

NANYANG PRIMARY SCHOOL

PRIMARY 3 SCIENCE

**SEMESTRAL ASSESSMENT 2
2018**

BOOKLET A

Date : 29 October 2018

Duration : 1 h 20 min

Name : _____ ()

Class: Primary 3 ()

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

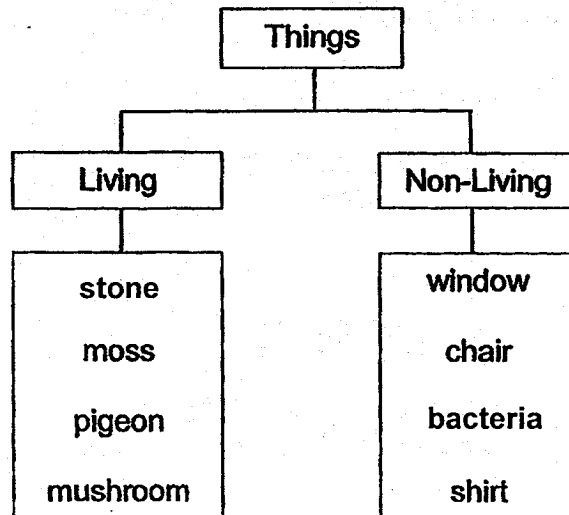
Booklet A consists of 14 printed pages including this cover page.

Section A (24 x 2 marks = 48 marks)

For each question from 1 to 24, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4).

Indicate your answer and shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.

1. The table below shows a classification diagram.



Which of the following things had been wrongly classified?

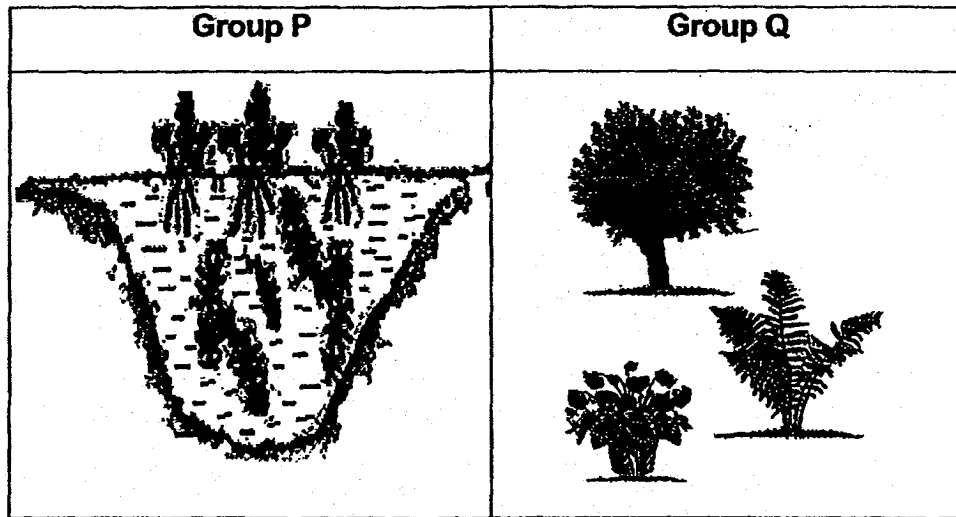
- (1) stone and bacteria
(2) pigeon and window
(3) moss and chair
(4) mushroom and shirt
2. Beng Huat observed the characteristics of 2 things, A and B. He then recorded his observation in the table below. A tick (✓) shows that the characteristic is present and a cross (×) shows that the characteristic is not present.

Characteristic	Things	
	A	B
It can reproduce.	×	✓
It can respond to changes in the surrounding.	×	✓
It can move freely from place to place.	×	×

Based on the information from the table, which one of the following best represents A and B?

	A	B
(1)	yeast	lamp
(2)	book	plant
(3)	pencil	cow
(4)	fish	eagle

3. Study the plants in the picture below.



Which one of the following correctly represents headings P and Q?

	P	Q
(1)	Big stems	Small stems
(2)	Grow in water	Grow on land
(3)	Cannot make food	Can make food
(4)	Reproduce by seeds	Reproduce by spores

4. Rashid found some plants growing at the school garden as shown below.



Moss



Banana Plant

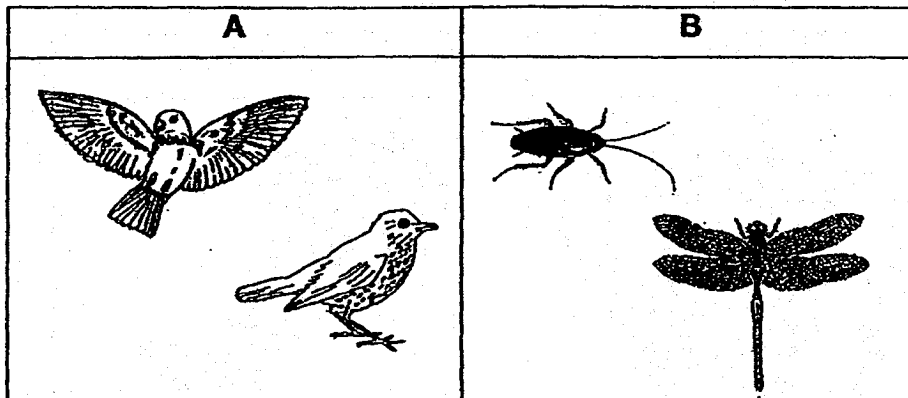
Rashid then made some statements about the moss and banana plant.

- A Both can produce fruits.
- B Both can make their own food.
- C Both can move freely from place to place.

Which of his statement(s) above is/are correct?

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

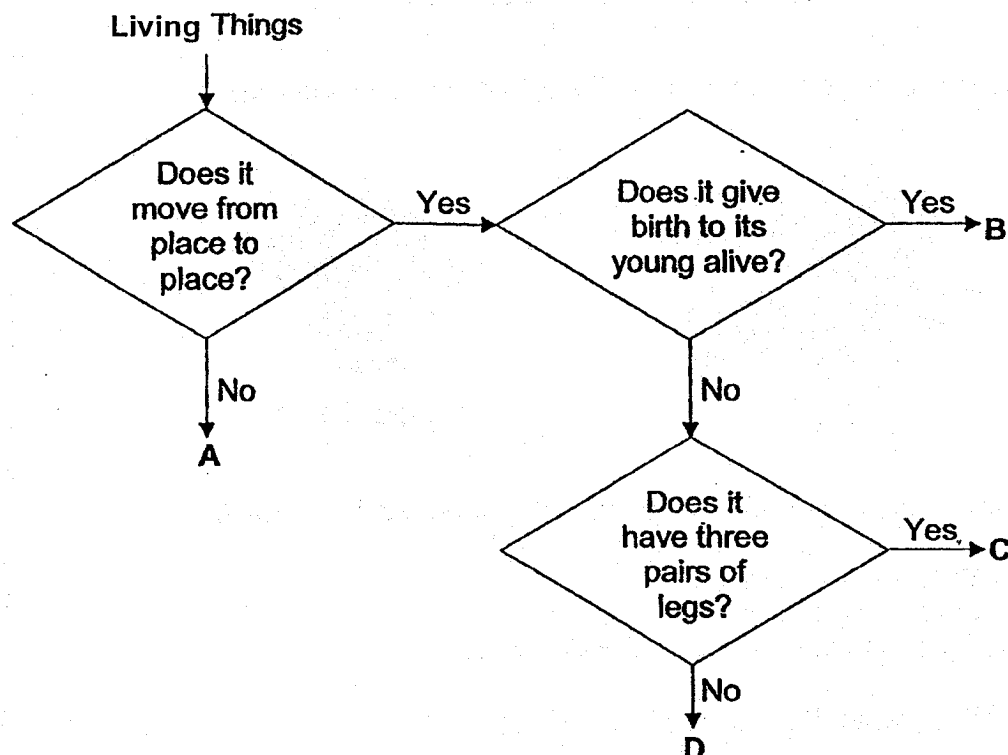
5. Study the two animal groups below.



