NANYANG PRIMARY SCHOOL

PRIMARY 3 SCIENCE

SEMESTRAL ASSESSMENT 2
2017

BOOKLET A

Date : 30th Oct 2017
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 18 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). **Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet provided.**

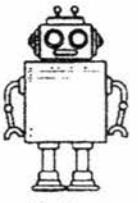
1. The table below shows the characteristics of things A, B and C.

Thing	Can move freely from one place to another	Can reproduce	Can grow
A	✓	X	X
B	✓	✓	✓
C	X	✓	✓

Based on the table above, which one of the following could represent things A, B and C?

	A	B	C
(1)	sunflower plant	shark	toy car
(2)	toy car	shark	sunflower plant
(3)	toy car	sunflower plant	shark
(4)	shark	toy car	sunflower plant

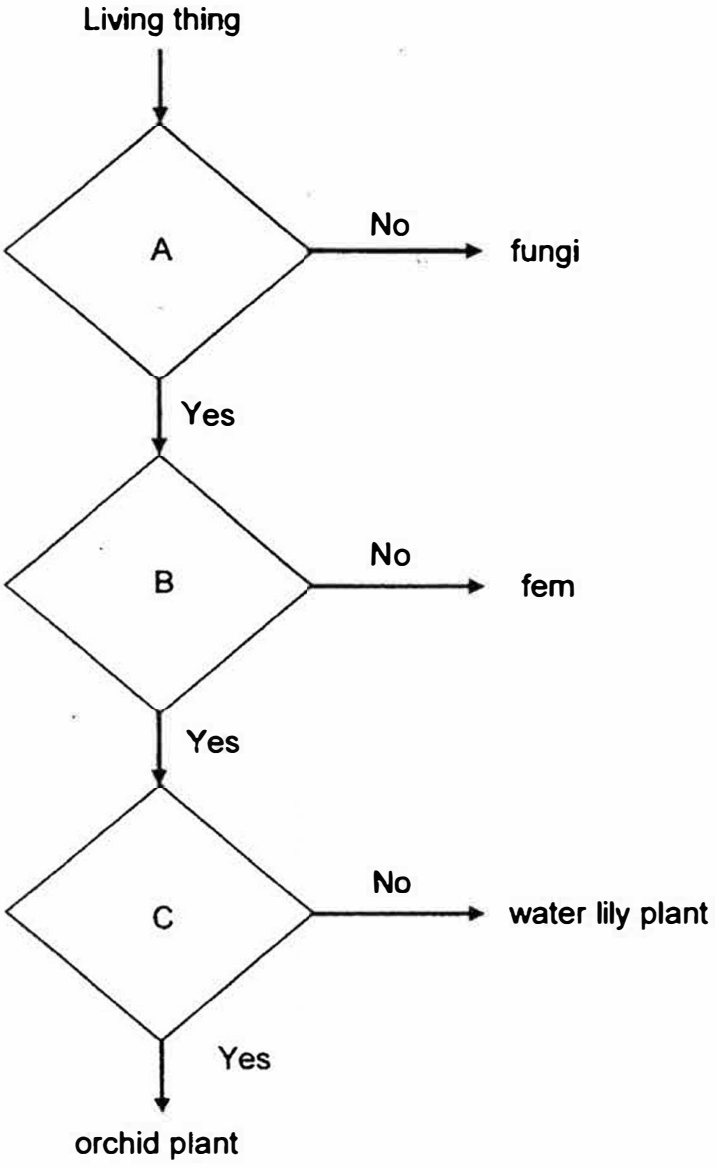
2. Study the two groups of things below.

Group X	Group Y
 Bacteria  Crocodile  Bird's Nest Fern	 Spectacles  Robot  Camera

Which one of the following descriptions about the things in groups X and Y is **false**?

	Group X	Group Y
(1)	can grow	cannot grow
(2)	can reproduce	cannot reproduce
(3)	can make their own food	cannot make their own food
(4)	can respond to surrounding changes	cannot respond to surrounding changes

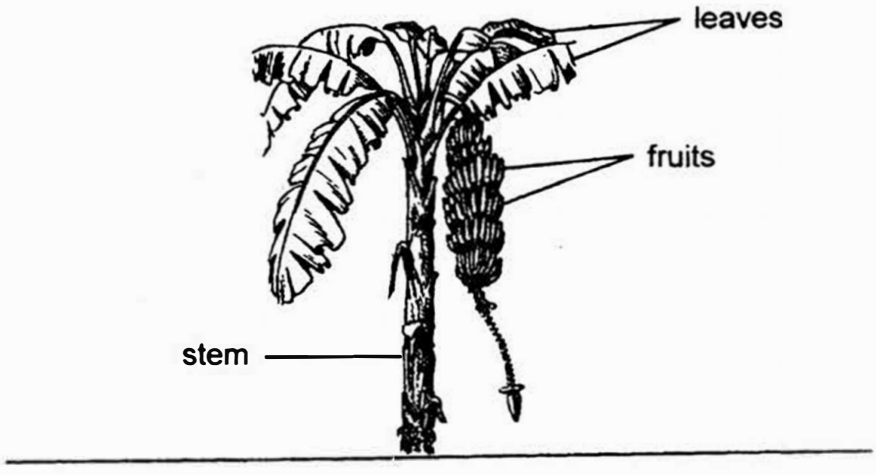
3. Study the flowchart below.



Based on the flowchart above, which one of the following best represents questions A, B and C?

	A	B	C
(1)	Does it reproduce by seeds?	Does it make its own food?	Does it grow in water?
(2)	Does it make its own food?	Does it reproduce by spores?	Does it grow on land?
(3)	Does it reproduce by spores?	Does it make its own food?	Does it grow in water?
(4)	Does it make its own food?	Does it reproduce by seeds?	Does it grow on land?

4. The diagram below shows plant X.



plant X

Based only on the diagram above, which one of the following statements about plant X is **true**?

(1) It is a water plant.
(2) It is a flowering plant.
(3) It reproduces by spores.
(4) It has poisonous leaves.

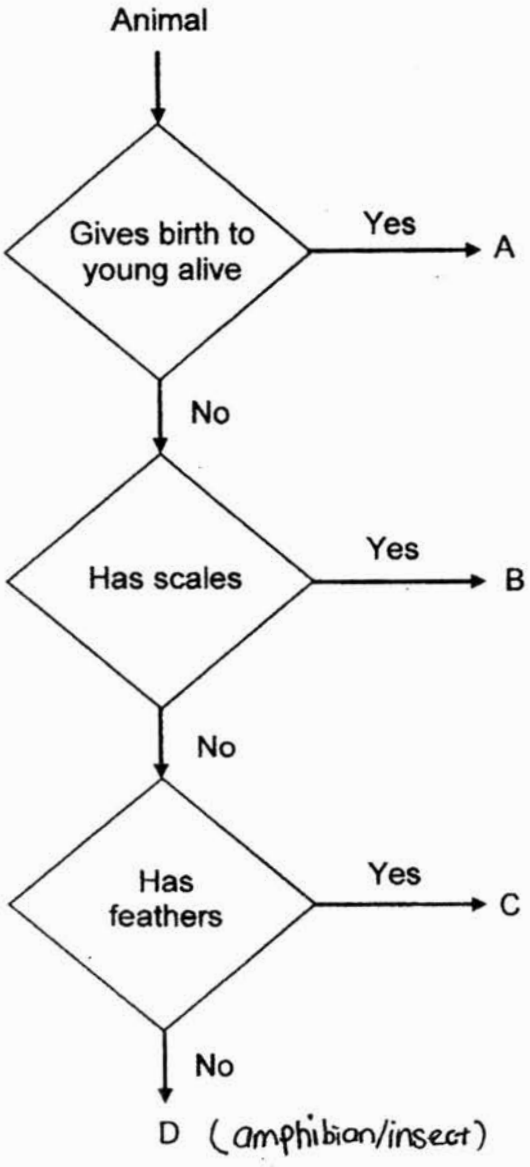
5. Study the table below. W, X, Y and Z represent the characteristics of animals. A tick (✓) shows that the animal has that characteristic.

