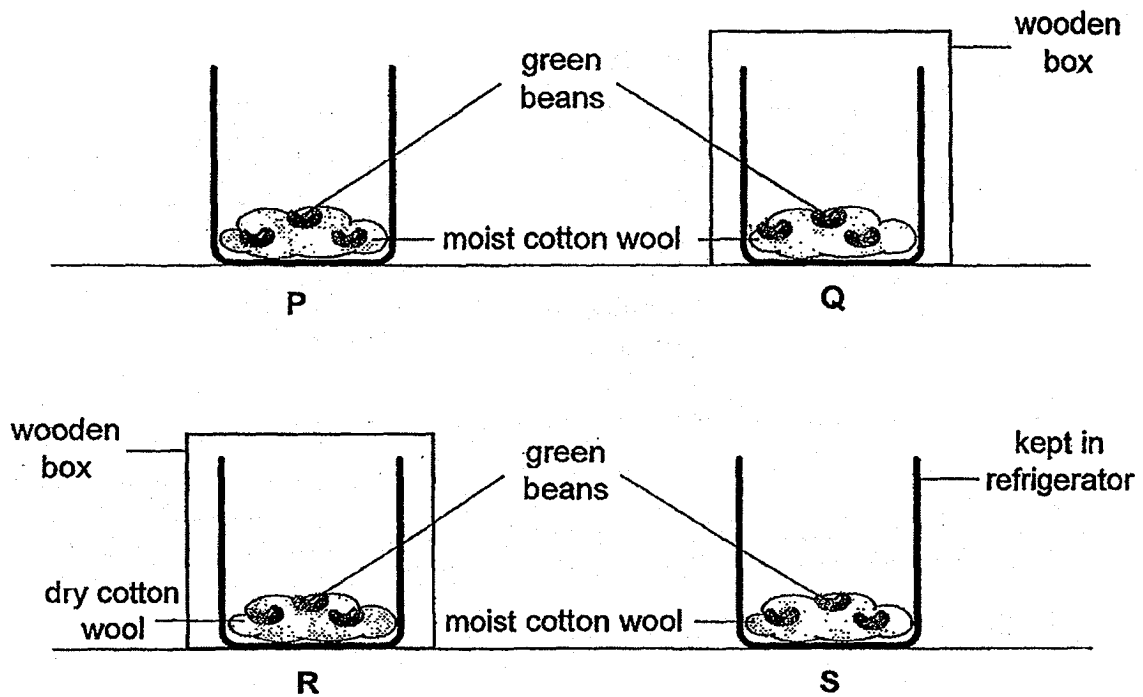
She related the experiment to what she had learnt about plant cells.



Which of the following statement best describes the experiment above?

- (1) Both bags can be used to represent part Z of the cell.
- (2) The bags can be used to represent part X which controls the movement of the starch particles.
- (3) The bag in set-up A can be used to represent part Z of the cell while the bag in set-up B can be used to represent part Y of the cell.
- (4) The bag in set-up A can be used to represent part Y of the cell while the bag in set-up B can be used to represent part Z

10. Jia Xuan and Ben set up four beakers, P, Q, R and S, as shown below. Beakers P, Q and R were kept at room temperature while beaker S was kept in the refrigerator.



Jia Xuan would like to find out if water is needed for germination. Ben would like to find out if warmth is needed for germination. Which set-ups should each of them compare?

	Jia Xuan	Ben
(1)	P and R	Q and S
(2)	Q and R	P and S
(3)	Q and R	Q and S
(4)	P and R	P and S

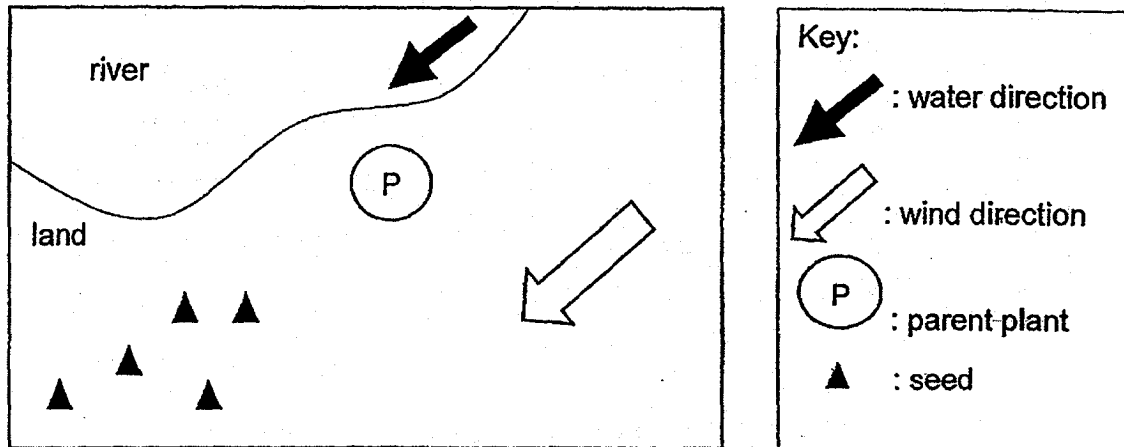
11. Flowers A, B, C and D were wrapped in plastic bags for a week to prevent them from being pollinated. After the plastic bags were removed, one part was removed from each of the flowers. A tick (✓) shows that the part is present in the flower.

	anther	stigma	ovary	petals
A	✓	✓	✓	removed
B	✓	✓	removed	✓
C	✓	removed	✓	✓
D	removed	✓	✓	✓

Which of the flowers cannot be developed into a fruit?

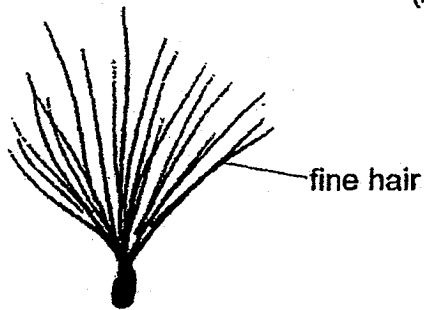
- (1) A and B
- (2) B and C
- (3) A, C and D
- (4) A, B, C and D

12. Study the dispersal of seeds by plant P.

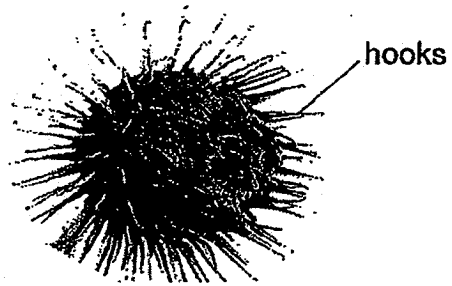


Which one of the following fruits belongs to plant P?