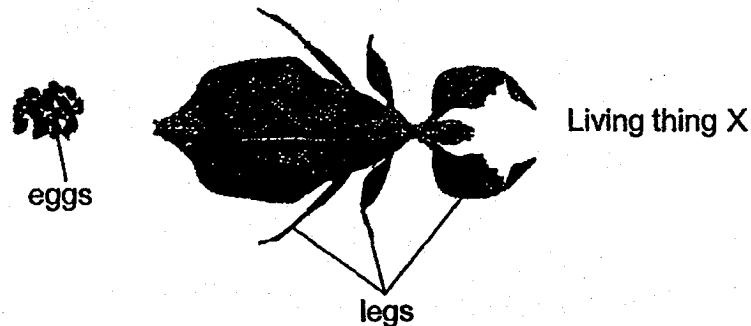
Which one of the following correctly describes animal groups A or B?

	Group	Has hard outer covering	Has 3 body parts	Give birth to its young alive
(1)	A	Yes	Yes	No
(2)	A	No	No	No
(3)	B	Yes	Yes	Yes
(4)	B	No	No	Yes

Study the following flowchart. Refer to it to answer question 6 and 7.



6. Justin spotted a living thing X in the park. It is moving on a tree, leaving behind a cluster of eggs, as shown in the picture below.



Which letter, A, B, C or D from the flowchart, would most likely represent living thing X?

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

7. Which one of the following could correctly represent the group of living things A, B, C and D?

	A	B	C	D
(1)	plant	mammal	insect	fish
(2)	mammal	insect	fish	plant
(3)	plant	insect	mammal	amphibian
(4)	insect	fish	reptile	mammal

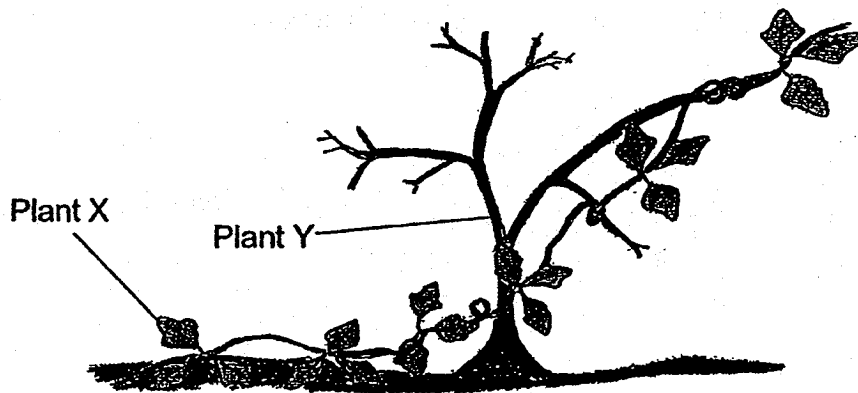
8. Xuanling observed three living things, J, K and L, and recorded her observations in a table as shown below. A tick (✓) shows that the living thing has the characteristic.

Characteristic	J	K	L
Able to make food	✓		
Reproduce by spores	✓		✓
Can only be seen with a microscope		✓	✓

Based on the information above, which one of the following correctly represents the living things J, K and L?

	J	K	L
(1)	fern	mould	yeast
(2)	bacteria	yeast	mould
(3)	fern	bacteria	mould
(4)	yeast	fern	yeast

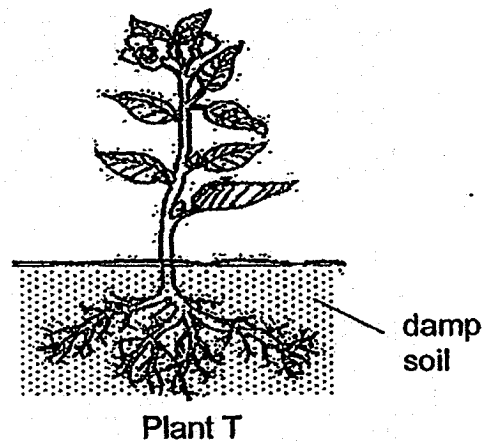
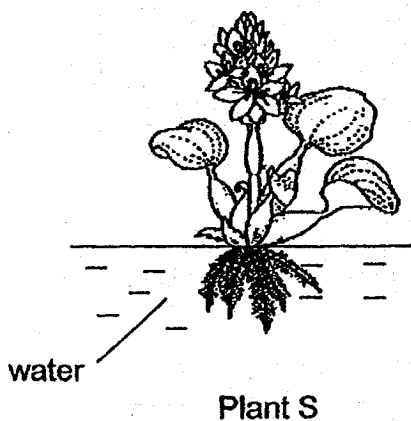
9. Study the picture below.



Which one of the following best explains why plant X climbed up plant Y?

- (1) It needed to get more air.
- (2) It needed to get more water.
- (3) It needed to get food from plant Y.
- (4) It needed to get more sunlight to make food.

10. Study the pictures below.



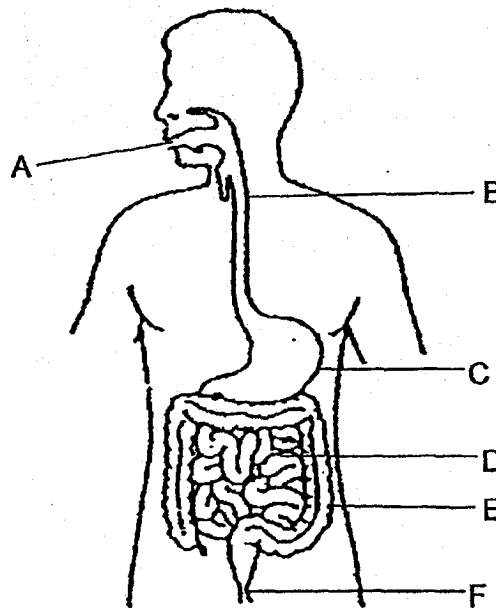
Which one of the following statements explains the function of roots for both plant S and plant T?

- (1) The roots absorb water for the plants.
- (2) The roots hold the plants firmly to the ground.
- (3) The roots trap light for the plants to make food.
- (4) The roots hold the leaves towards sunlight for them to make food.