	W	X	Y	Z
rabbit		✓		
cockroach	✓		✓	
goldfish			✓	✓
toad			✓	

Which of the following characteristics of animals could W, X, Y and Z represent?

	W	X	Y	Z
(1)	has 6 legs	lays eggs	gives birth to young alive	has moist skin
(2)	lays eggs	has feathers	gives birth to young alive	has scales
(3)	has 6 legs	gives birth to young alive	lays eggs	has scales
(4)	has hard outer covering	gives birth to young alive	lays eggs	has moist skin

6. Study the flowchart below carefully.



Which of the following most likely represents a turtle?

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

7. Study the table below carefully.

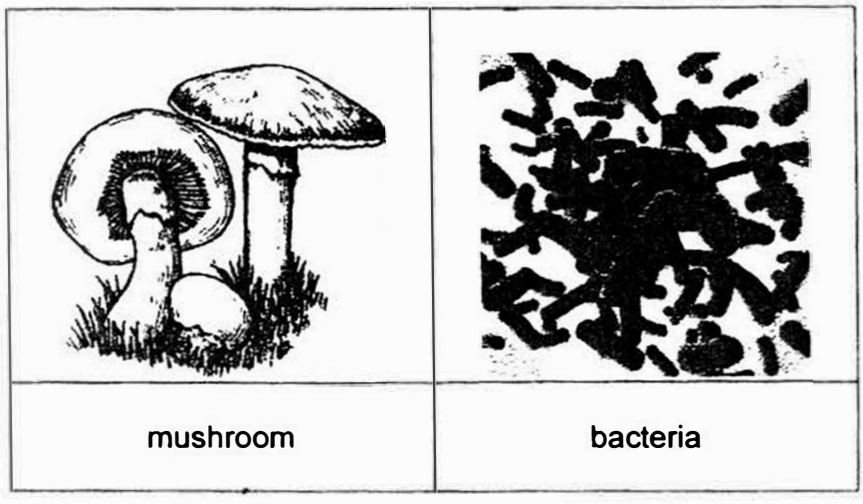
Types of outer covering			
P	Q	R	S
bat dolphin lion	crocodile goldfish lizard	eagle ostrich parrot	frog salamander snake

Bethany classified the animals according to their outer covering. She had classified an animal wrongly.

Which animal was classified **wrongly**?

(1) bat
(2) eagle
(3) snake
(4) goldfish

8. Study the diagram below.

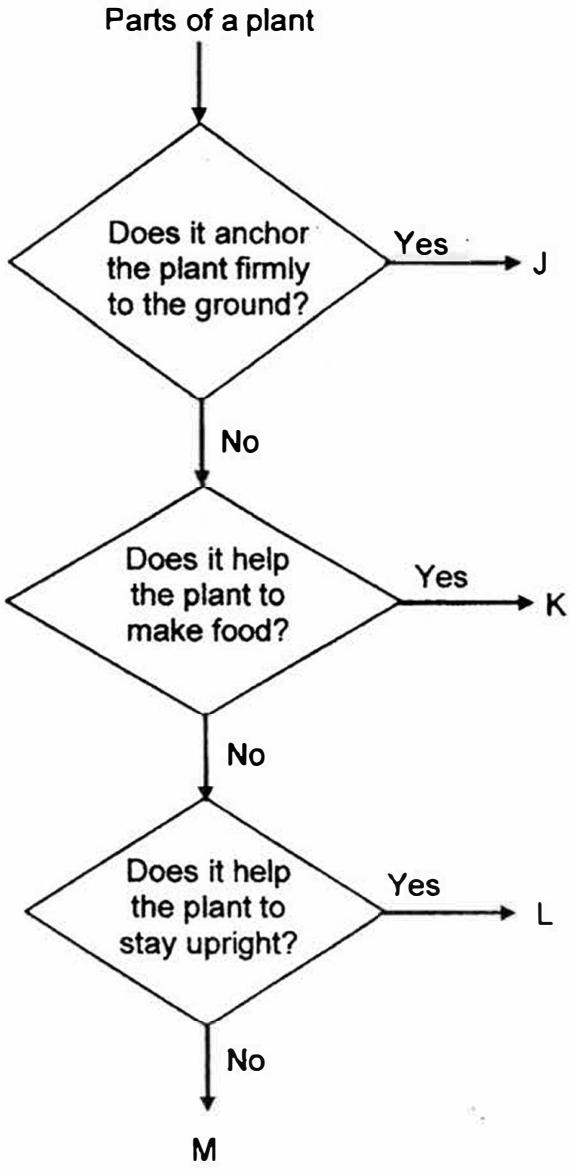


Which of the following statements about the 2 groups of living things are **true**?

A Both have gills.
B Both can reproduce.
C Both need air, food and water to survive.

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

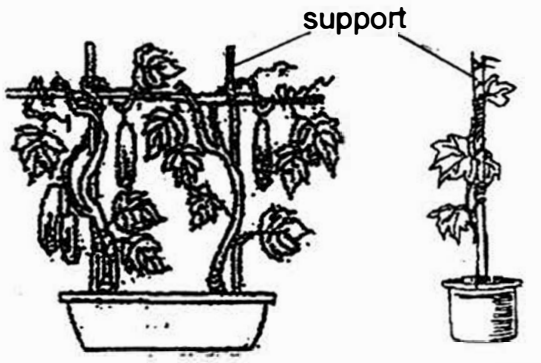
9. Study the chart below.



Which one of the following **correctly** represents the parts J, K, L and M?

	J	K	L	M
(1)	roots	flower	leaves	stem
(2)	stem	leaves	roots	leaves
(3)	leaves	stem	flower	roots
(4)	roots	leaves	stem	flower

10. The diagram below shows the adult plant X and plant Y.



Based only on the diagram, which of the following statement is **true** for both plants X and Y?

(1) Both Plants X and Y have leaves, flowers, stems and roots.
(2) Plant X reproduces by seeds but Plant Y reproduces by spores.
(3) Plant X is a non-flowering plant but Plant Y is a flowering plant.
(4) Both Plants X and Y need support to grow upright as they have weak stems.

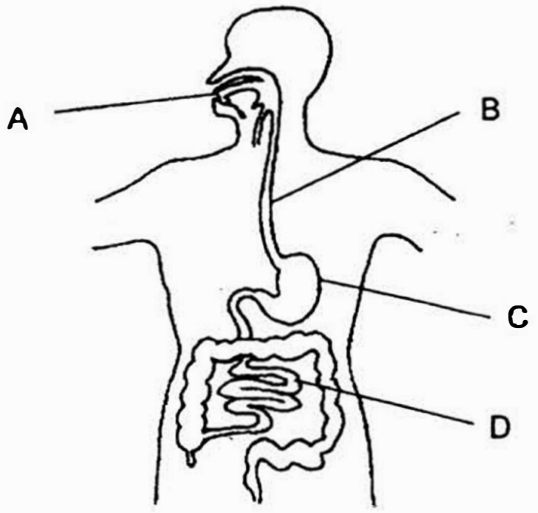
11. Four children each gave a statement on the function of the large intestine.