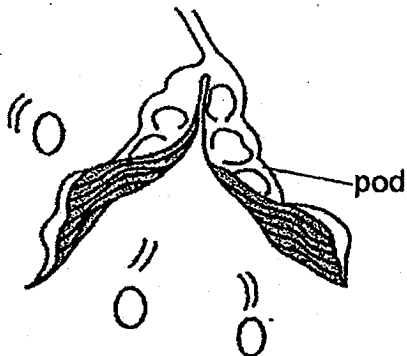
(1)



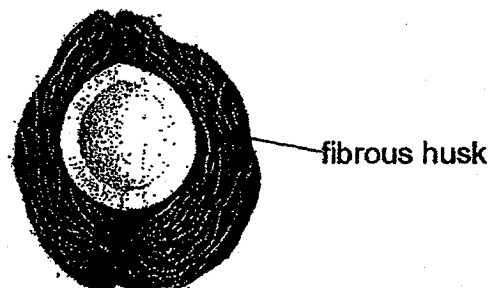
(2)



(3)



(4)

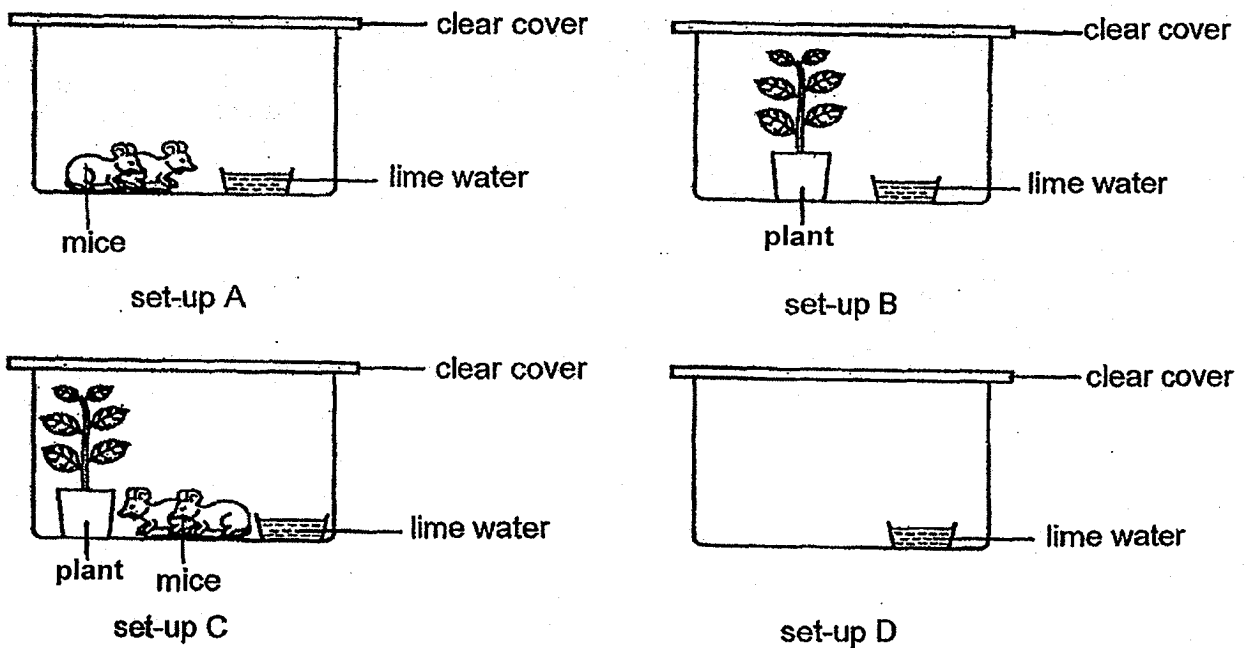


13. Which of the following statements are true about the reproduction in humans?

- A Fertilisation occurs in the female.
- B Two sperms are needed to fuse with the egg.
- C The fertilised egg develops in the male body.
- D Male produces sperms while the female produces eggs.

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

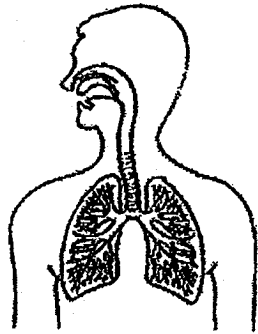
14. John prepared four set-ups as shown below. He placed all the set-ups in a room which has sunlight. He wanted to find out if an animal gives off carbon dioxide.



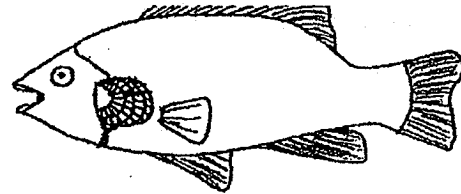
Which two set-ups should he use for his experiment?

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

15. The diagrams below show the human and fish respiratory system.



Human Respiratory System



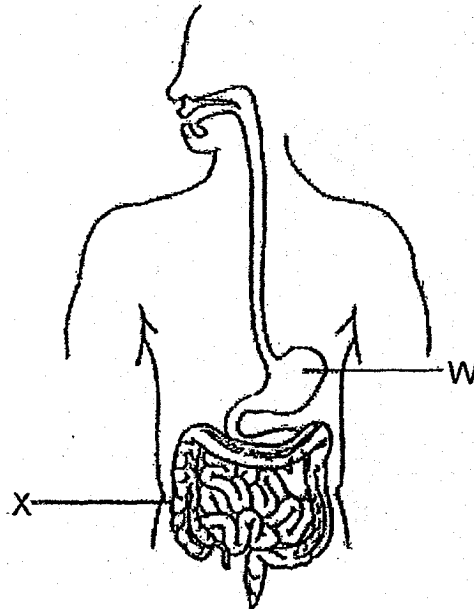
Fish Respiratory System

Which statements about the two system are correct?

- A Both human and fish take in oxygen from the air.
- B The human uses the lungs for gaseous exchange but the fish uses the gills.
- C The human takes in oxygen in the air whereas the fish takes in oxygen in the water.
- D The amount of carbon dioxide is greater than the amount oxygen in the exhaled air of the human.