11. Which one of the following correctly matches the human system to its function?

	System	Function
(1)	Circulatory system	Carries waste materials away from different parts of the body
(2)	Muscular system	Gives the body shape
(3)	Respiratory system	Helps different parts of the body to move
(4)	Skeletal system	Absorbs digested substances to be used by different parts of the body

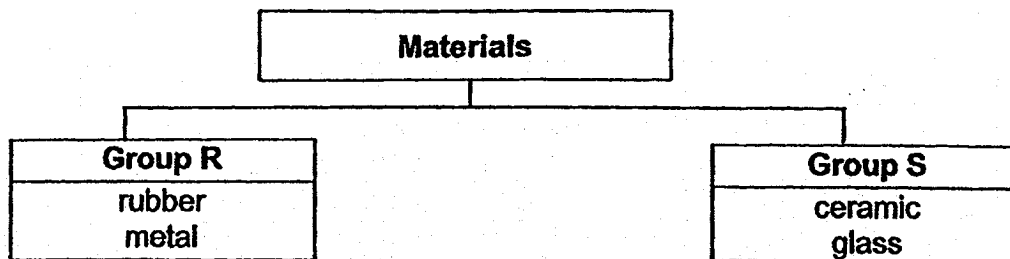
12. The human digestive system is shown in the figure below.



Which one of the following correctly identifies the part(s) where digestion of food takes place?

- | | | | |
|-----|-----------------|-----|------------------|
| (1) | A only | (2) | A, B and C only |
| (3) | A, C and D only | (4) | All of the above |

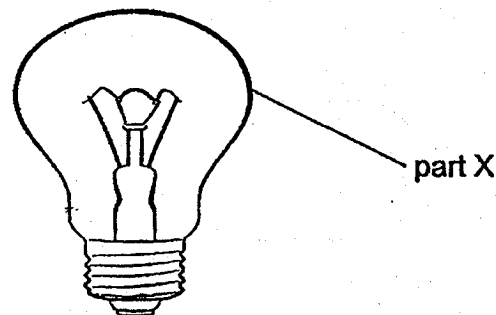
13. Study the classification diagram below. The objects had been grouped according to the properties of the materials that they are made of.



Which one of the following correctly represents group R and group S?

	Group R	Group S
(1)	stiff	flexible
(2)	float on water	sink in water
(3)	waterproof	not waterproof
(4)	strong	not strong

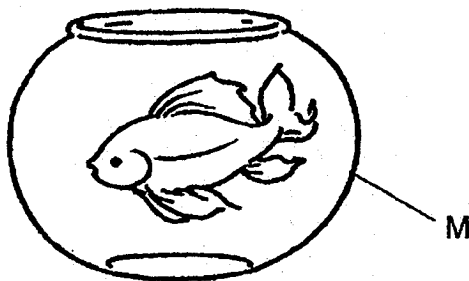
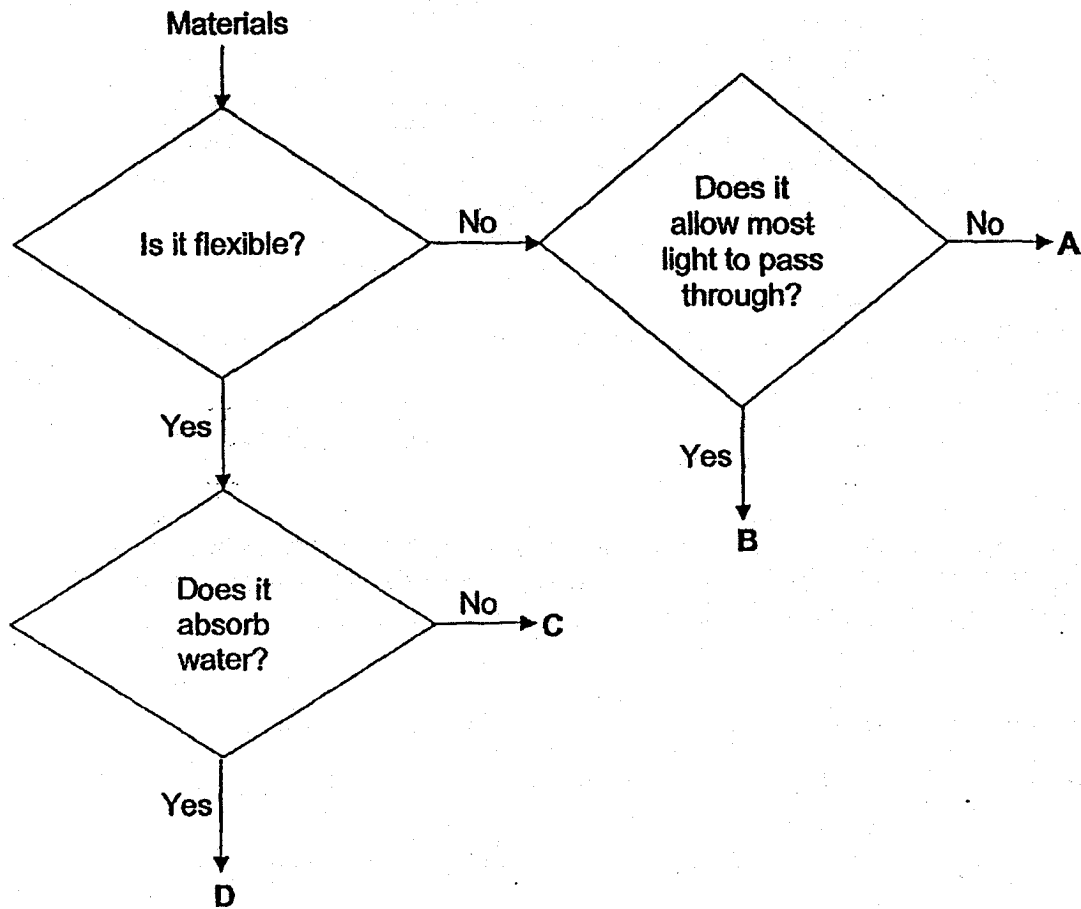
14. Study the picture below. Part X is the cover of the light bulb.



Which one of the following pairs of properties are important in order for part X to function properly?

	property 1	property 2
(1)	waterproof	does not allow light to pass through
(2)	not waterproof	allows most light to pass through
(3)	waterproof	allows most light to pass through
(4)	not waterproof	does not allow light to pass through

15. Study the flowchart below.

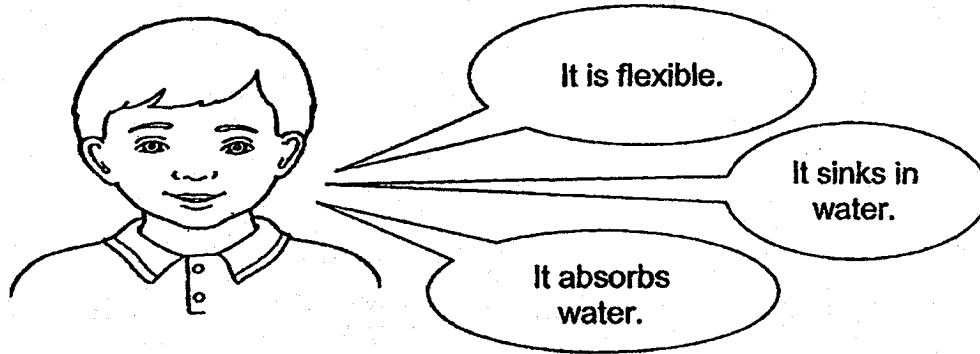


Based on the flowchart, which material A, B, C or D, could be used to make part M of the fish bowl above?

