



## 2019 PRIMARY 3 SEMESTRAL ASSESSMENT 2

Name : \_\_\_\_\_ ( - )

Date: 22 October 2019

Class : F

Time: 8.00 a.m. - 9.30 a.m.

Parent's \_\_\_\_\_

Duration: 1 hour 30 minutes

# SCIENCE

## BOOKLET A

### INSTRUCTIONS TO CANDIDATES

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

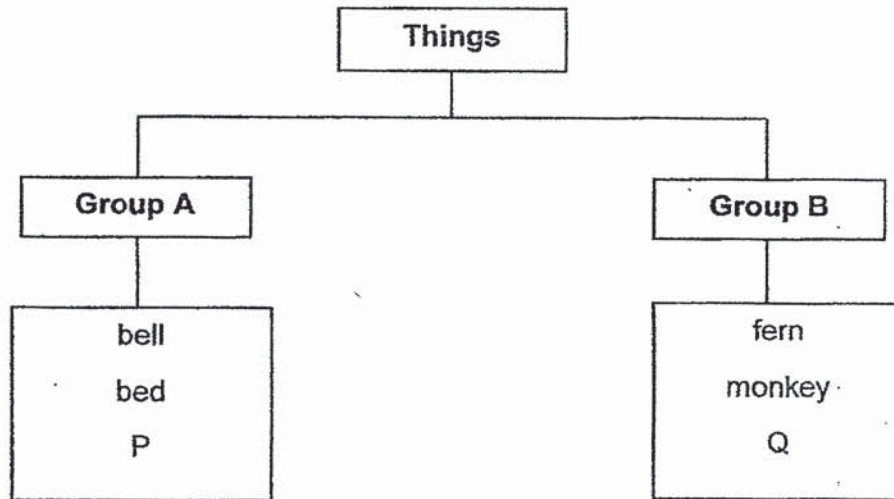


**Booklet A (22 x 2 marks)**

For each question from 1 to 22, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet. (44 marks)

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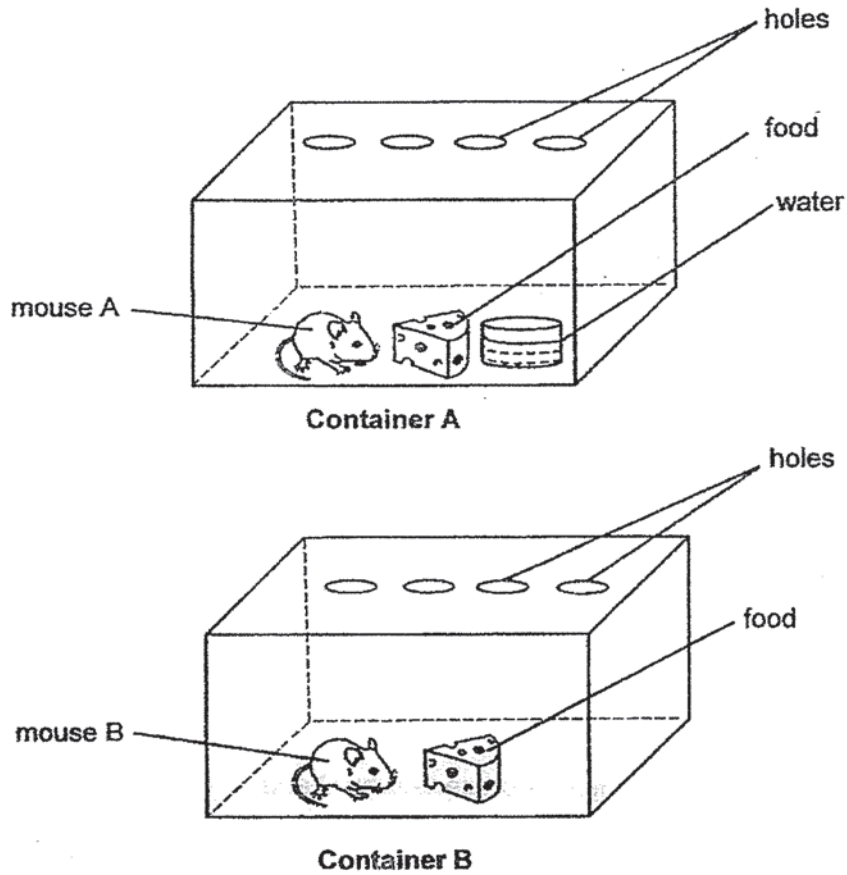
1. Study the classification chart below.



Which of the following is represented by P and Q?

	P	Q
(1)	car	stone
(2)	bacteria	guppy
(3)	stone	bacteria
(4)	guppy	car

2. Sarah placed two mice in two similar glass containers as shown in the diagram below. Each mouse is given the same amount of food every day.



Which of the following best explains which mouse would live longer?

- (1) Mouse A. It has air.
- (2) Mouse A. It has air, food and water.
- (3) Mouse B. It has food.
- (4) Mouse B. It has air and food and water.