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

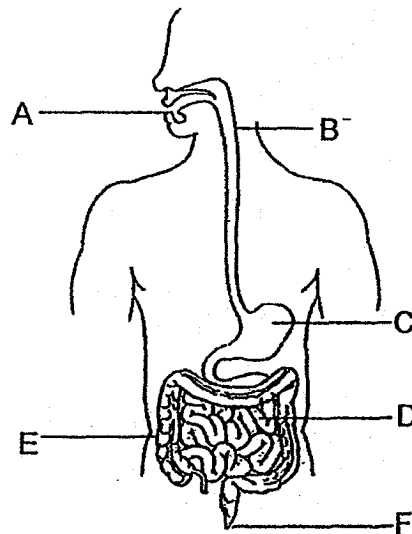
16. Study the diagram below.



Identify the functions of W and X.

	W	X
(1)	Breaks down food into smaller pieces	Allow water to be absorbed into the bloodstream
(2)	Breaks down food into smaller pieces	Digested food is absorbed into the bloodstream
(3)	Breaks down food into simpler substances	Digested food is absorbed into the bloodstream
(4)	Breaks down food into simpler substances	Allows water to be absorbed into the bloodstream

17. Study the human digestive system below.



Which parts of the digestive system do digestive occur?

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

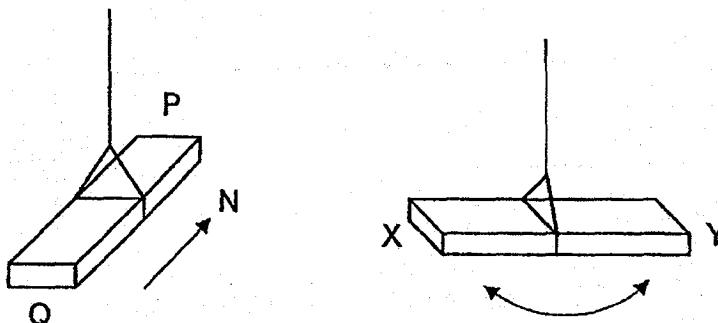
18. The table below compares the properties of materials A, B, C and D. A tick (✓) shows the presence of the property in the materials.

Material \ Property	A	B	C	D
strong	✓	✓	✓	
flexible	✓	✓		✓
waterproof	✓		✓	✓

Which one of the materials is suitable for making a walking stick to help an elderly in walking?

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

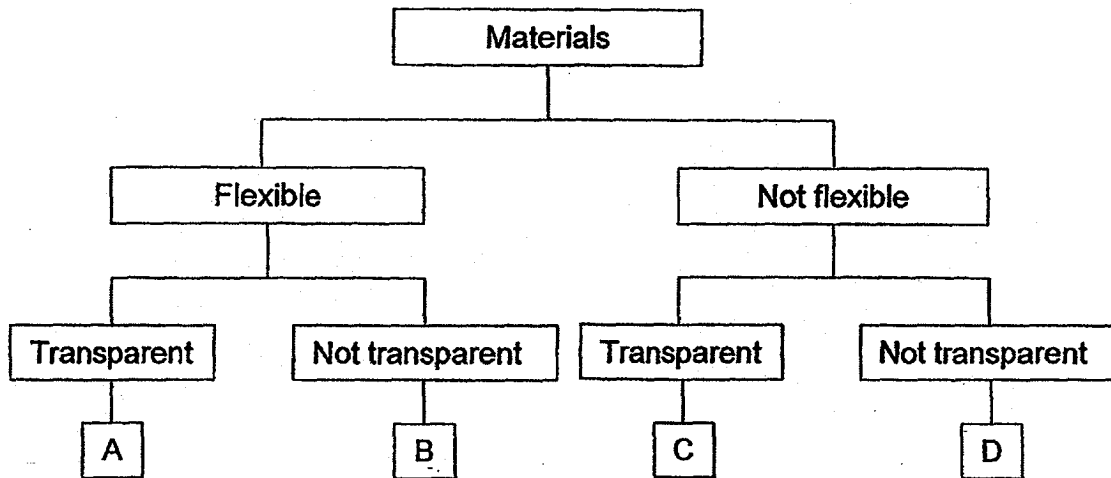
19. A metal bar PQ is hung by a thin thread, it always comes to rest with one end of the bar, P, pointing North as shown in the figure below. Another bar XY made of the same metal as PQ does not rest in a fixed direction.



What happens if the two bars are brought close to each other?

- (1) End P attracts both end X and end Y.
 - (2) End P attracts end X but repels end Y.
 - (3) End P attracts end Y but repels end X.
 - (4) End P neither attracts nor repels end X.
20. Living things require water to survive. Which of the following statements show(s) that water is important to living things.
- A Water is home to many aquatic animals and plants.
 - B Water is needed by many living things to carry out life processes.
 - C Water is needed by plants to transport mineral salts in the water carrying tubes to all parts of the plant.
- (1) B only
 - (2) C only
 - (3) B and C only
 - (4) A, B and C

21. Study the information provided in the classification chart below.



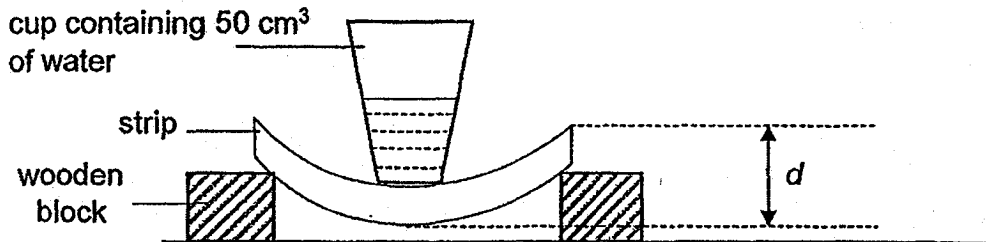
Based on the information above, which one of the following correctly represents objects A, B, C and D?

	A	B	C	D
(1)	cling wrap	car tyres	spectacle lens	aluminium foil
(2)	light bulb	aluminium foil	cling wrap	frying pan
(3)	light bulb	car tyres	cling wrap	aluminium foil
(4)	cling wrap	aluminium foil	spectacle lens	frying pan

22. Which of the following objects does not require the use of magnets?

- (1) stapler
- (2) compass
- (3) computer
- (4) refrigerator

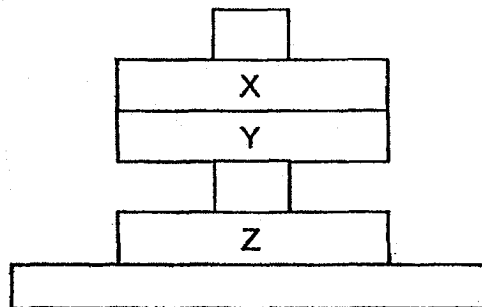
23. Josiah set up an experiment using four strips made of different materials. All the strips have the same size.