- (1) A
(3) C

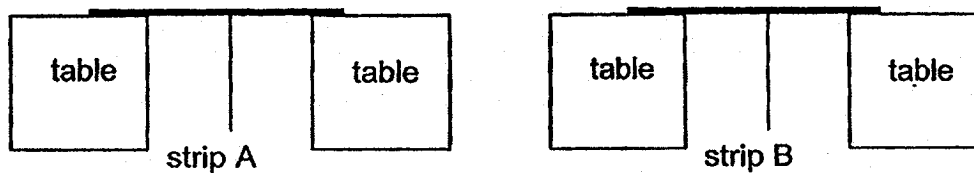
- (2) B
(4) D

16. John made the following observations of a material.

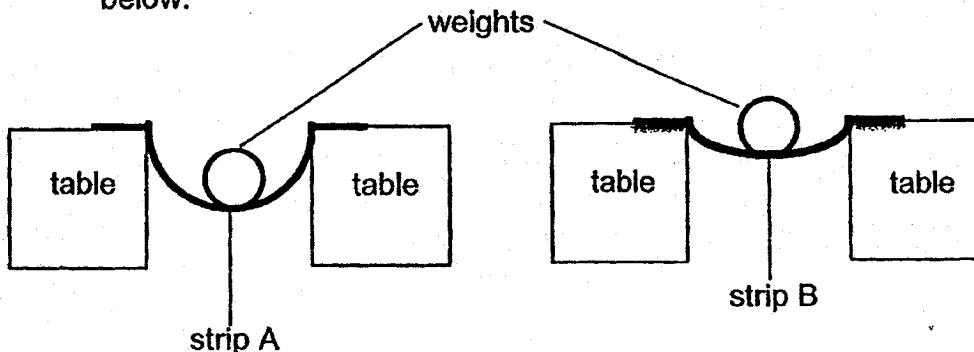


Which one of the following is most likely the material he had observed?

- | | |
|------------|------------|
| (1) wood | (2) metal |
| (3) cotton | (4) rubber |
17. Adam conducted an experiment. He used two strips of materials, A and B, with the same thickness. He placed the strips across two tables which are of the same distance apart as shown below.



He placed the same weight, 5kg, on the two strips and drew the results below.



Based only on the results above, what can Adam conclude about strips A and B?

- | |
|---|
| (1) Strip A is stronger than strip B |
| (2) Strip B is stronger than strip A |
| (3) Strip A is more flexible than strip B |
| (4) Strip B is more flexible than strip A |

18. The table below shows a few objects made of different materials.

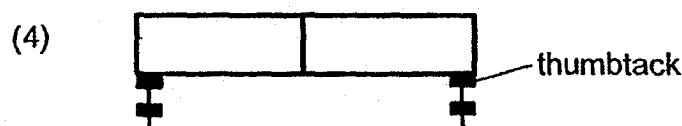
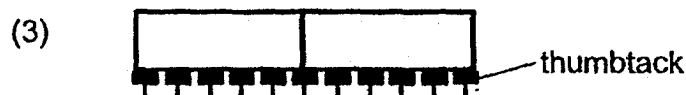
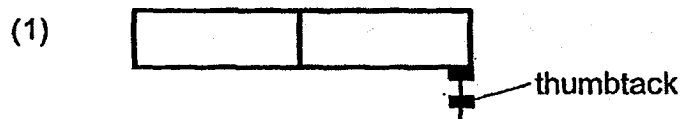
A	Iron bar
B	Steel ruler
C	Glass marble
D	Aluminium foil

Which of the objects above are made of magnetic materials?

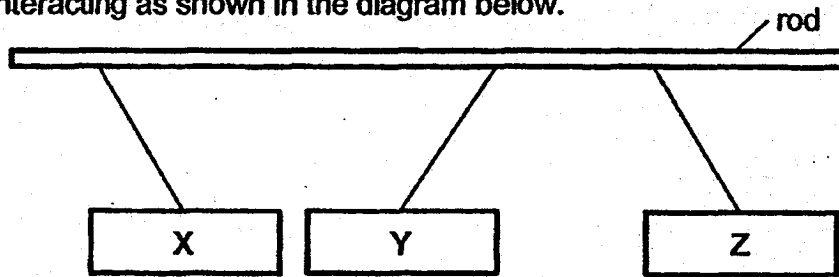
- (1) A and B only
- (2) A and C only
- (3) C and D only
- (4) A, B and D only

19. Mark placed a bar magnet in a tray filled with thumbtacks. He then took out the bar magnet from the tray.

Which one of the diagrams below shows the most likely positions of the thumbtacks on the magnet?



20. Three bars, X, Y and Z, are freely suspended from a rod and ended up interacting as shown in the diagram below.



Based on the result above, which one of the following statements and explanation is true?

- (1) Only bar X is a magnet because it attracts bar Y.
 - (2) Only bar Y is a magnet because it attracts bar X.
 - (3) Bars Y and Z are magnets because they repel each other.
 - (4) Bars X and Y are magnets because they attract each other.
21. The table below shows a few objects.

A	compass
B	maglev train
C	stapler

Which of the object(s) above make use of magnets?

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

22. Michael created a temporary magnet using the stroke method correctly. He changed the number of strokes used to create the temporary magnet. The results are shown in the table below.

Number of strokes	Number of paper clips it could attract
20	3
30	6
40	8
50	13

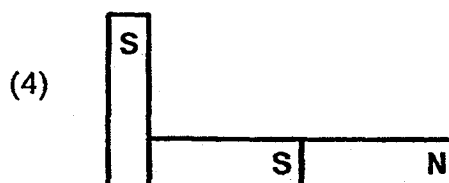
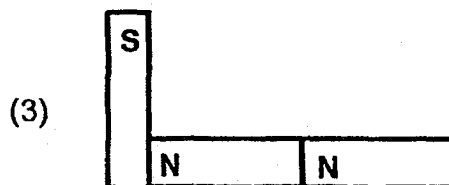
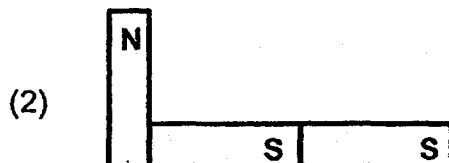
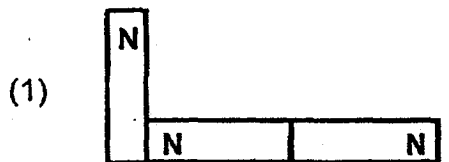
What can Michael conclude from the results in the table above?

	Strokes	Strength of temporary magnet
(1)	Less	More
(2)	Less	No change
(3)	More	Less
(4)	More	More

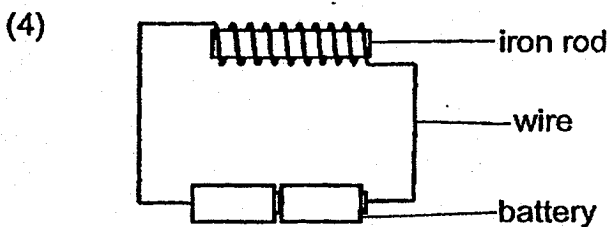
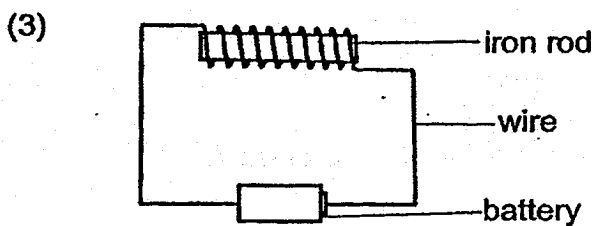
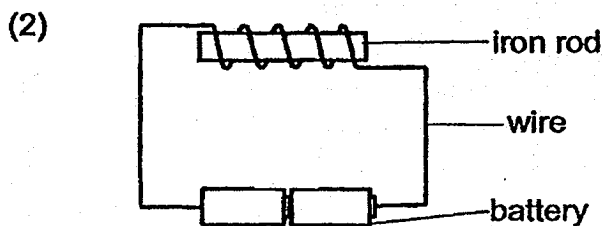
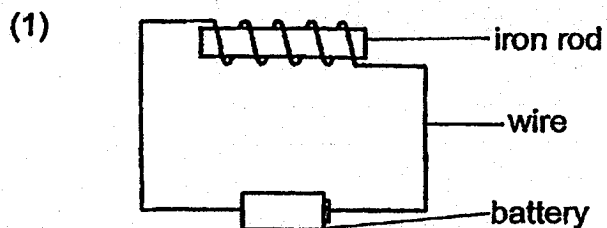
23. Beth arranged three bar magnets as shown below. The magnets did not repel each other.