Amanda:	It completes the digestion of food.
Beatrice:	It allows digested food to pass through its walls into the blood.
Cadence:	It transports partially digested food to the stomach.
Elizabeth:	It removes water from undigested food.

Which one of the following children had made the **correct** statement?

(1) Amanda
(2) Beatrice
(3) Cadence
(4) Elizabeth

12. The diagram below represents the human digestive system.



Which part of the digestive system **does not** produce digestive juices?

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

13. The diagram below shows a fish tank that contains some living things.

Ming Teck made the following statements on the fish tank above.

A It can sink.
B It is flexible.
C It is waterproof.
D It allows light to pass through.

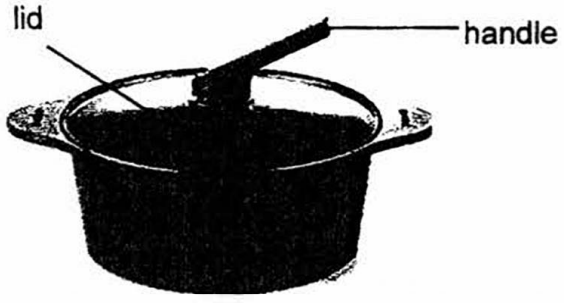
Which of the following properties does the fish tank need in order to keep the living things inside it alive?

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

14. The table below shows some information on the properties of materials D, E, F and G. A tick (✓) indicates that the material has the property.

Material	Flexible	Waterproof	Does not break easily	Allow light to pass through
D	✓	✓	✓	
E		✓		✓
F		✓	✓	
G	✓		✓	✓

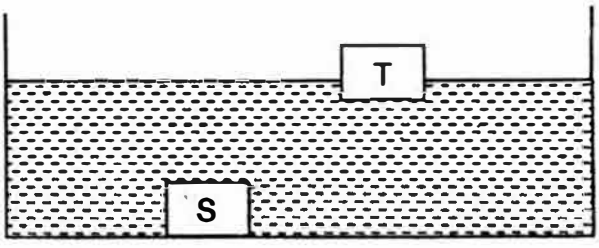
A cooking pot is shown below. The lid allows the user to see if the food is cooked. The handle of the pot allows the user to lift up the lid.



Which one of the following **correctly** represents the materials that are suitable to make the lid and the handle?

	Lid	Handle
(1)	D	E
(2)	E	F
(3)	F	G
(4)	G	D

15. Megan wanted to find out which materials, S or T, can sink in water. The materials were of identical shapes and sizes and placed in a container of water. The diagram below shows the positions of the materials in the container.



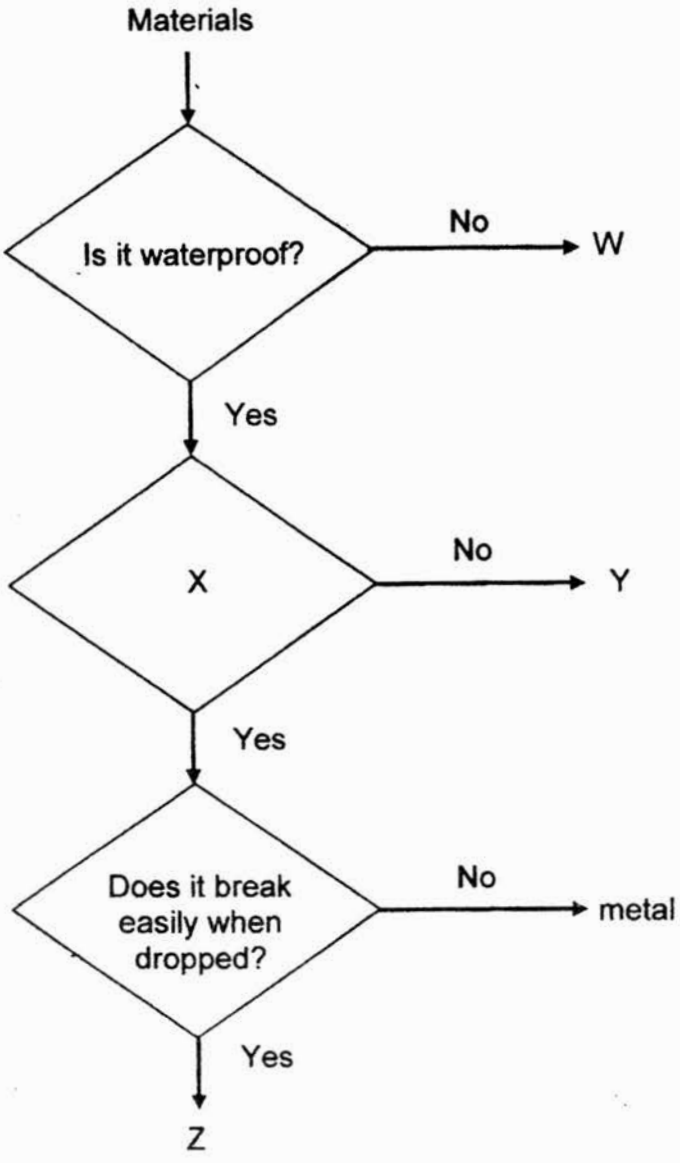
Below are the statements made on the objects.

A Material T is the strongest.
B Material T floats but Material S sinks in water.
C Material S is waterproof but Material T is not.
D Material S allows light to pass through but Material T does not allow light to pass through.

Which of the above statement(s) is/ are **definitely true**?

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

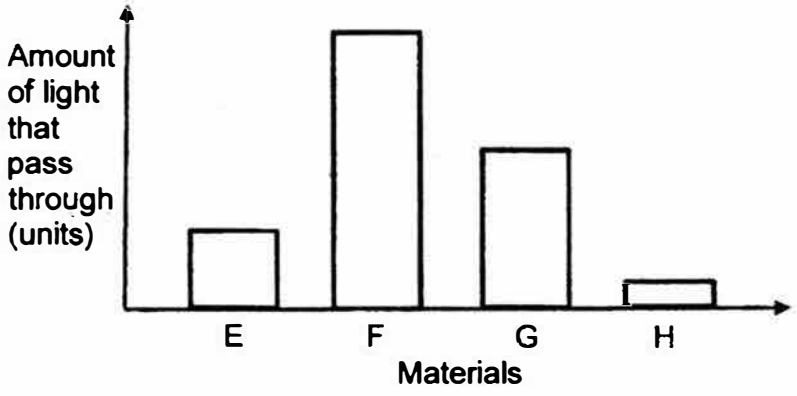
16. Study the chart below.



Which one of the following correctly represents W, X, Y and Z?

	W	X	Y	Z
(1)	plastic	Does it allow light to pass through?	glass	wood
(2)	fabric	Does it sink in water?	wood	glass
(3)	wood	Does it allow *light to pass* through?	fabric	paper
(4)	paper	Does it sink in water?	plastic	fabric

17. Sonia wanted to find out the amount of light that can pass through four identical sheets made of different materials, E, F, G and H. She shone light through the materials and recorded the results in the graph below.



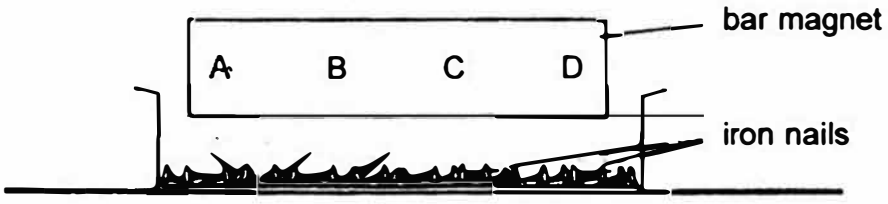
Based on the results of the graph, Sonia made the following statements.