3. Look at the pictures below.



**A dog**



**A teddy bear**

Which of the following statements is correct?

- (1) Both are non-living things as they cannot reproduce.
- (2) A teddy bear is a non-living thing as it cannot grow.
- (3) A teddy bear is a living thing as it needs air to survive.
- (4) Both are living things as they can respond to changes.

4. Study the table below. The table shows the characteristics of four things, A, B, C and D. A tick (✓) means that the characteristic is present.

Thing	Needs air, food and water	Can make food	Has four legs
A	✓		✓
B			✓
C	✓		
D	✓	✓	

Which do A, B, C and D represent?

	A	B	C	D
(1)	mosquito	sunflower plant	table	lion
(2)	lion	table	sunflower plant	mosquito
(3)	table	mosquito	lion	sunflower plant
(4)	lion	table	mosquito	sunflower plant

5. Study the pictures below carefully.



mushroom

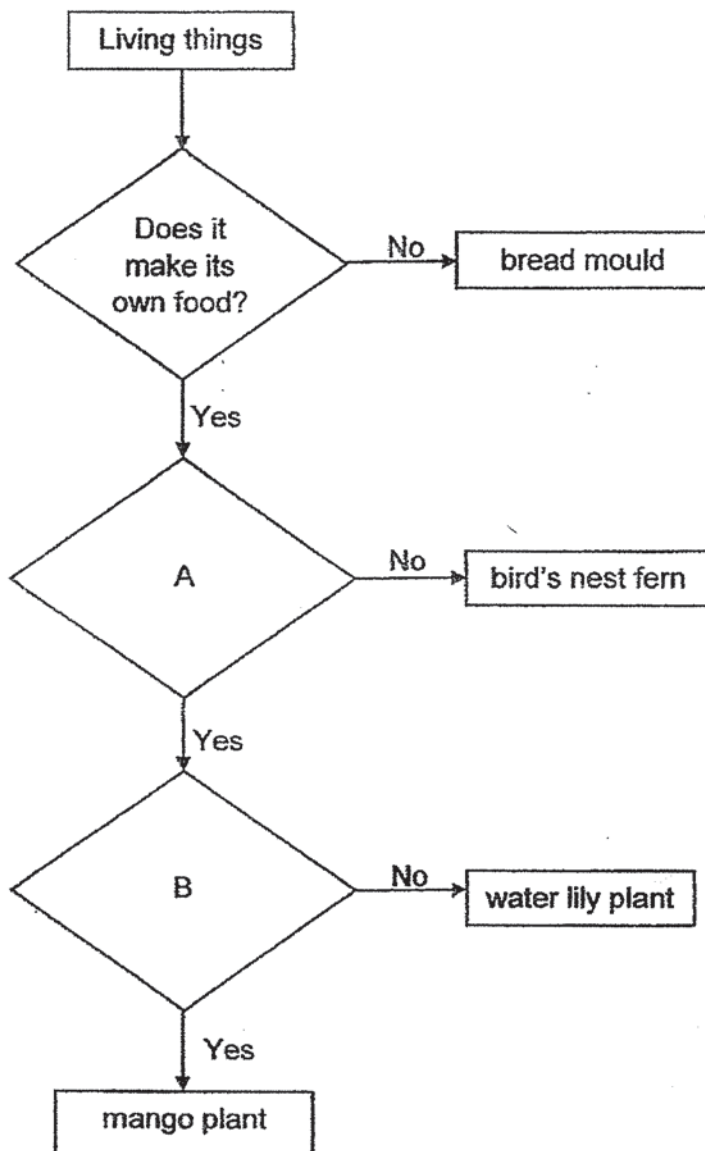


fern

How are these two living things similar?

- (1) Both have leaves.
- (2) Both reproduce by spores.
- (3) Both are non-flowering plants.
- (4) Both can make their own food.

6. Study the flowchart below.



Based on the flowchart above, which of the following is represented by the questions, A and B?

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



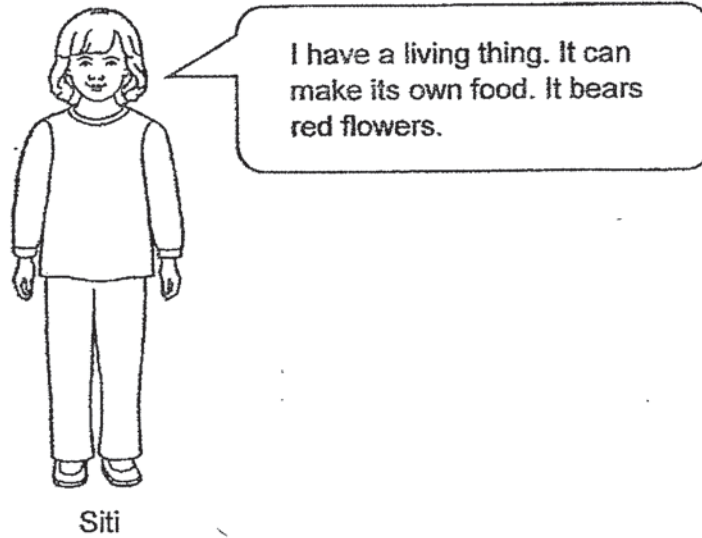
7. The following table describes the characteristics of animal groups, X and Y. A tick (✓) means that the animal group has that characteristic.