Which one of the following diagrams shows the correct poles for the three magnets?



24. The set-ups below made use of identical batteries, iron rods and wires. Which iron rod would attract the most number of steel pins?





NANYANG PRIMARY SCHOOL

PRIMARY 3 SCIENCE

**SEMESTRAL ASSESSMENT 2
2018**

BOOKLET B

Date : 29 October 2018

Duration : 1 h 20 min

Name : _____ ()

Class: Primary 3 ()

Marks Scored:

Booklet A:		48
Booklet B :		32
Total :		80

Any query on marks awarded should be raised by 5 November 2018. We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.

Parent's signature:

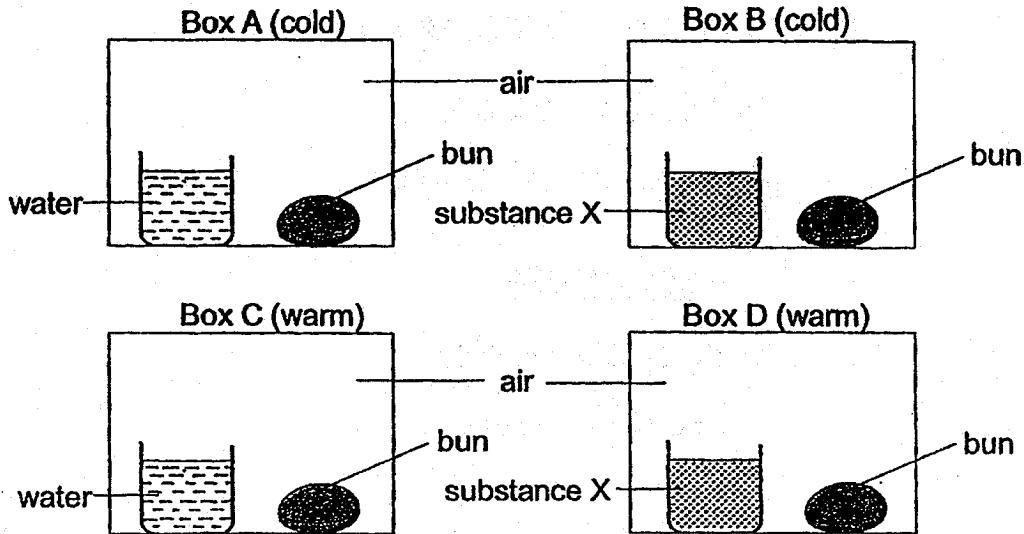
**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.**

Booklet B consists of 12 printed pages including this cover page.

Section B (32 marks)

Write your answers to questions 25 to 34 in the spaces provided.

25. Wilson placed four buns in four identical sealed boxes. Boxes A and B were placed in a cold place and boxes C and D were placed in a warm place. He placed a beaker of water in Box A and Box C. Substance X was used to absorb the moisture in Box B and Box D.

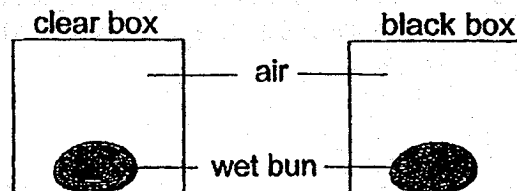


- (a) (i) In which box, A, B, C or D, would mould first appear on the bun? [1]

Box _____

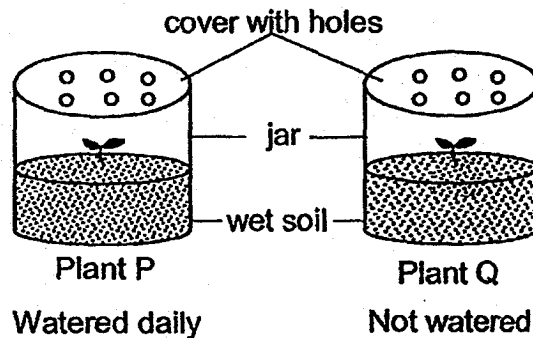
- (ii) Explain the reason for the answer in part (i). [1]

Wilson conducted another experiment by placing a wet bun in a clear box and a black box as shown below. He found there was mould growing on both buns after 2 weeks.

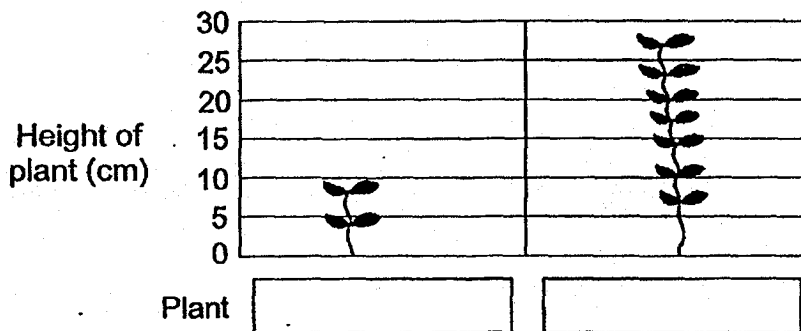


- (b) What could he conclude from the experiment? [1]

26. Nadia prepared two identical jars of similar plants, P and Q. Each plant was about 5cm tall at the start of the experiment, as shown in the diagram below. Both set-ups were placed next to a window. Only one plant was watered daily.



She measured and recorded the height of the plants on the tenth day as shown in the graph below.