A Material H is thicker than Material E.
B Material F allows most light to pass through than
C Material G allows more light to pass through Material E.
D Material H allows more light to pass through than Material G.

Based on the information from the graph, which of the statements are **true**?

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

18. Joshua lowered a bar magnet into a container of iron nails as shown in the diagram below.



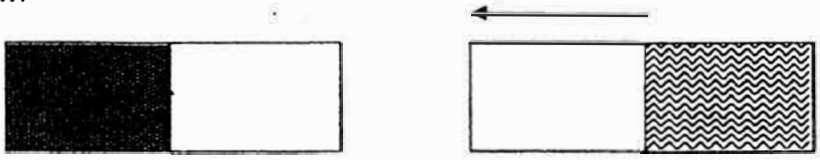
Then, he asked his friends to predict the amount of iron nails which would be attracted to each of the parts marked A, B, C and D. Their predictions are shown in the table below.

	Number of iron nails attracted			
	Part A	Part B	Part C	Part D
Wen Ling	2	3	9	10
Le Fan	1	12	11	3
Yi Tian	11	8	3	2
Zachary	10	3	2	11

Which one of his friends had made the most likely prediction?

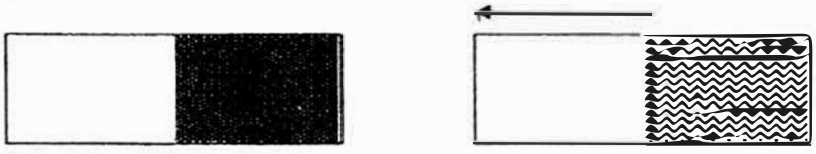
(1) Wen Ling
(2) Le Fan
(3) Yi Tian
(4) Zachary

19. Lucas had two metal bars, A and B. He moved bar A towards bar B and observed that bar B moved towards bar A as shown in the diagram below.



metal bar A metal bar B

Then, he flipped bar A around and moved it towards bar B again. He observed that bar B moved towards bar A as shown in the diagram below.

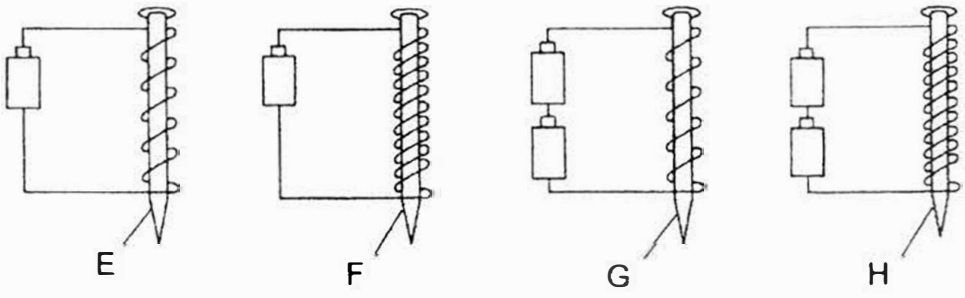


metal bar A metal bar B

Which one of the following is **true** about metal bars A and B?

(1) Both metal bars A and B are magnets.
(2) Both metal bars A and B are made of non-magnetic materials.
(3) Metal bar A is a magnet while metal bar B is made of magnetic material.
(4) Metal bar A is made of non-magnetic material while metal bar B is a magnet.

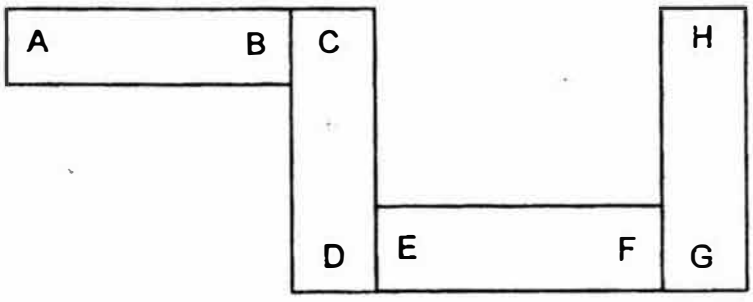
20. Shane turned 4 identical iron nails, E, F, G and H, into electromagnets using the electrical method as shown below.



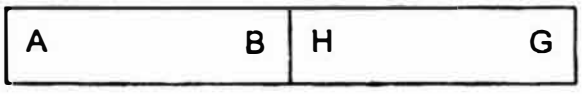
Which one of the following correctly identifies the strongest and weakest electromagnets?

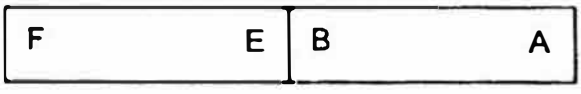
	strongest electromagnet	weakest electromagnet
(1)	G	E
(2)	H	G
(3)	F	H
(4)	H	E

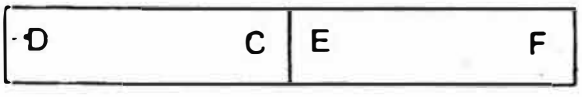
21. Kayla labelled the poles of four identical bar magnets as A, B, C, D, E, F, G and H. She arranged the four magnets such that all four magnets were attracted as shown below.

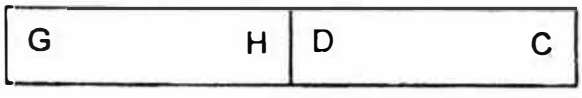


Which one of the following shows the possible arrangement of two of the magnets?

(1) 

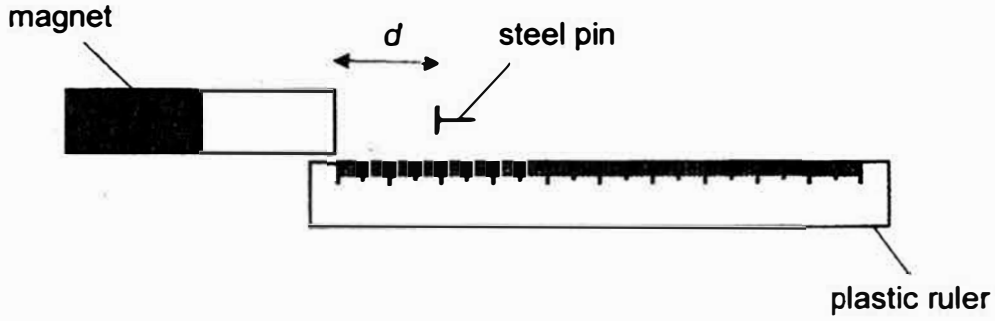
(2) 

(3) 

(4) 

22. Sophie set up the experiment as shown below to compare the strength of four magnets P, Q, R and S.

She measured the furthest distance, *d*, required before the magnet attracted the steel pin.



Sophie recorded the results of her experiments in the table below.