Characteristics	X	Y
Have moist skin		✓
Give birth to young alive	✓	
Live in water and on land		✓

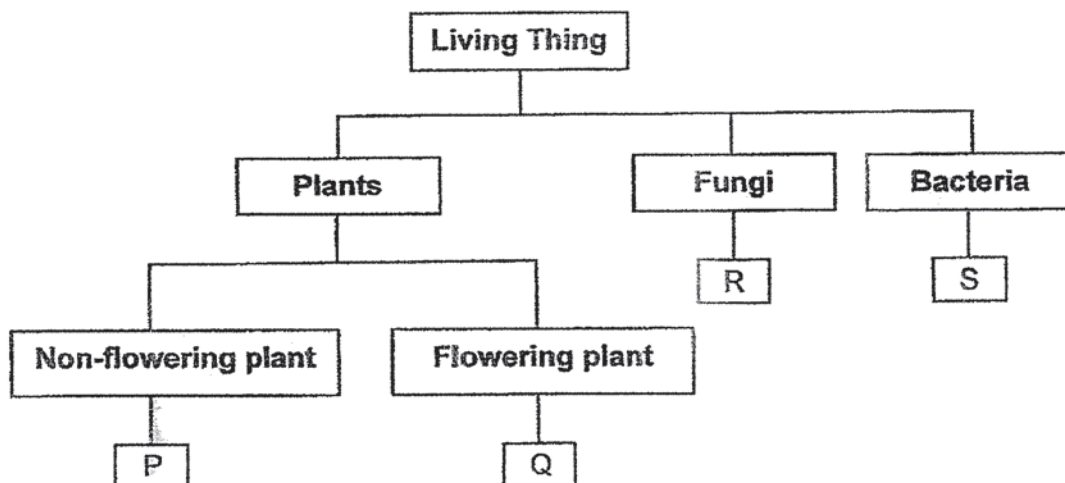
Which of the following is represented by the animal groups, X and Y?

	X	Y
(1)	Mammal	Amphibian
(2)	Mammal	Fish
(3)	Insect	Reptile
(4)	Bird	Reptile

8. Siti has a living thing in her garden and describes it as shown below.



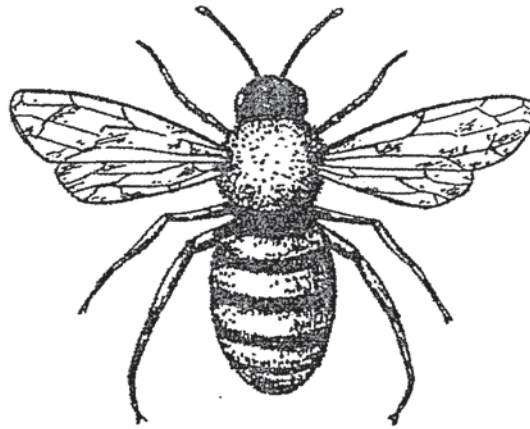
She drew the following classification chart to classify it.



Which letter, P, Q, R or S represents the living thing Siti is describing?

- (1) P
- (2) Q
- (3) R
- (4) S

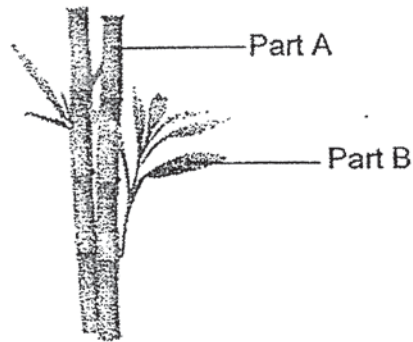
9. Bala saw an animal as shown below in his garden.



Which of the following represents the animal that Bala saw in his garden?

	Animals	Characteristics	
		Does it have wings?	Does it have three body parts?
(1)	A	No	Yes
(2)	B	No	No
(3)	C	Yes	No
(4)	D	Yes	Yes

10. Study the diagram below.



Which of the following is represented by Part A and Part B?

	Part A	Part B
(1)	leaf	roots
(2)	roots	stem
(3)	stem	leaf
(4)	leaf	stem

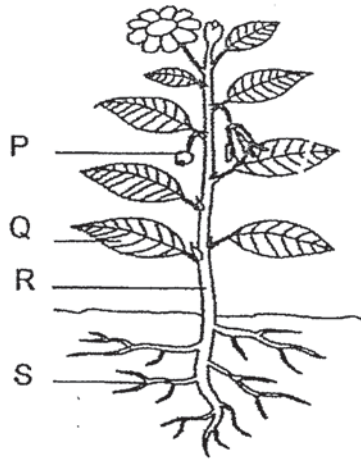
11. Peter wants to find out if the amount of water given to a plant affects the growth of the plant.