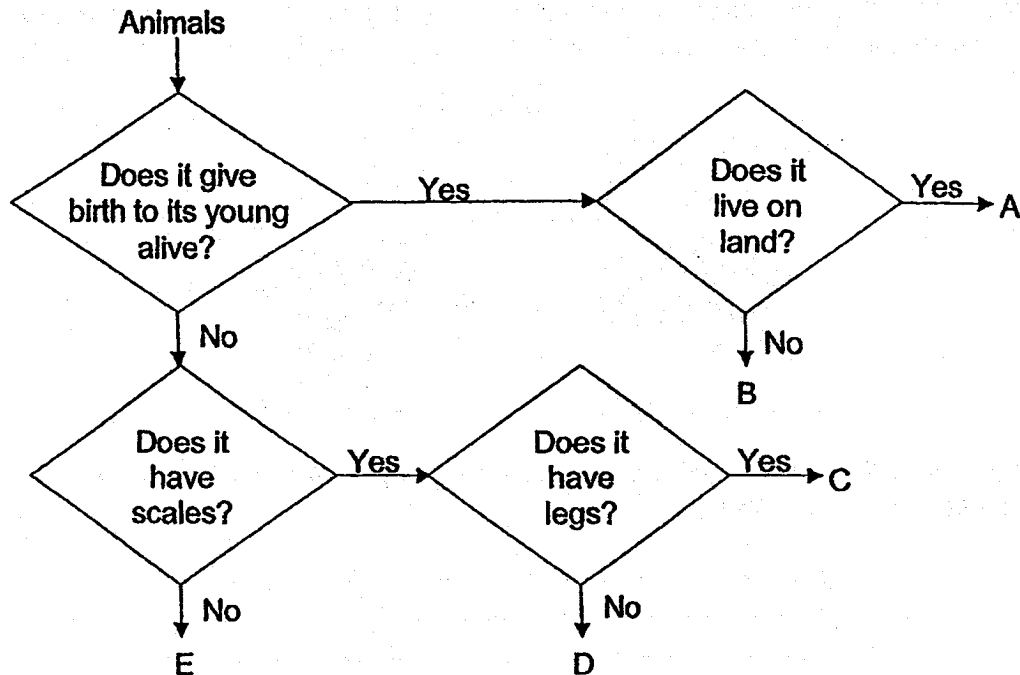


- (a) (i) Fill in the boxes above with letters P and Q to correctly represent the height of the plants. [1]
- (ii) Explain why Nadia placed the plants next to a window. [1]

After the tenth day, Nadia observed the leaves of Plants P and Q. On one of the plants, she found spores growing on the underside of the leaves. Nadia said that this plant has the same method of reproduction as a rose plant.

- (b) Explain why Nadia was wrong. [2]

27. The flowchart below is used to classify 5 animals, A, B, C, D and E.



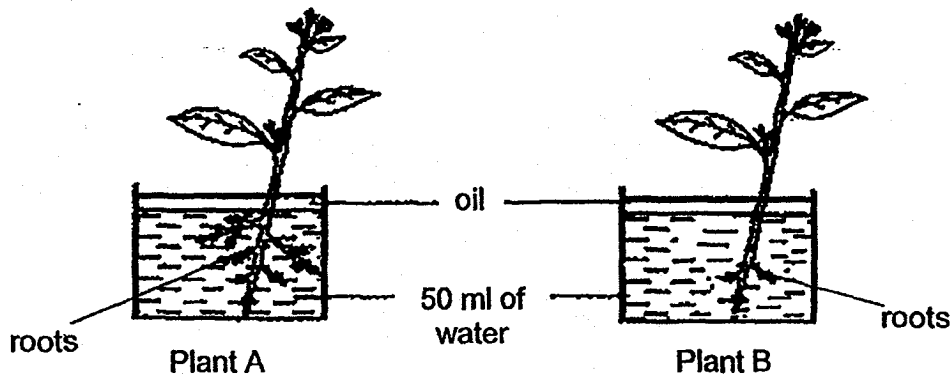
- (a) Based only on the flowchart, state a difference between animals B and C. [1]

- (b) Based on the flowchart, which of the following animals could correctly represent animals A, B, C, D and E? Write the letters A, B, C, D and E in the table below. (Each letter should be used once only). [2]

	Animal
i) goldfish	
ii) monkey	
iii) frog	
iv) dolphin	
v) lizard	

- (c) Jiang Wen said that crocodile is an example of animal E. Explain why he is wrong. [1]

28. Alle conducted an experiment as shown below using 2 similar plants. Some of Plant B's roots had been removed. She then added oil to ensure that there was no water lost to the surroundings. She placed both plants next to a window where there was enough sunlight for the plants.



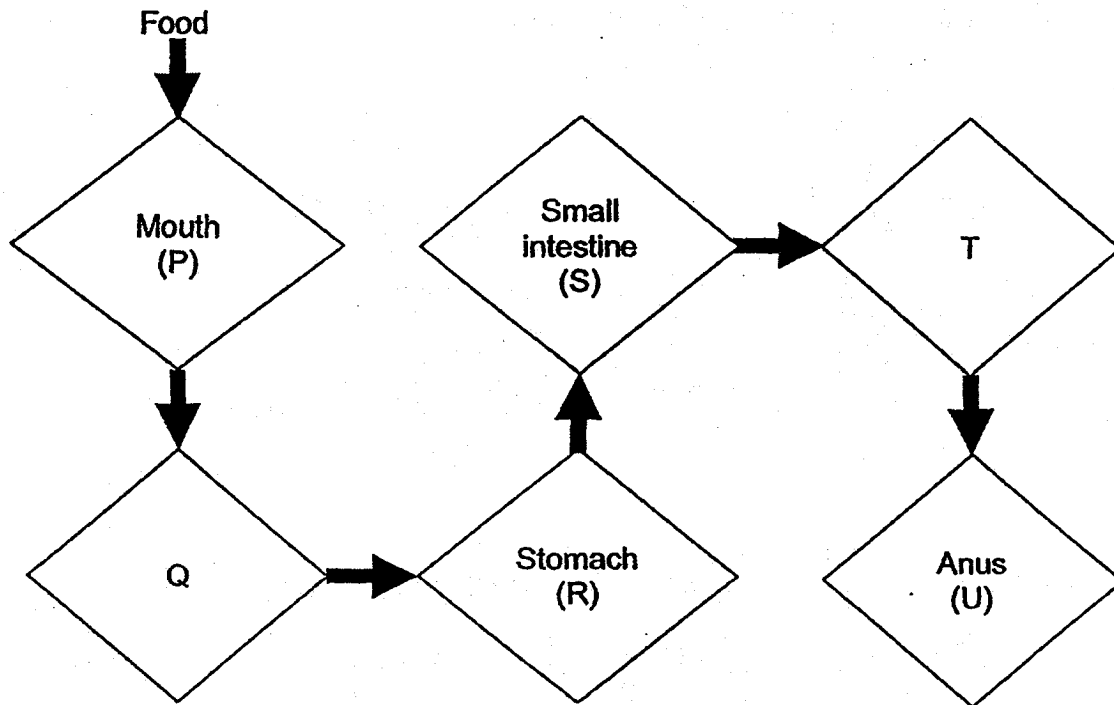
After 5 days, she recorded the amount of water left in each beaker.

Beaker	Amount of water left after 5 days
A	20 ml
B	45 ml

- (a) Based on the results above, state the function of the roots. [1]

- (b) After a few more days, plant B died but plant A did not die. Explain the observation. [2]

29. The flowchart below shows the pathway of digestion in the human body. The letters P, Q, R, S, T and U represent the different parts of the human digestive system.



- (a) Identify parts Q and T.

[2]

Q: _____

T: _____

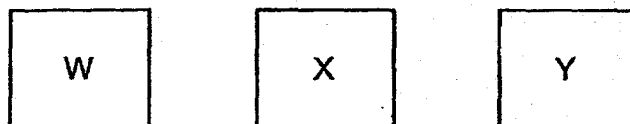
- (b) State all the parts (P, Q, R, S, T, U) where digestive juices can be found.