He placed a cup containing 50cm³ of water on each strip and measured the distance, d , between the highest and lowest point of the strip.

What property of the strip was Josiah trying to find out?

- (1) strength
 - (2) flexibility
 - (3) ability to absorb water
 - (4) ability to float or sink in water
24. The set-up below is made up of a plastic ring X and 2 ring magnets, Y and Z.

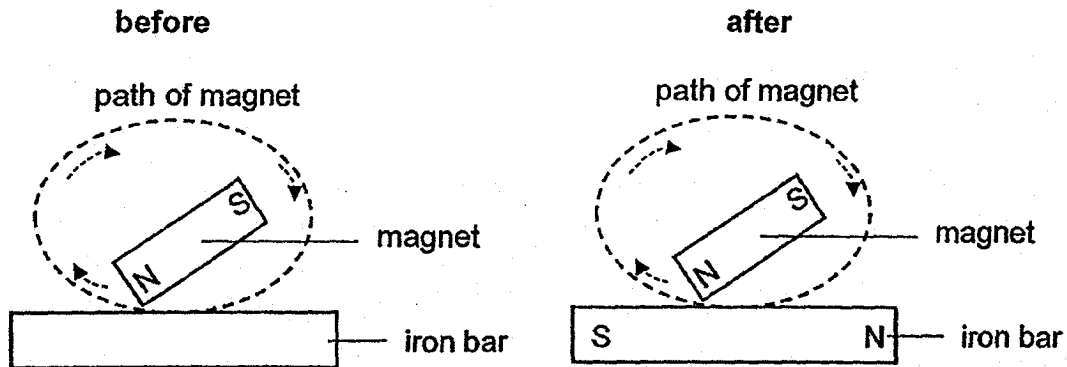


Which property/properties of magnet does/do the above set-up show?

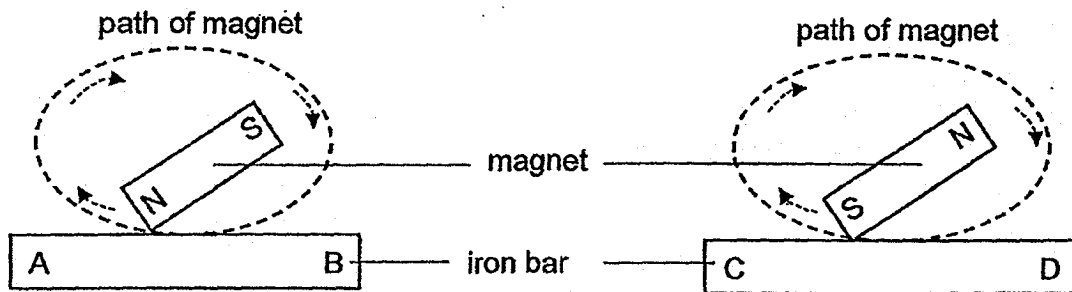
- A Magnets attract magnetic materials.
- B Like poles of magnets repel each other.
- C Unlike poles of a magnet attract each other.

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

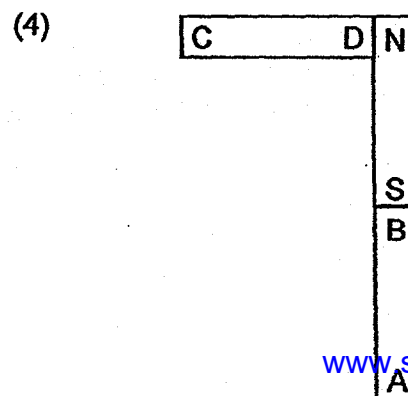
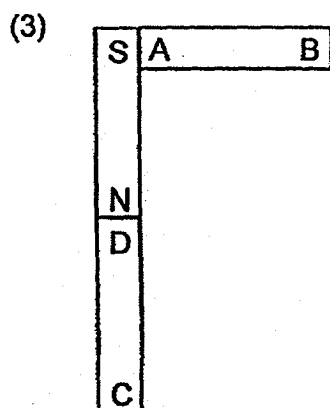
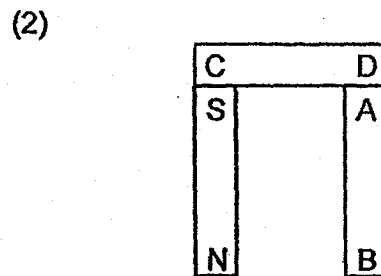
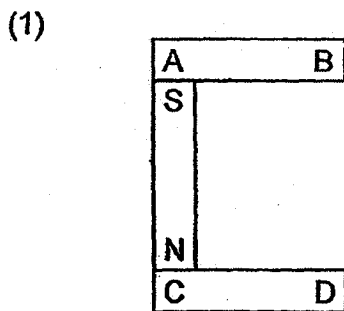
25. The diagrams below show the poles of a magnetised iron bar using the “stroke” method of making magnets.



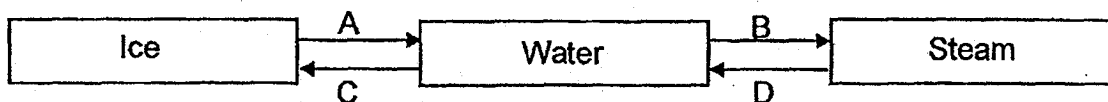
Janice made two magnets using the “stroke” method as shown below.



Which one of the following is a possible arrangement of the magnets?



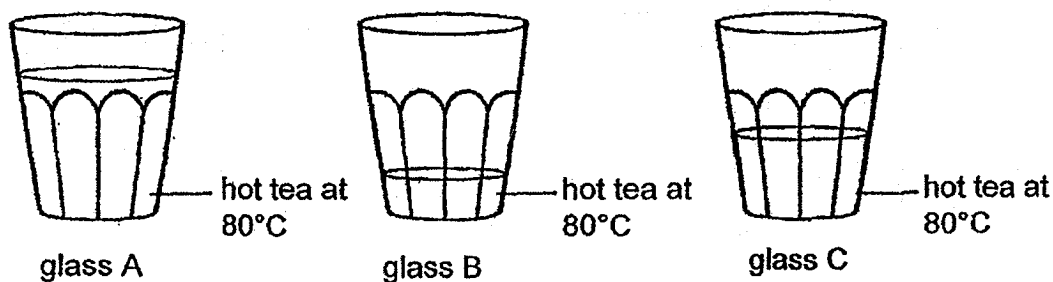
26. Study the diagram below.