 Plant D 300 ml of water	 Plant E 500 ml of water	 Plant F 500 ml of water	 Plant G 300 ml of water
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Which 2 setups should Peter use for his experiment?

- (1) Plant D and Plant F
- (2) Plant D and Plant G
- (3) Plant E and Plant F
- (4) Plant E and Plant G

12. The diagram below shows the different parts, P, Q, R and S, of a plant.



Which of the following correctly describes the function of the plant parts?

	Plant part	Function
(1)	P	Absorbs water for the plant.
(2)	Q	Makes food for the plant.
(3)	R	Holds the plant firmly to the ground.
(4)	S	Enables the plant to stand upright.

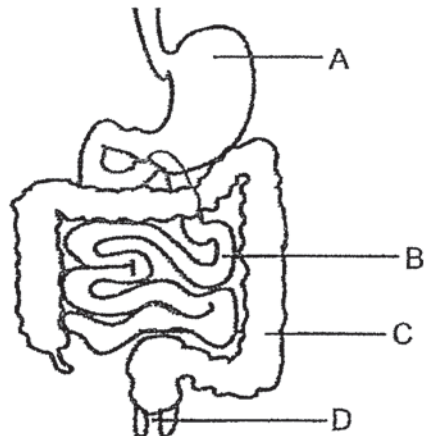
13. Mrs Lim's house was on fire. She ran to a nearby window and shouted loudly for help. Then, she choked on some smoke and started coughing.



Which human body system that was affected caused her to cough?

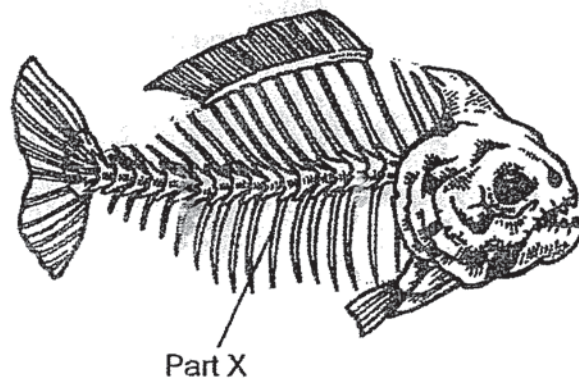
- (1) skeletal system
- (2) digestive system
- (3) muscular system
- (4) respiratory system

14. The diagram below shows some parts of a human digestive system.



In which part, A, B, C or D, is water absorbed from the undigested food?

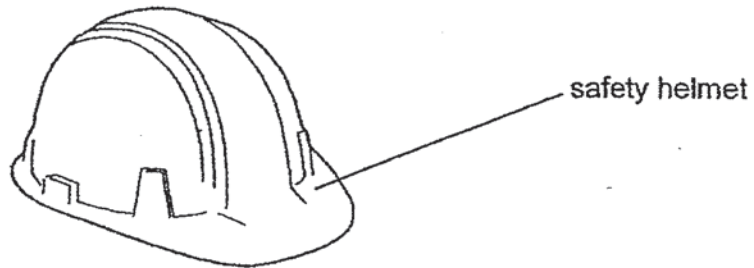
- (1) A
  - (2) B
  - (3) C
  - (4) D
15. The diagram below shows some parts of a fish.



Which fish body system does Part X belong to?

- (1) skeletal system
- (2) digestive system
- (3) circulatory system
- (4) respiratory system

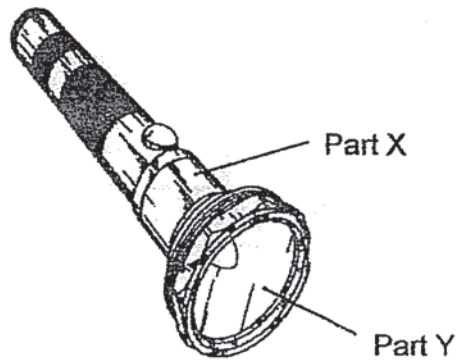
16. Chris has to choose a suitable material for making safety helmets that protect workers' heads from falling objects.



What is the most important consideration when selecting the suitable material for the safety helmet?

- (1) How strong the material is?
- (2) How flexible the material is?
- (3) How well the material absorbs water?
- (4) How well the material floats on water?

17. The drawing below shows a torchlight.



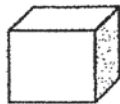
Which materials are most suitable to make the parts, X and Y?