[1]

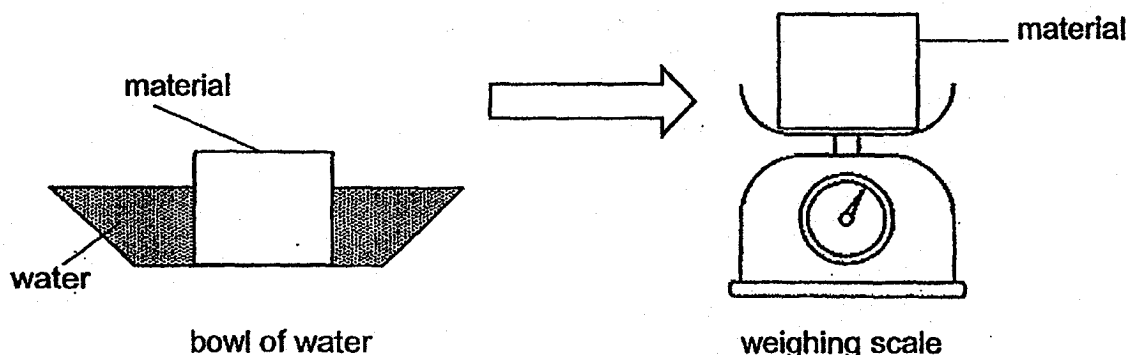
- (c) After digestion of food is completed, state another process that happens in the small intestine before undigested food is passed on to part T. [1]

30. Jane conducted an experiment to find out which material absorbs water. She used three identical materials, W, X, and Y.

Each material is of the same size and thickness and weigh 100g.



She put each material, one at a time, into a bowl of water for five seconds. She then took the materials out of the bowl. She ensured that no water dripped from the materials and measured the new weight of each material.



The results are shown below.

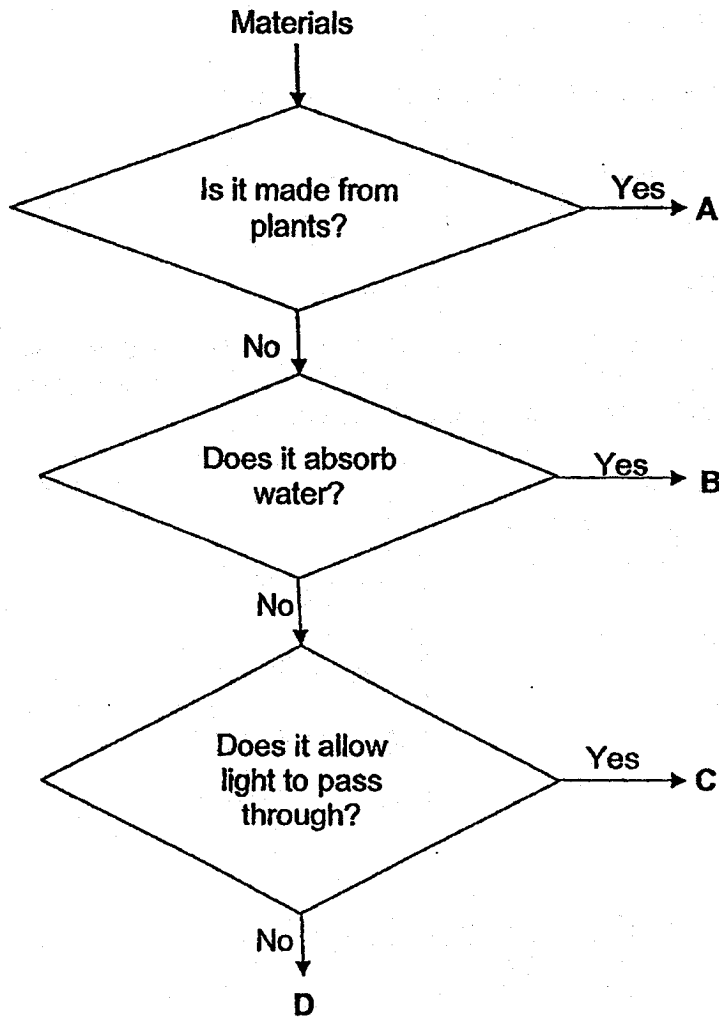
material	Original weight (g)	New weight(g)
W	100	100
X	100	180
Y	100	250

She concluded that the greater the amount of water the material absorbed, the heavier the material.

- (a) Based on the results above, which material is most suitable to make raincoats? Explain your answer. [1]

- (b) Based on the results above, which material is most suitable to make a bath towel? Explain your answer. [1]

31. The flowchart below is used to classify 4 materials, A, B, C and D.



(a) Based on the flowchart above, state **two** similarities between materials C and D. [1]

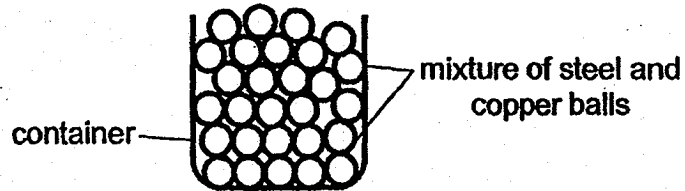
(i) _____

(ii) _____

(b) Based on the flowchart above, match the objects below with the correct material that they are most likely made of. Write A, B, C or D in the boxes provided. [2]

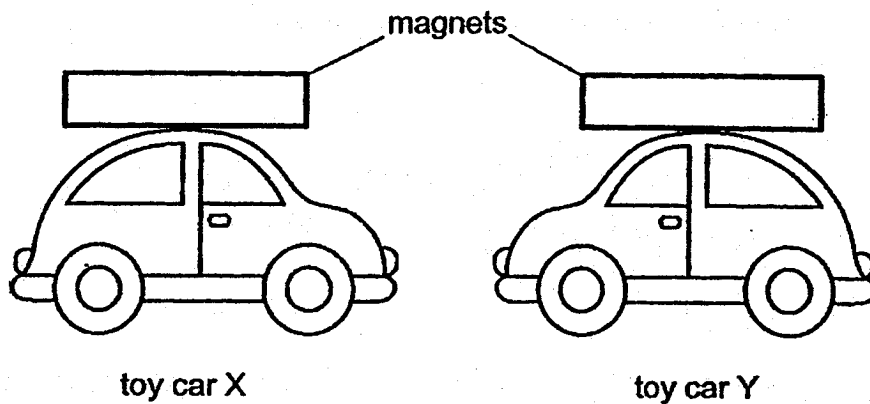
gold ring	wooden box	window glass	woollen jacket

32. John mixed a container of steel balls with a container of copper balls. The steel and copper balls were of the same size, shape and colour.



Using a bar magnet, describe what he should do to separate the steel balls from the copper balls. Explain your answer. [2]

33. Bala attached similar magnets to the top of 2 toy cars as shown in the diagram below.



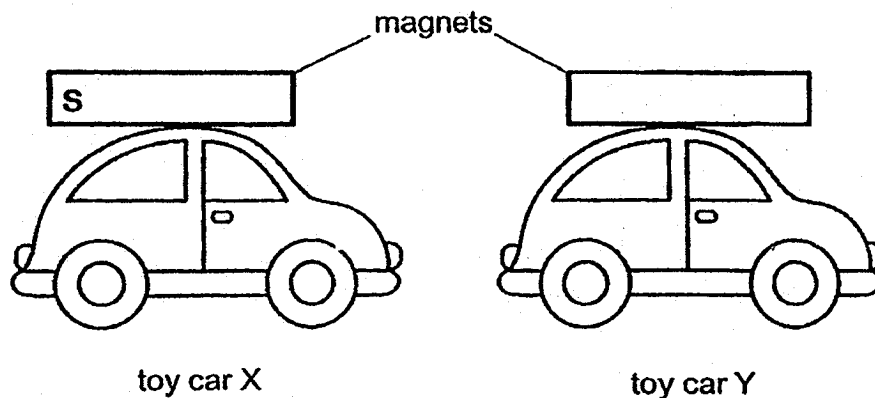
- (a) When toy car X was brought close to toy car Y, toy car Y moved away. Explain why the above observation happened.