Which one of the following correctly identifies the processes represented by the arrows A, B, C and D?

	A	B	C	D
(1)	melting	evaporation	boiling	condensation
(2)	freezing	boiling	condensation	evaporation
(3)	melting	boiling	freezing	condensation
(4)	condensation	evaporation	freezing	boiling

27. Study the three glasses of hot tea that were placed on a table in a room at 30°C.

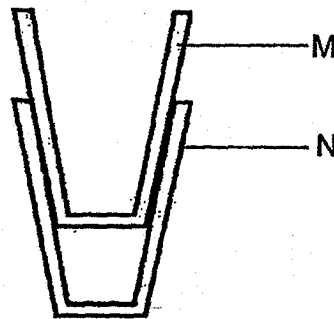


Which of the following statements are true about the glasses of hot tea?

- A The hot tea in glass A has the most amount of heat energy.
- B The hot tea in the three glasses have the same temperature.
- C The hot tea in the three glasses have the same amount of heat energy.
- D The hot tea in the three glasses will lose heat to the cooler surroundings.

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

28. Glasses M and N were stuck together as shown in the diagram below.



Peter managed to separate glasses M and N. How did he manage to do it?

- (1) He added ice water in glass M and put glass N completely in a basin of ice water.
- (2) He added hot water in glass M and put glass N completely in a basin of hot water.
- (3) He added ice water in glass M and put glass N completely in a basin of hot water.
- (4) He added hot water in glass M and put glass N completely in a basin of ice water.



**NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2018
PRIMARY 5**

SCIENCE

BOOKLET B

12 Open-ended questions (44 marks)

Total Time for Booklets A and B : 1 hour 45 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

	/ 44
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Name: _____ () **Class: P 5** _____

Date : 3 May 2018

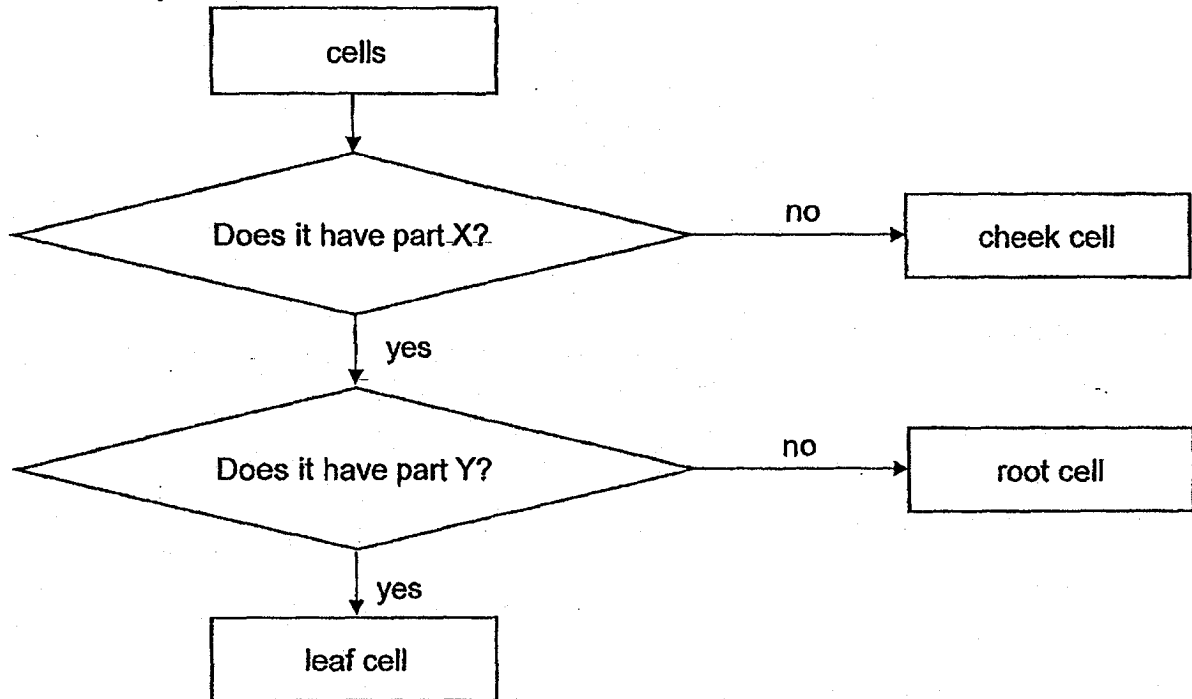
Parent's Signature: _____

Section B: (44 marks)

Write your answers to questions 29 to 40.

The number of marks available is shown in brackets [] at the end of each question or part question.

29. Study the flow chart below.



(a) Identify part X and part Y.

[2]

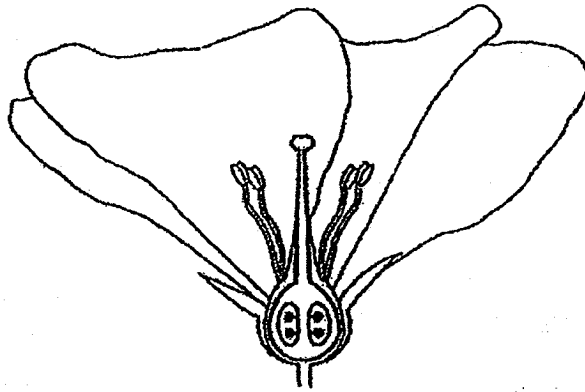
Part X : _____

Part Y : _____

(b) State the function of part X.