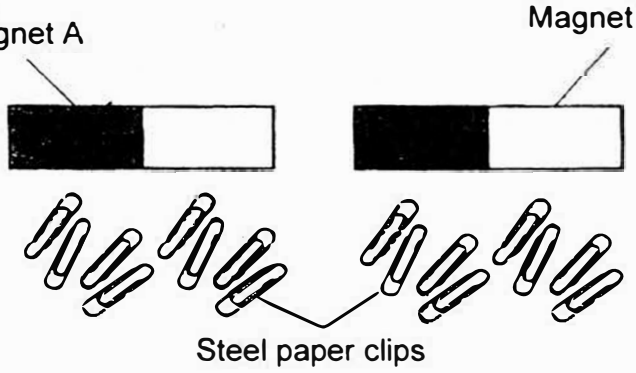
Magnet	Distance between magnet and steel pin (*d*) in cm before it was attracted
P	3
Q	6
R	4
S	2

Based on her results, which of the following conclusions are **correct**?

A Magnet S is the strongest.
B Magnet P is weaker than Q.
C Magnet R is stronger than P.
D Magnet Q is stronger than R but weaker than S.

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

23. Jiaqi had two identical magnets, A and B, which attracted the same number of steel paper clips. She then dropped magnet A on the floor 30 times.

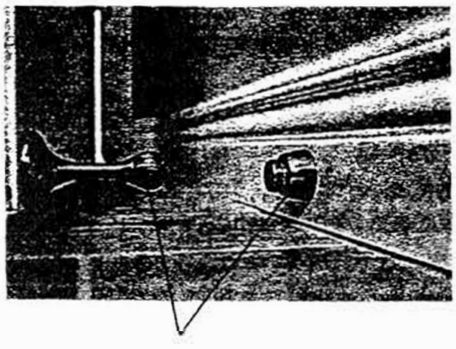


What would she likely observe if she brought magnets A and B near the same steel paper clips as shown above?

(1) Magnet A attracted more steel paper clips than magnet B.
(2) Magnet A attracted fewer steel paper clips than magnet B.
(3) Both magnets A and B did not attract any steel paper clips.
(4) Both magnets A and B attracted the same number of steel paper clips.

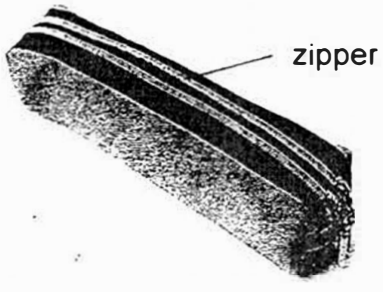
24. Which one of the following **objects makes** use of magnets in order to function?

(1)

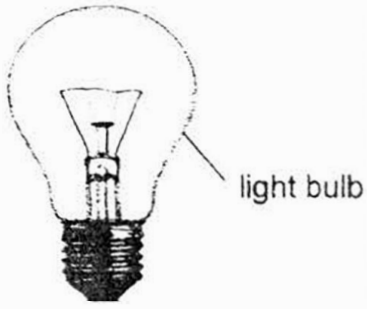


(2)

(3)



(4)



PRIMARY 3 SCIENCE

SEMESTRAL ASSESSMENT 2 2017

Date : 30th Oct 2017

[redacted]

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 8 November 2017. 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 15 printed pages including this cover page.

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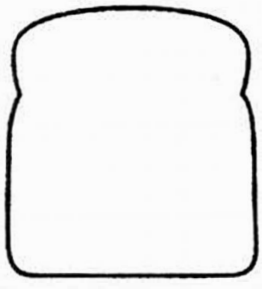
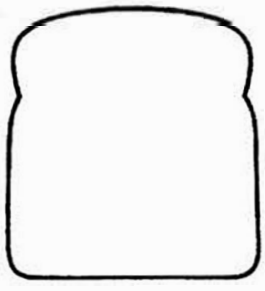
Section B (32 marks)
Write your answers to questions 25 to 34 in the spaces provided.

25. Anita had 2 slices of identical bread, A and B.



Bread A (Dry bread)



Bread B (Moist bread)

She then placed bread A and B exposed on the kitchen table for 5 days.

(a) Which bread, A or B, will most likely have more mould growing on it after 5 days? Explain your answer. [1]

_____

_____

_____

(b) State another 2 conditions that mould requires to grow on the bread. [1]

(i) _____

(ii) _____

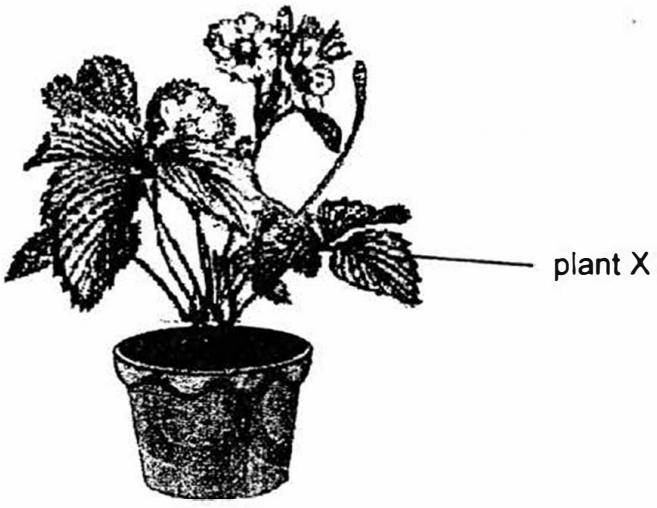
(c) Anita then said that mould belongs to the group of fungi and all fungi are micro-organisms. Explain why she was wrong. [1]

_____

_____

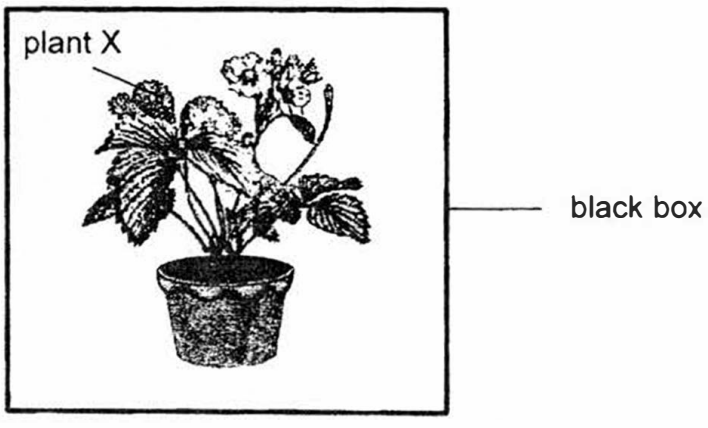
_____

26. Charlie saw potted plant X in the garden as shown below.



(a) Based on the diagram above, which **group** of plants does plant X most likely belong to? Give a reason for your answer. [1]

Charlie then placed a black box over plant X as shown below.