[2]

Bala turned toy car Y the other way round such that both toy cars are now facing the same direction.

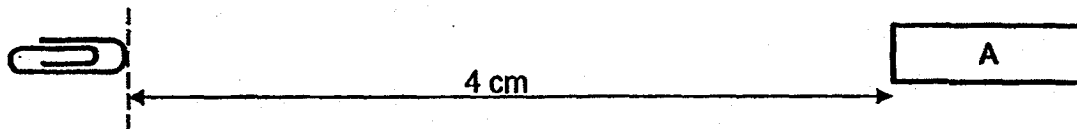
- (b) One of the poles of the magnet on toy car X is shown below. Label the poles of the magnet on toy car Y below.

[1]



34. Mei Ling set up an experiment to find out the magnetic strength of 3 magnets, A, B and C. She placed the 3 magnets at the same distance away from a steel paper clip. Each magnet was then moved slowly towards the paper clip. She stopped moving the magnet when it attracted the paper clip. The diagram below shows the start of the experiment.

Start



The table below shows the results of the experiment.

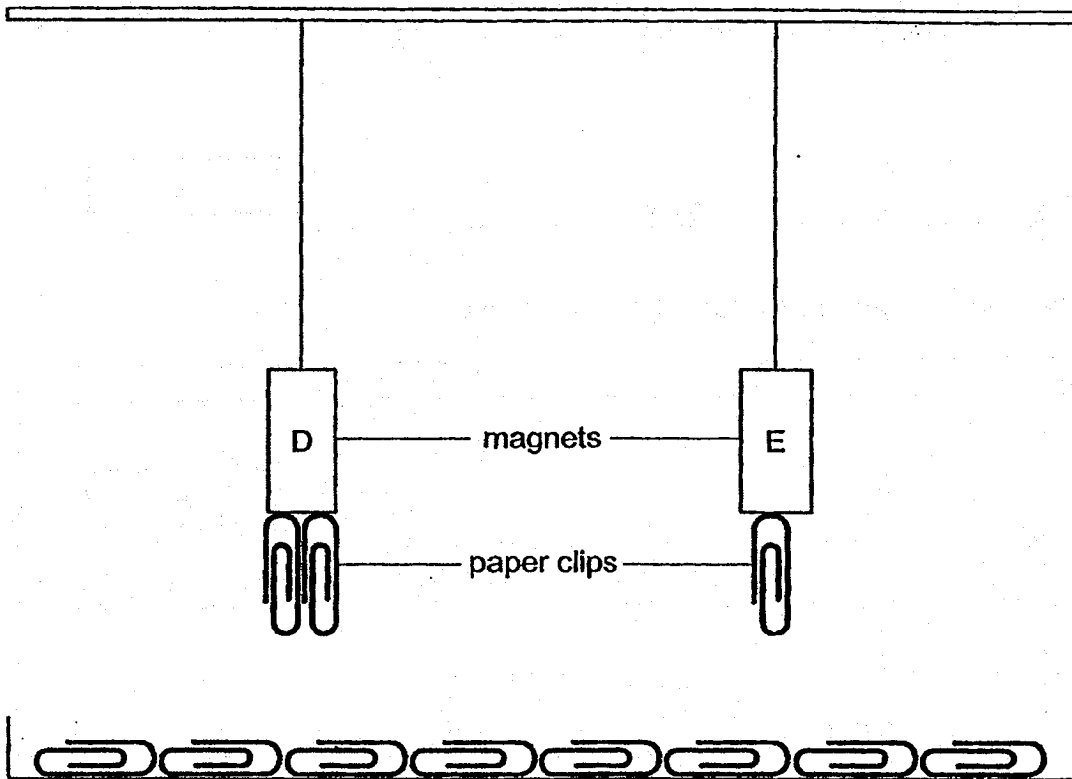
Results	

- (a) Arrange the magnets from the strongest to the weakest. Write the letters A, B and C in the table below. [1]

Strongest → Weakest		

- (b) Explain your answer for the strongest magnet stated in (a). [1]

She conducted another experiment with magnets D and E. She suspended both magnets at an equal distance above a tray of paper clips. Both magnets attracted paper clips as shown in the diagram below.



- (c) Mei Ling said that since magnets D and E attracted paper clips from the same distance, they are equally strong. Explain why she is wrong.

[2]

P3 Science SA2 2018

Booklet A

1	1	11	1	21	3
2	2	12	3	22	4
3	2	13	4	23	2
4	2	14	3	24	4
5	2	15	2		
6	3	16	3		
7	1	17	3		
8	3	18	1		
9	4	19	4		
10	1	20	3		

Booklet B

Q. No	Answer
25(ai)	Box C
(aii)	Box C is warm and has moisture/water and mould needs both to grow. Must mention the conditions in Box C.
(b)	Light is not needed for mould to grow.
26(ai)	Q, P
(aii)	Plants will be able to get sunlight to make food.
(bi)	A rose plant reproduces by seeds but the plant reproduces by spores. Must mention the comparison of the rose plant and the plant.
27a	Animal B gives birth to its young alive but Animal C does not give birth to its young alive/does not/unlike animal C/lay eggs. Must state the difference.
b(i) to (v)	D, A, E, B, C
(c)	Crocodile has scales as its body covering but Animal E does not have a body covering of scales. Must show comparison of both animals.
28(a)	Roots absorb/take in water for the plant.
(b)	Plant B has less roots than Plant A and did not have enough water to survive. Must mention the comparison of roots and why Plant B died.

29(a)	Q: Gullet T: Large Intestine							
(b)	Digestive juice can be found in parts P, R and S.							
(c)	Digested food is absorbed into the blood/bloodstream. Must mention the function of small intestine.							
30(a)	W. It did not absorb water and it will keep the user dry. Must mention Material(M), Property(P) and Function (F)							
(b)	Y. It absorbed the most amount of water/most absorbent. It will help dry the user after a bath. Must mention Material(M), Property(P) and Function (F)							
31(ai) & (aii)	They are not made from plants and do not absorb water/ waterproof / not absorbent.							
(b)	D,A,C,B							
32	Use the magnet to attract the steel balls, as steel is a magnetic material but copper is a non-magnetic material. Must mention why the magnet can attract the steel balls and not the copper balls.							
33 (a)	The like poles of the 2 magnets are facing each other, causing them to repel each other.							
(b)	<table border="1"><tr><td style="padding: 5px;">S</td><td style="padding: 5px;">N</td></tr></table>		S	N				
S	N							
34 (a)	<table border="1"><tr><td style="padding: 5px;">Strongest</td><td style="width: 50px;"></td><td style="padding: 5px;">Weakest</td></tr><tr><td style="padding: 5px;">A</td><td style="padding: 5px;">C</td><td style="padding: 5px;">B</td></tr></table>		Strongest		Weakest	A	C	B
Strongest		Weakest						
A	C	B						
(b)	It was able to attract the paper clip from the furthest distance (compared to the rest). Must show comparison of distance.							
(c)	She is wrong because magnet D was able to attract more paper clips than magnet E although they are placed at the same distance away. Therefore, magnet D is a stronger magnet than magnet E. Must show the comparison of number of paper clips attracted of both magnets.							