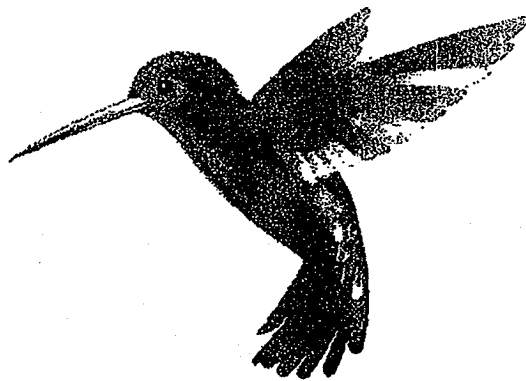
[1]

30. The diagram below shows the cross-section of a big flower.



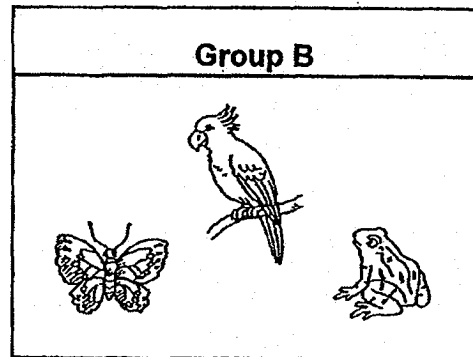
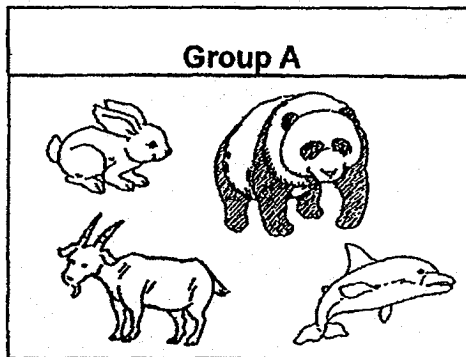
- (a) In the diagram above, name and label the part that produces pollen grains [1]
- (b) Give two reasons why the flower is likely to be pollinated by animals. [2]

- (c) The bird shown below feeds on the nectar of the flower.



How does this bird help in one of the reproduction process of the plant? [1]

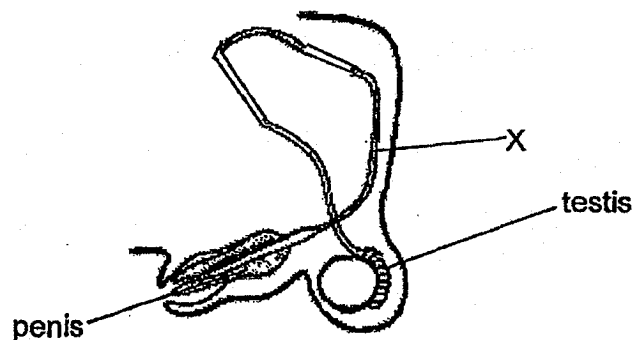
31. Study the two groups of animals below.



(a) How are the animals in Group A and Group B different in the way they reproduce? [1]

(b) Give a reason why reproduction is important to living things. [1]

The picture below shows the reproductive system of a male cat.



In order to control the cat population in the community, male cats will be caught and an operation will be done on the male cat to prevent it from reproducing. The operation involves cutting the tube at X.

(c) Describe how does cutting the tube at X prevent the cats from reproducing? [2]

Score	4
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32. The two charts below show the composition of inhaled and exhaled air.



chart X



chart Y



nitrogen



oxygen

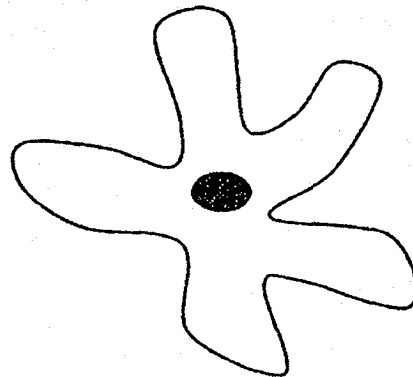
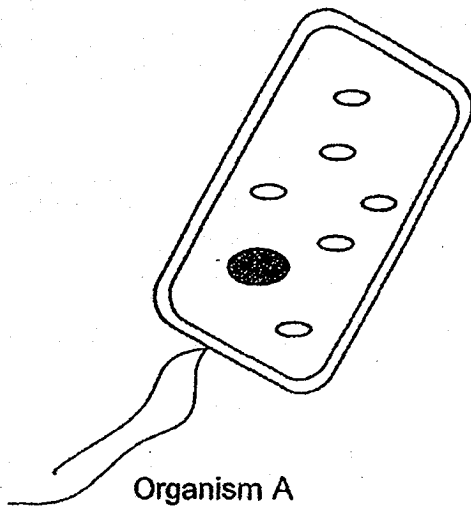


water vapour,
carbon dioxide
and rare gases

- (a) Identify the chart that represents the composition of exhaled air. Explain your answer. [2]

- (b) Explain why the amount of nitrogen is the same in both charts? [1]

33. The diagram below shows two single-cell organisms.



(a) In the diagram above, name and label the part in both cells where cell activities take place. [1]

(b) Amy said that both organisms feed on other organisms based on the cell parts observed. Do you agree with her? Explain your answer for organisms A and B. [2]

34. Diana found three similar fruits, P, Q and R, with wing-like structures and decided to carry out an investigation on the fruits. She cut off parts of the wing-like structure of each fruit, dropped them from a height and measured the time taken for each fruit to reach the ground. She recorded her results in the table below.

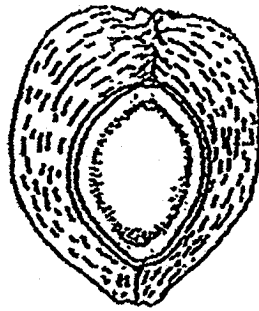
Fruit	Length of wing-like structure (cm)	Time taken for fruit to reach the ground (s)
P	2.5	4.1
Q	1.5	3.0
R	0.5	2.3

- (a) State the dispersal method of the three fruits. [1]

- (b) What is the relationship between the length of the wing-like structure and the time the fruit can stay in the air? [1]

- (c) Diane wanted to test out another fruit, S, by cutting the wing-like structure. The fruit took 2.8 seconds to reach the ground. What is the possible length of the wing-like structure? [1]

35. Alan was observing the cross-section of a coconut below.



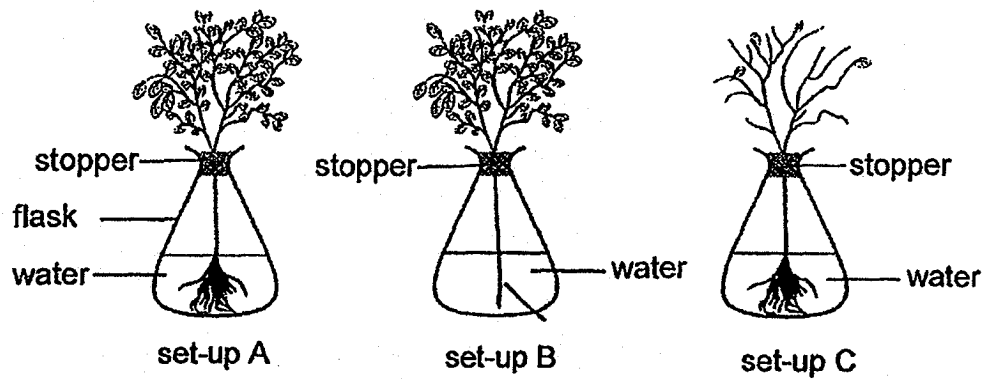
- (a) Identify two characteristics of the coconut that enabled it to be dispersed by water. [2]