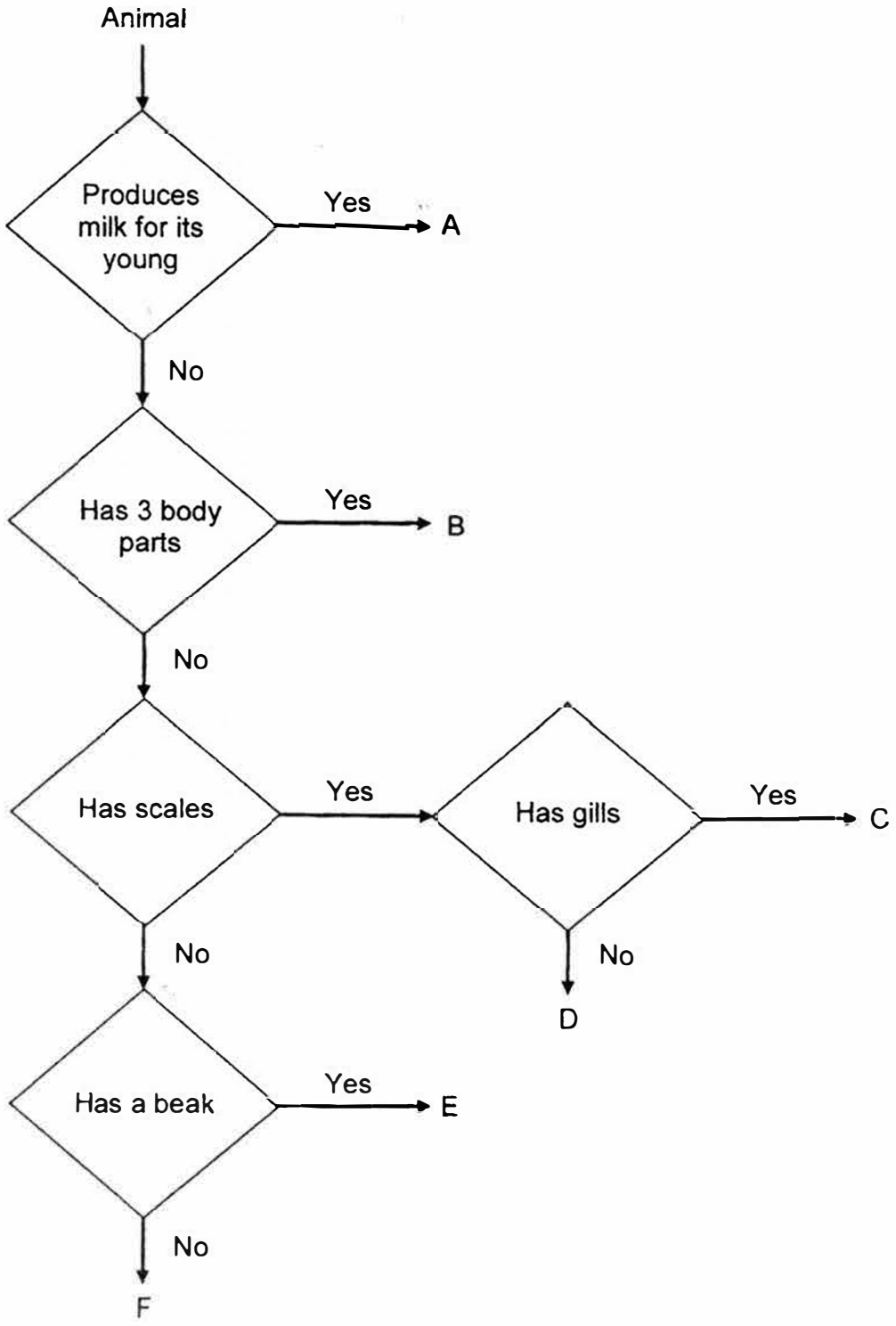


(b) Two weeks later, Charlie observed that plant X had died.
Give a reason why. [1]

(c)
(b) Charlie then made the following statements about plants.
Put a tick (✓) in the correct box below for each statement. [2]

	Statements	True	False
(i)	All plants can produce flowers.		
(ii)	All plants can respond to changes around them.		
(iii)	All plants can move freely on their own from one place to another.		
(iv)	All plants are living things and they need air, food and water to survive.		

27. Study the flowchart below carefully.



(a) State **all** the characteristics of animal B. [1]

_____

_____

_____

(b) State one difference between animal C and animal D. [1]

_____

_____

_____

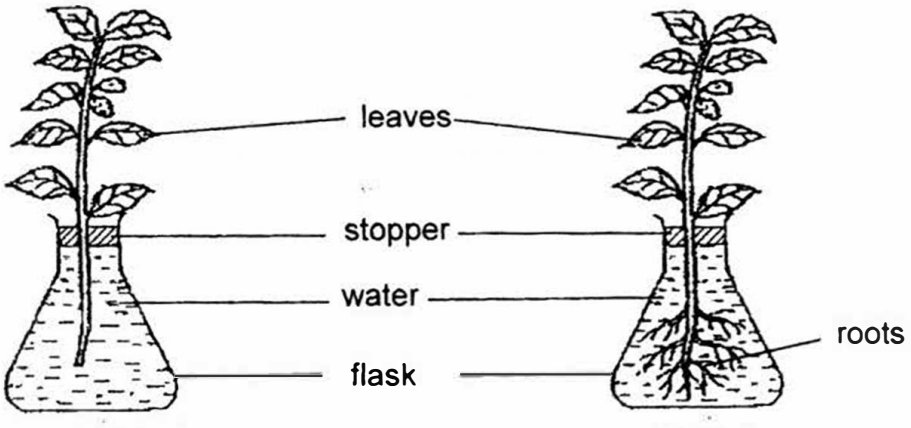
(c) Which **group** of animals does animal F most likely belong to? [1]

(d) State an **example** of each of the animals below. [1]
(Do not state the animal group.)

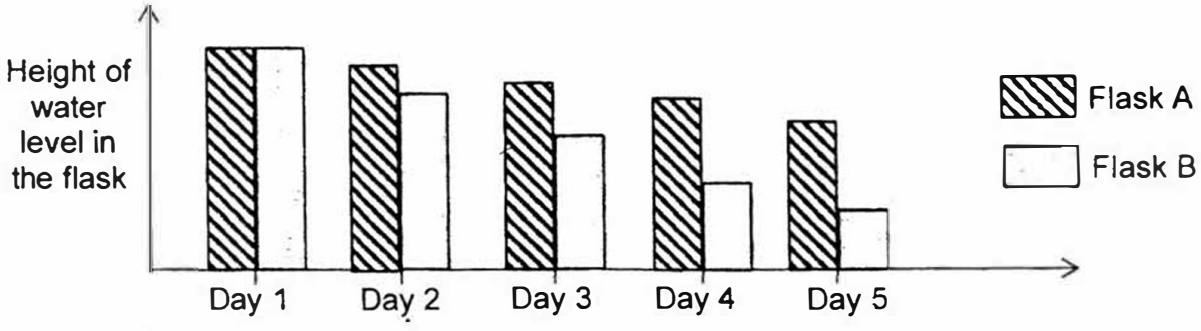
(i) Animal A: _____

(ii) Animal E: _____

28. Rahim conducted an experiment as shown below to find out if the roots of the plant affect the amount of water left in the flask.



He recorded the results of the experiment in the graph.



(a) Compare and state the amount of water left in both flasks after 5 days. [1]

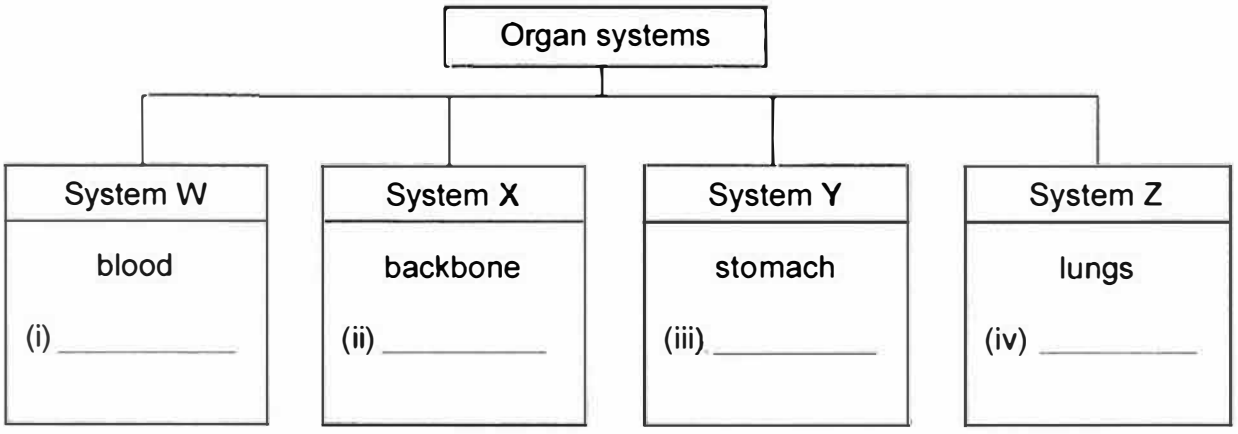
(b) Give a reason for the observation made in part (a). [1]