	X	Y
(1)	wood	glass
(2)	plastic	metal
(3)	plastic	glass
(4)	wood	metal

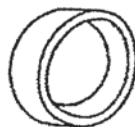
18. A magnet is used to attract 4 objects shown below. Which object will be attracted by the magnet?



a glass beaker  
(1)



a wooden block  
(2)

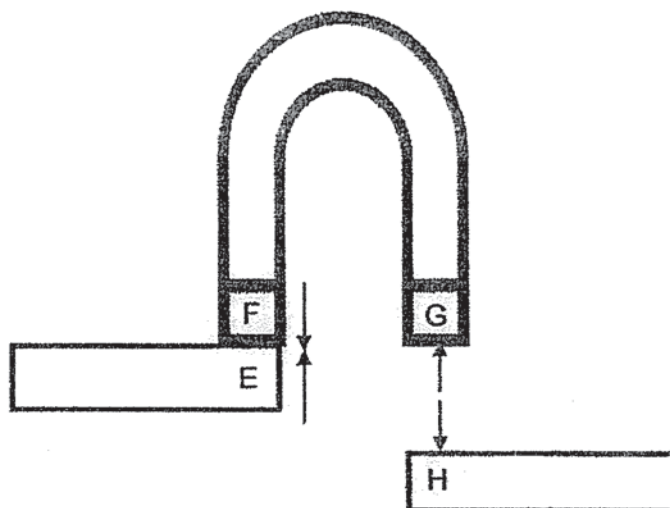


a steel ring  
(3)



a rubber ball  
(4)

19. The diagram below shows a possible arrangement of some magnets. E, F, G and H are the poles of the magnets. The arrows show the movement of the magnets.

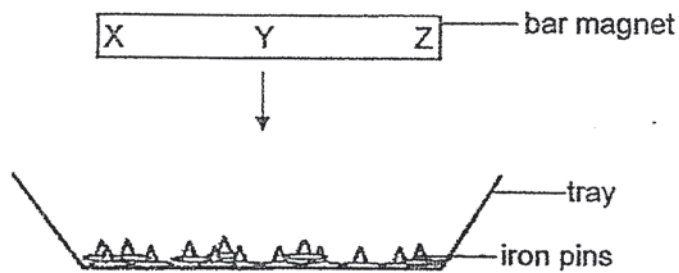


What are the poles, E, F and G, if H is the N-pole?

	E	F	G
(1)	N-pole	S-pole	N-pole
(2)	N-pole	N-pole	S-pole
(3)	S-pole	S-pole	N-pole
(4)	S-pole	N-pole	S-pole



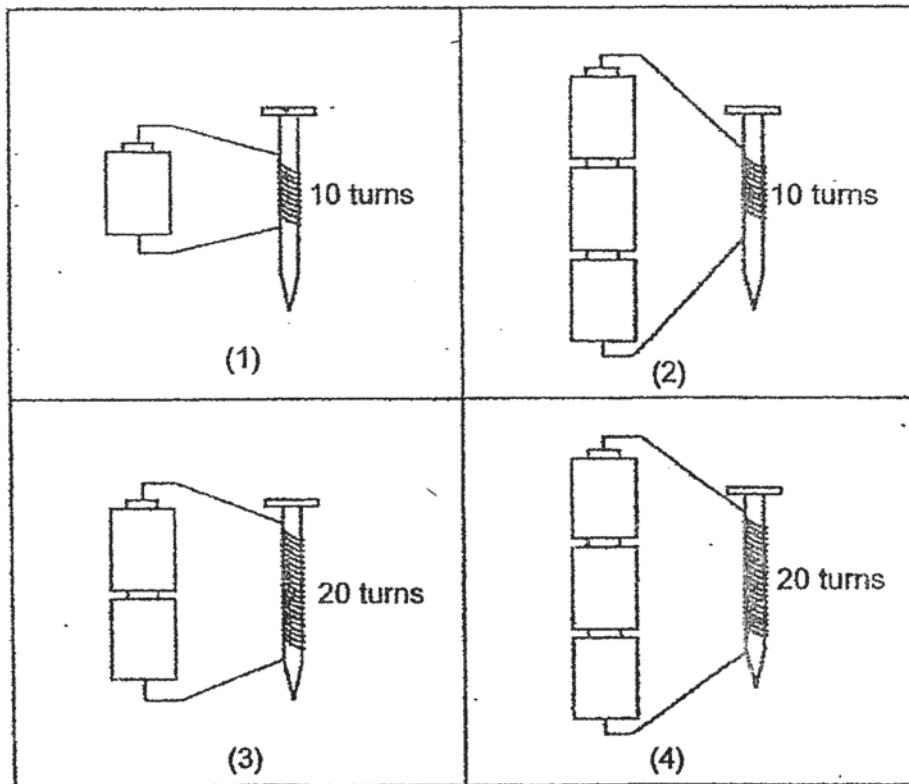
20. A bar magnet is lowered into a tray of iron pins. X, Y and Z are parts of the magnet.



Which of the following shows the possible number of iron pins attracted to the parts, X, Y and Z?