- (b) Explain why seed dispersal is needed to ensure the survival of the coconut plant. [1]

- (c) Alan observed a rubber tree which dispersed its seeds by splitting of the fruit. He concluded that the coconut had a higher chance of survival than the rubber tree. Explain why. [1]

- (d) How are the reproduction of human and flowering plant similar? [1]

36. Alice set up the experiment below to find out if the number of leaves will affect the amount of water being absorbed.

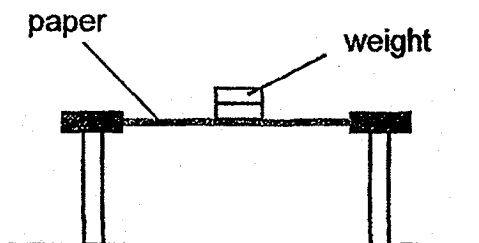


- (a) Which two set-ups should she use to test her aim?

[1]

- (b) Besides the flask and stopper, identify two other variables that she must keep the same to ensure a fair test.

[2]



Type of paper	Number of weights needed to tear the paper
Paper A	 Least number of weights Most number of weights
Paper B	
Paper C	
Paper D	

- (a) Which type of paper should Jason use to make a carrier bag for heavy gifts? Explain your answer using the result in the table. [1]

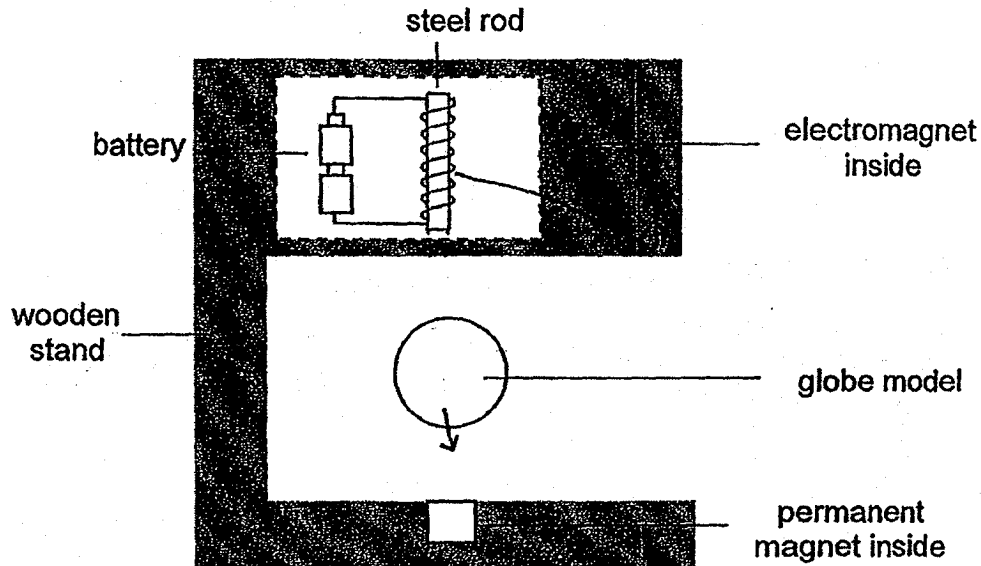
(b) What should Jason do to ensure that the results of his experiment are reliable? [1]

- (c) Using the same set-up, describe the steps that Jason can carry out to find out which type of paper is most suitable for wiping away water spills. [2]

1) Pour _____

2) Measure _____

38. A 'floating globe' desk ornament is made by fixing an electromagnet and a permanent magnet to a wooden stand as shown below. Both the electromagnets and permanent magnets are attracting the globe model causing it to float between them.



- (a) Give an example of the material the globe model should be made of in order for it to be able to float between the two magnets? [1]

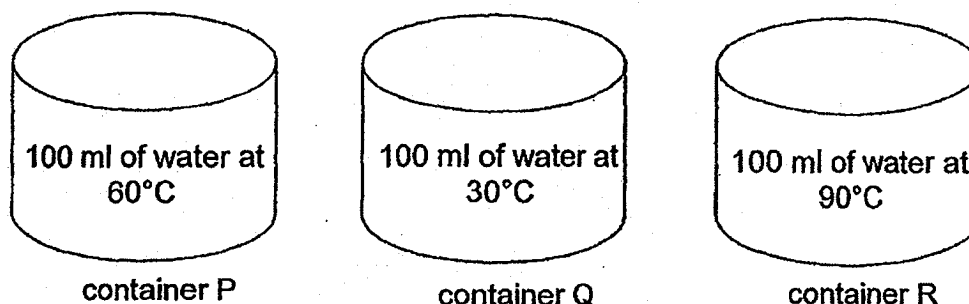
- (b) Explain what will happen to the globe model if the batteries become flat. [2]

- (c) Name two changes that can be made to the electromagnet in order for the globe model to float lower. [2]

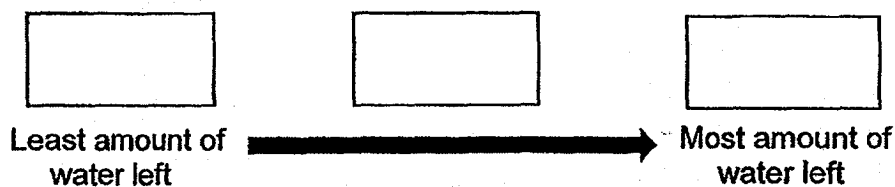
i) _____

ii) _____

39. Ali wanted to find out if the temperature of water will affect the rate of evaporation. He placed three similar containers with water of different temperature inside the living room which has a room temperature of 25°C for 30 minutes as shown in the diagram below.