(c) State another function of the roots of a plant. [1]

29. Study the chart below.

(a) Classify the following organs in the chart. [2]

heart	nose	skull	gullet



(b) Identify system Z. [1]

_____

(c) Which system, W, X, Y or Z, works with the muscular system to enable us to bend, stretch and move? [1]

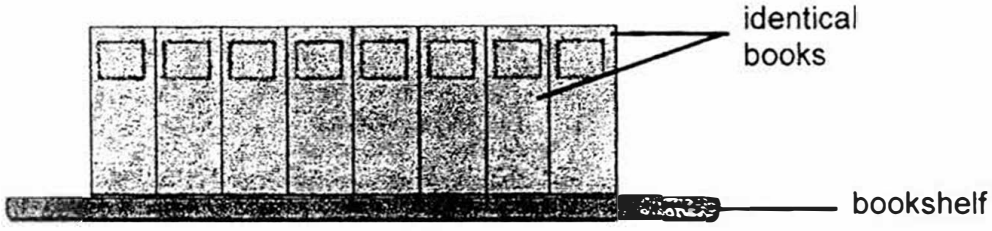
(i) System _____

(ii) State the name of the system you have chosen in part c(i).

_____

30. Mason wanted to find out which one of the four materials A, B, C or D is most suitable to be used to make a bookshelf.

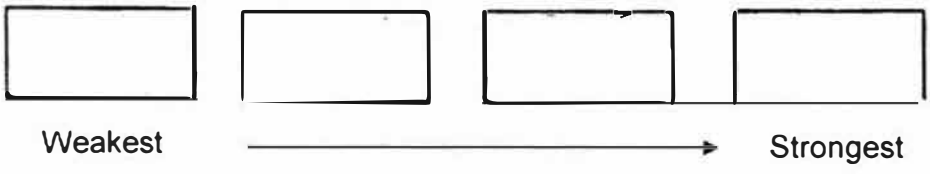
He set up the experiment as shown below. He placed identical books onto the four similar bookshelves made of materials A, B, C and D until the bookshelf broke.



He recorded his observation in the table below.

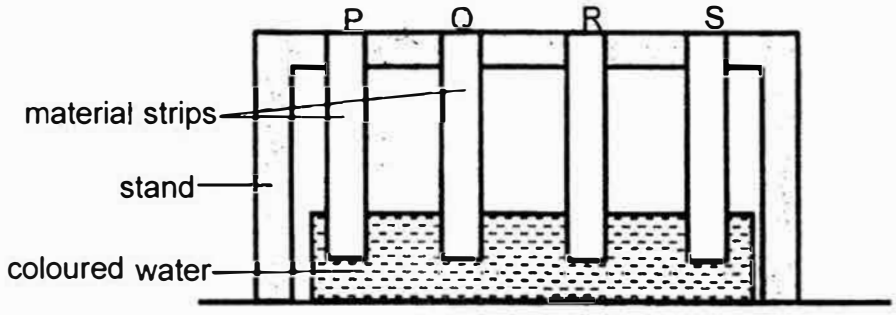
Material	A	B	C	D
Maximum number of identical books needed to break the shelf	15	29	4	10

(a) Arrange the materials according to their strength. [1]

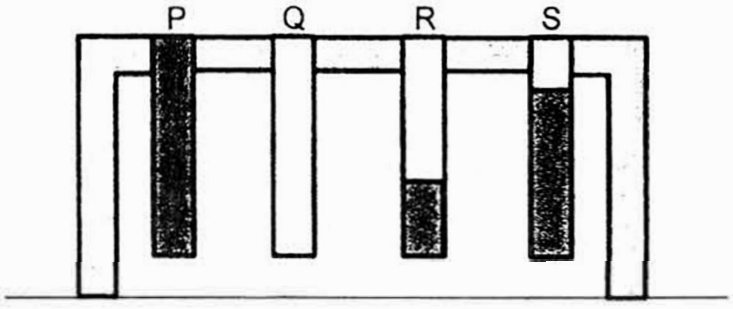


(b) Based on the observation above, which is the most suitable material to make the bookshelf? Explain your answer. [1]

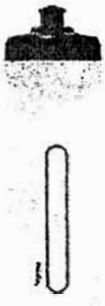
31. Alvin set up an experiment to find out which material can absorb the most amount of water. He used four identical strips made of different materials and hung them from a stand. The ends of the strips are dipped into a container of coloured water.



The diagram below shows the result of the experiment after 3 hours.
The shaded parts indicate the coloured water being absorbed by the different material strips.

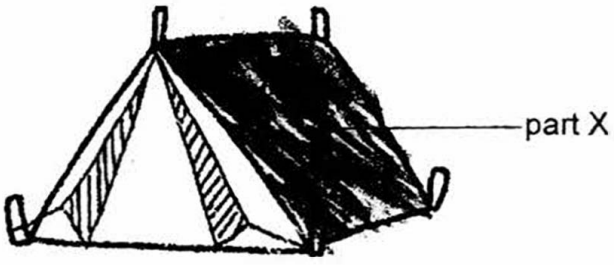


Alvin would like to use one of the materials to make a water bottle.



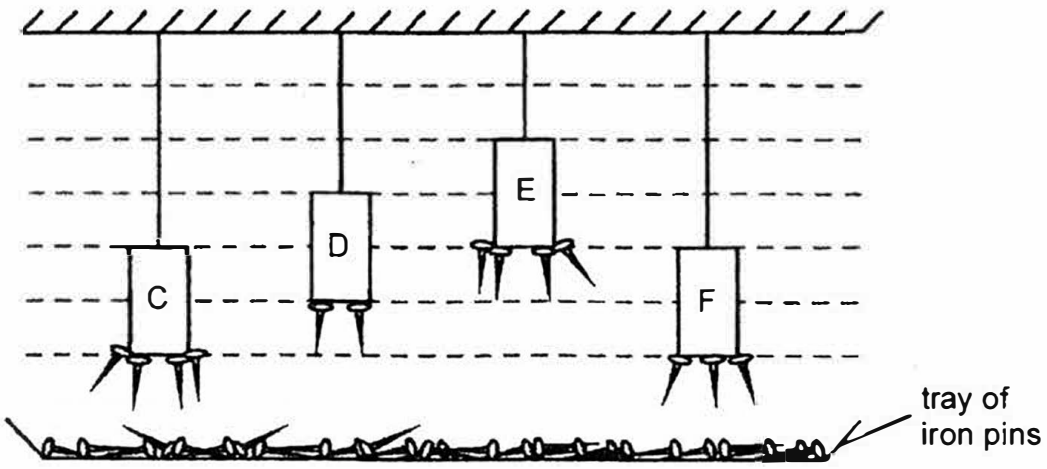
(a) Based on the results of the experiment, which material should he use to make the water bottle? Explain your answer. [2]

Alvin then studied an image of a tent as shown below.