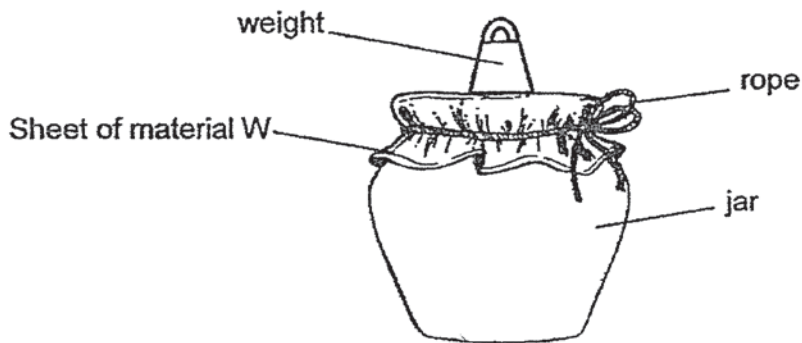
	Number of iron pins attracted		
	X	Y	Z
(1)	1	4	5
(2)	5	1	4
(3)	2	5	3
(4)	5	5	5

21. Which of the following electromagnets will have the greatest magnetic strength of attraction?

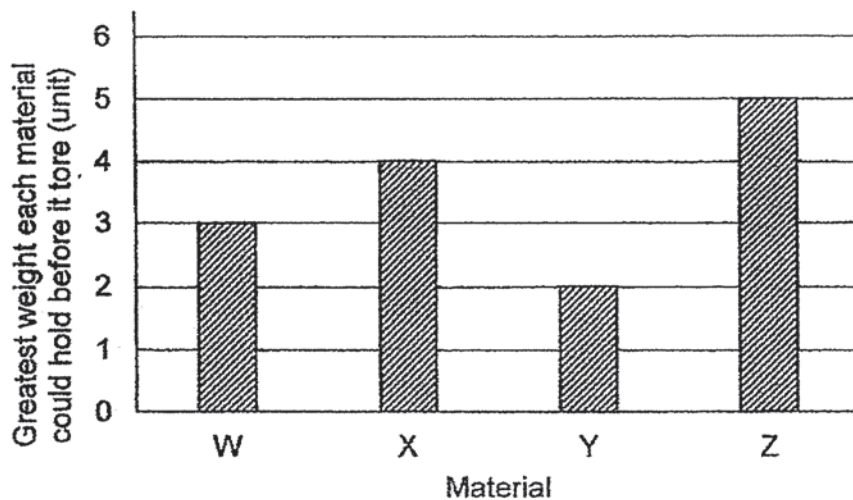


22. Sam wanted to find out which material, W, X, Y or Z, is the strongest. He cut each material into sheets of the same size.

He covered the brim of a jar using a sheet of material W and secured it with a rope. He added weights on the sheet of material W until it started to tear. He recorded the greatest weight that it could hold before it tore.



He repeated the experiment above using the materials, X, Y and Z. The graph below shows the greatest weight each material could hold before it tore.



Which of the following statements is true?

- (1) Z is the weakest.
- (2) Y is the strongest.
- (3) X is stronger than Y.
- (4) Y is stronger than W.

End of Booklet A



## 2019 PRIMARY 3 SEMESTRAL ASSESSMENT 2

Name : \_\_\_\_\_ ( )

Date: 22 October 2019

Class : Pri \_\_\_\_\_

Time: 8.00 a.m. – 9.30 a.m.

Duration: 1 hour 30 minutes

# SCIENCE

## BOOKLET B

### INSTRUCTIONS TO CANDIDATES

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

Booklet A	44
Booklet B	36
Total	80

**Booklet B (36 marks)**

For questions 23 to 34, write your answers clearly in this booklet. The number of marks available is shown in brackets [ ] at the end of each question or part question. [36 marks]

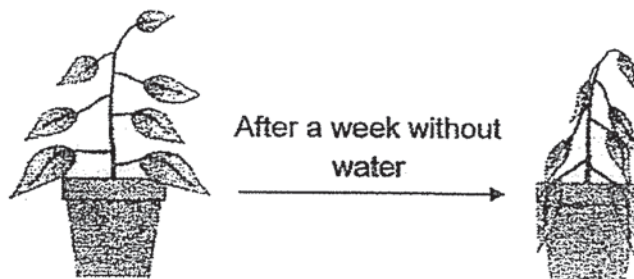
23. Mark found three things, X, Y and Z, with the characteristics shown in the table below. A tick (✓) shows that the thing has the characteristic and a cross (X) shows that it does not have the characteristic.

Thing	Needs air	Makes its own food	Reproduces
X	✓	X	✓
Y	✓	X	X
Z	✓	✓	✓

(a) Based on the table above, state two characteristics of living thing X. [2]

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(b) Based on the diagram above, state a characteristic of living things. [1]