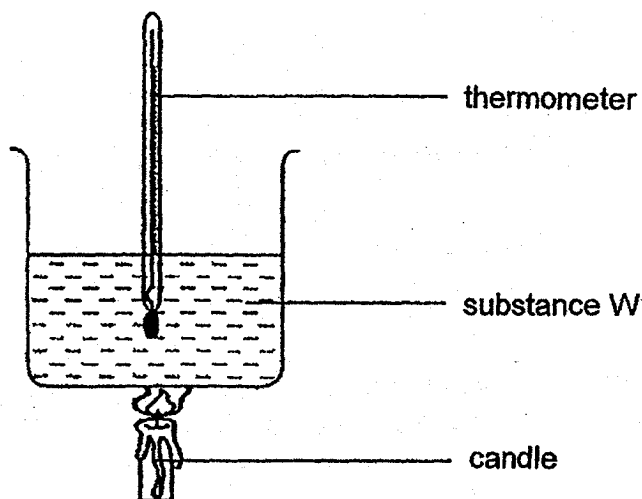
- (a) Arrange the containers according to the amount of water left after the experiment starting from the least to the most. [1]



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

- (c) Ali's friend suggested that he poured the remaining water in each container into a measuring cylinder to find out the amount of water left after the experiment instead of observing the amount of water with his eyes. How does this help to improve the experiment? [1]

40. Natasha had four substances which she wanted to make into an ice-pack to be used at home when her siblings are unwell. She heated each substance for 10 minutes and measured the temperature of the substances as shown in the diagram below.



She recorded the readings in the table below.

Substance	W	X	Y	Z
Temperature at the start ($^{\circ}\text{C}$)	25	25	25	25
Temperature after 10 minutes ($^{\circ}\text{C}$)	45	38	30	52

- (a) Which substance is most suitable to be used in the ice-pack to apply on a child who is having a fever? Explain your answer. [2]

- (b) Natasha wanted to change the amount of substance in each beaker but her father told her that if she had done that, it will no longer be a fair test. Explain why. [1]

End of paper

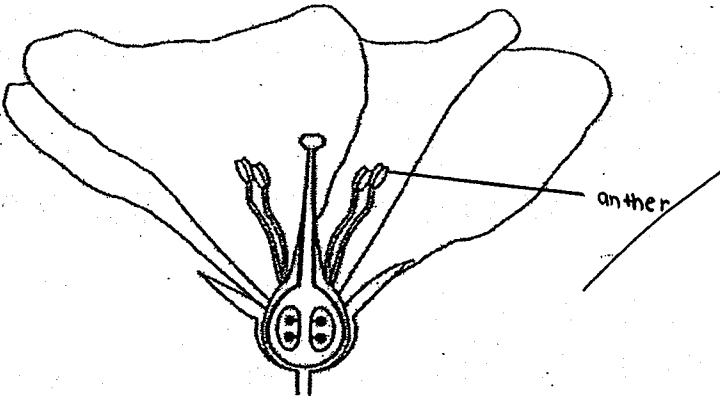
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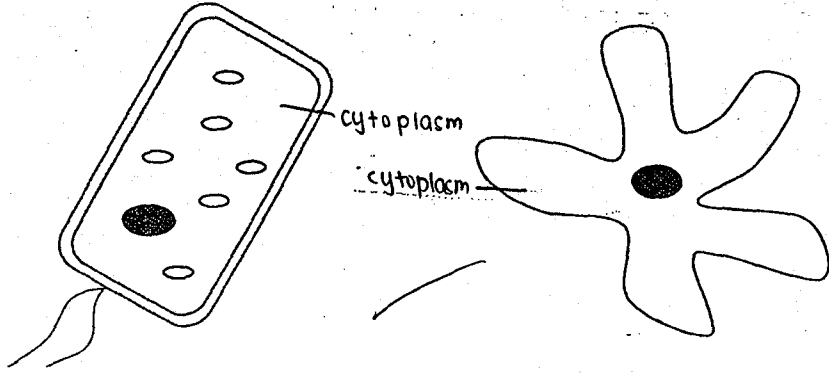
SCHOOL : NAN HUA PRIMARY SCHOOL
 LEVEL : PRIMARY 5
 SUBJECT : SCIENCE
 TERM : 2018 SA1

SECTION A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	2	4	1	2	1	3	2	3	2
Q 11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
2	1	2	2	3	4	1	3	1	4
Q 21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
4	1	2	1	4	3	4	3		

SECTION B

Q29)	a)Part X : cell wall Part Y : chloroplasts b)Gives a fixed shape to plant cell.
Q30)	a)  b)The flower has large petals to attract animals. The stigma and anthers are found inside the flowers.

	c)It helps to pollinate the flower.
Q31)	a)Group A gives birth to young but group B lay eggs. b)To ensure the continuity of its kind. c)Cutting the tube at X will prevent the sperm from the testis from reaching the penis and to the female. This will prevent the eggs in the female from being fertilised.
Q32)	a)During cellular respiration, oxygen was used and water vapour and carbon dioxide were produced. There will be more carbon dioxide and water vapour and less oxygen in exhaled air inhaled air. b)Nitrogen is not needed for any life processes.
Q33)	a)  b)No. Organism A does not feed on other organism as it has chloroplast that contain chlorophyll to photosynthesis. Organism B has no chloroplast so it feeds on other organism.
Q34)	a)Wind dispersal. b)The longer the length of the wing-like structure, the longer it take for the fruit to reach the ground. c)1cm.
Q35)	a)The coconut has a fibrous husk and has an ability to float on water. b)This is to prevent overcrowding. c)By splitting, the seeds will stay together and a competition may happen and by water dispersal, the seeds will be able to separate more and less chance of competition will happen. d)Both of them need fertilisation and fusing for the new plant or baby to be produce.

Q36)	a)Set-up A and C. b)Type of plant and temperature of water.
Q37)	a)D. The most number of weights is needed to tear it, hence it is the strongest. b)Jason should repeat the experiment. c)1)Pour 20cm³ of water onto each piece paper. 2)Measure the mass of the paper after it has absorbed the water.
Q38)	a)Iron. b)The globe modal will fall to the base of the wooden stand towards the magnet as it will be attracted by the magnet. c)i)Decrease the amount of coil around the steel rod. ii)Decrease the amount of battery to one battery only.
Q39)	a)R P Q b)The water in container R has the greater temperature difference between the water and the room temperature. The water will evaporate the faster into water vapour. c)This helps to obtain more accurate readings for the experiment.
Q40)	a)It gains heat from the candle the fastest so it is the best conductor of heat, the ice pack will gain heat from the sick child the fastest . b)By changing the amount of substance in each beaker, it will affect the amount of heat gained by the substance.