(b) Alvin said that Material P was not suitable to make part X of the tent. Explain why he was correct. [1]

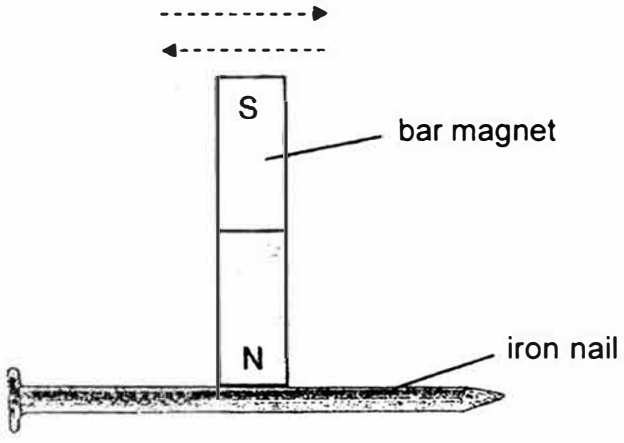
32. Allyshia hung four magnets, C, D, E and F, above a tray of identical iron pins. The diagram below shows the positions of the four magnets and the number of iron pins each magnet had attracted.



Based on Allyshia's results, put a tick (✓) in the correct boxes to show which of the following statements are true, false or not possible to tell. [3]

	Statements	True	False	Not possible to tell
(a)	Magnet C is as strong as magnet E.			
(b)	Magnet F is weaker than magnet C.			
(c)	Magnet D is the weakest.			

33. Kong Yi wanted to magnetise an iron nail by the stroke method. He stroked the iron nail back and forth, in opposite directions, with a bar magnet 30 times as shown in the diagram below.



(a) He noticed that the iron nail was not magnetised.
State two things Kong Yi should do to magnetise the iron nail successfully using the stroke method. [2]

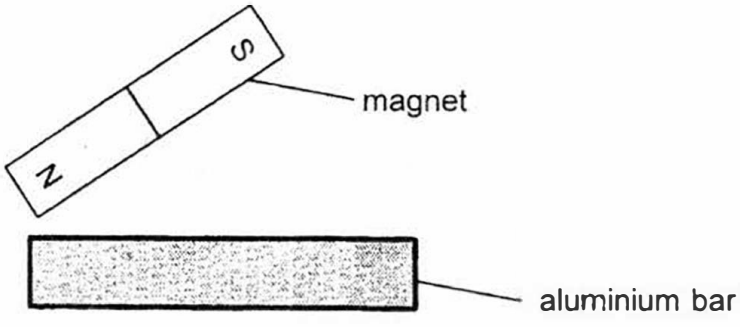
(i) _____

_____

(ii) _____

_____

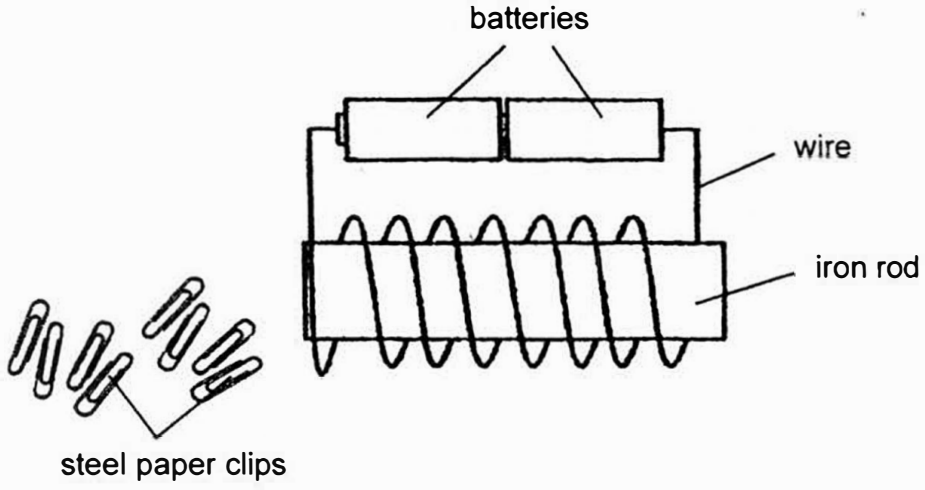
Ryan was able to use the stroke method correctly. He wanted to magnetise an aluminium bar using a strong magnet. No matter how many times he stroke the aluminium bar with the magnet, it was unable to pick up any steel pins.



(b) Give a reason why the aluminium bar was not magnetised. [1]

_____

34. Ethan conducted an experiment as shown below with 2 new batteries, a piece of wire and an iron rod.



When he placed some steel paper clips near the iron rod, he observed that they were attracted to the iron rod.

(a) Give a reason why the steel paper clips were attracted to the iron rod. [1]

_____

_____

(b) Other than adding more batteries to the set-up, what else could Ethan do to enable the iron rod to attract **more** steel paper clips? [1]

_____

_____

(c) What would happen to the steel paper clips if Ethan removed the two batteries from the set-up? [1]

_____

EXAM PAPER 2017
LEVEL : PRIMARY 3
SCHOOL : NANYANG PRIMARY SCHOOL
SUBJECT : SCIENCE.
TERM : SA2

Booklet A

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14
2	3	4	2	3	2	3	3	4	4	4	2	4	2
Q15	**Q16**	**Q17**	**Q18**	**Q19**	**Q20**	**Q21**	**Q22**	**Q23**	**Q24**				
1	2	2	4	3	4	2	2	2	1				

Booklet B

Q25 (a) Bread B. Mould needs moisture to grow. Moisture/water is present in bread B.
(b) (i) Air/food
(ii) warmth
(c) Some fungi can be seen with the naked eye.

Q26 (a) Flowering plant. Plant X produces flowers.
(b) Plant X has no sunlight/light to make food.
(c) (i) False
(ii) True
(iii) False
(iv) False

Q27 (a) Animal B does not produce milk for its young and has 3 body parts.
(b) Animal C has gills but animal D does not have gills.
(c) Amphibians
(d) (i) Lion/Dog/Cat (any mammals)
(ii) Parrot/Eagle/Pigeon (any bird)

Q28 (a) The amount of water left in the flask A is more than the amount of water left in Flask B.
Or
The amount of water left in the flask B is Less than the amount of water left in Flask A.
(b) The plant in Flask B has roots so it takes in more water from the flask than the plant without roots in Flask A.
Or
The plant in Flask A has no roots so it takes in less water from the flask than the plant with roots in Flask B.
(c) Roots of the plant hold the plant firmly to the ground.

Q29 (a) (i) Heart
(ii) Skull
(iii) gullet
(iv) nose
(b) Respiratory system
(c) (i) system X
(ii) skeleton system

Q30 (a) C, D, A, B

(b) Material B. It is the strongest material so that the bookshelf can hold the most books.

Q31 (a) Material Q. It is waterproof so that it can store water in the water bottle.

(b) Material P. It is not waterproof and if part X of the tent is made of material P, the rain water will seep through the tent and drench the campers in the tent when it rains.

Q32 (a) False

(b) True

(c) Not possible to tell

Q33 (a) (i) He has to stroke the iron nail with the bar magnet in one direction.

(ii) He has to stroke the iron nail with the same pole of the magnet.

(b) Aluminium is a non-magnetic material.

Q34 (a) The iron rod has turned into an electromagnet/ a temporary magnet has been magnetised.

(b) Increased the number of turns of the same wire around the iron rod.

(c) The steel paper clips will not be attracted to the iron rod.

END