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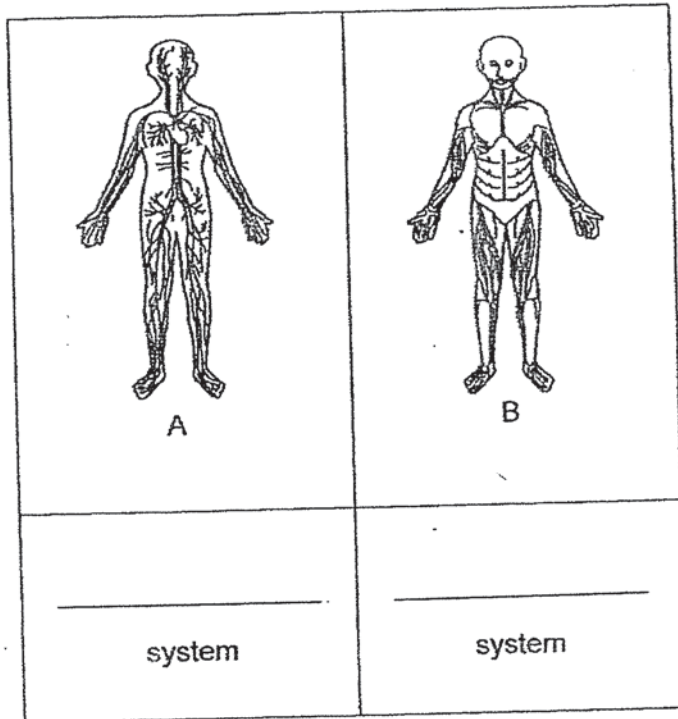
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Score	3
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24. Study the human body systems, A and B, below.

(a) Identify the human body systems, A and B, below.

[2]



A brain can be found under a skull as shown in the diagram below.



(b) What is the function of the skull?

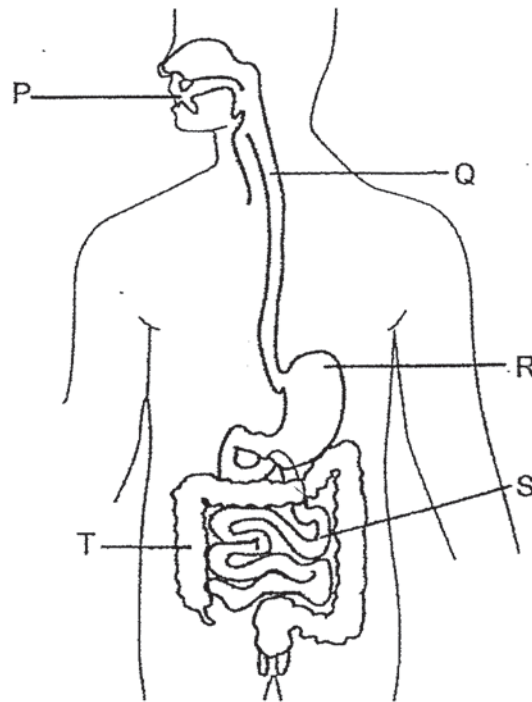
[1]

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Score	3
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25. The diagram below shows the parts of a human digestive system, represented by the letters, P, Q, R, S and T.



- (a) Write the letters, P, Q, R, S or T, in the blanks below to complete the sentence. [1]

Digestion starts at \_\_\_\_\_ and ends at \_\_\_\_\_.

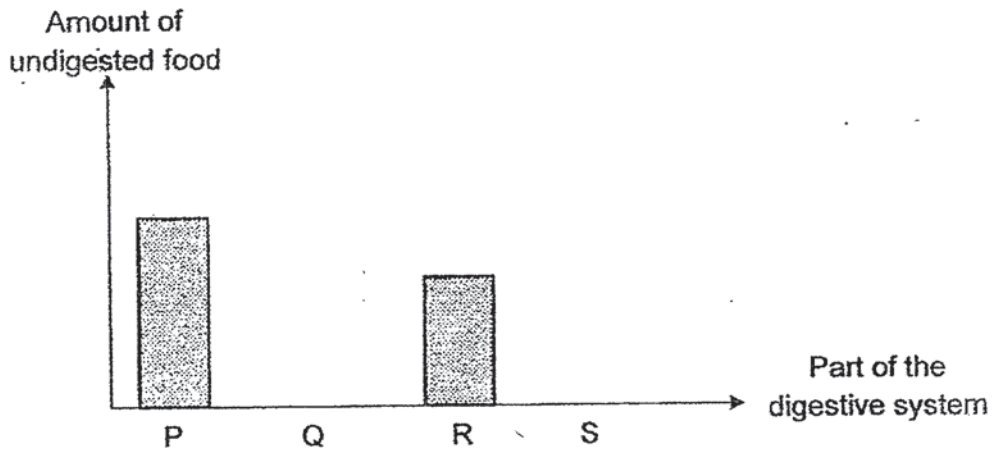
- (b) Mr Lim produces less digestive juice at R. How will this affect the amount of digested food leaving R? [1]

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Score	2
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Mr. Lim ate a bowl of noodles for breakfast. The graph below shows the amount of undigested food leaving P and R of his digestive system.

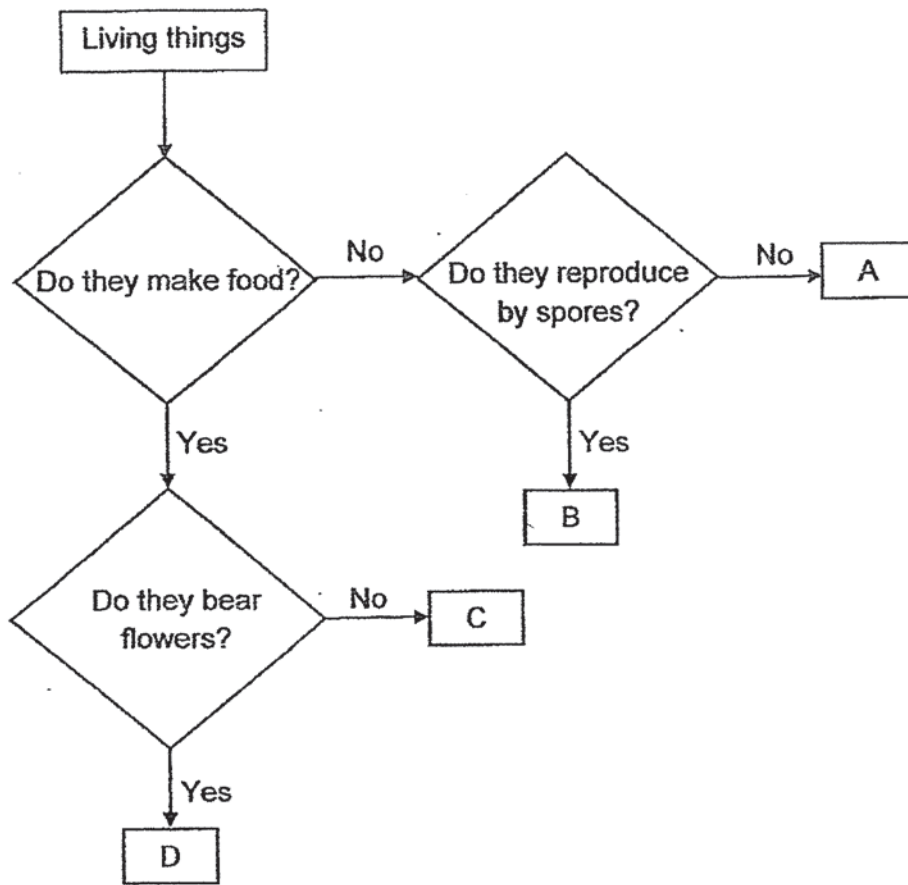


(c) Complete the bar graph above by drawing the amount of undigested food leaving Q and S of his digestive system. [1]

Score	1
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26. The flowchart below shows how living things are classified.



(a) Based on the flowchart above, state a difference between the living things, A and D.

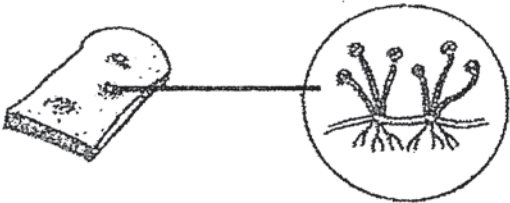



[1]

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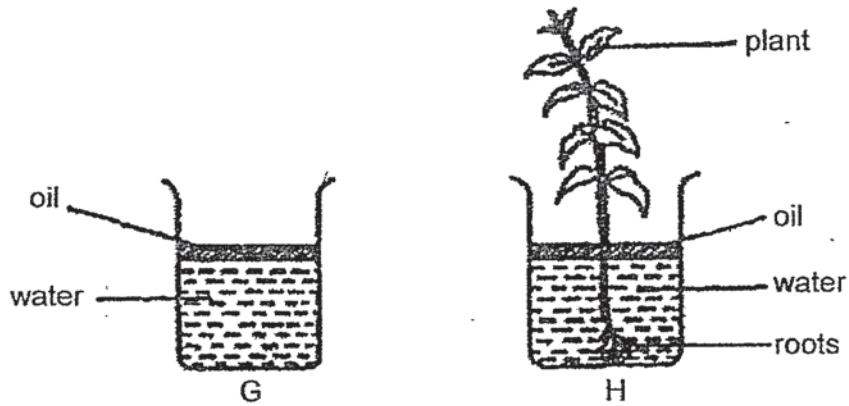
Score	1
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(b) Based on the flowchart, match A, B, C or D to the living things in the table below. [2]

Living things	(A, B, C or D)
<p>(i)</p>  <p>Bread mould</p>	
<p>(ii)</p>  <p>Banana plant</p>	
<p>(iii)</p>  <p>Fern</p>	
<p>(iv)</p>  <p>Bacteria</p>	

Score	2
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27. Raju poured equal amount of water into two identical beakers, G and H. He placed a plant in H as shown below. Oil prevents the water in the beakers from drying up.



He left the beakers by the window for one week.

- (a) Write 'G' and 'H', in the boxes in the table below to match the beakers to the readings given. [1]

Beaker	Amount of water at the start (ml)	Amount of water after one week (ml)
<input type="checkbox"/>	500	410
<input type="checkbox"/>	500	500

- (b) Based on your answers in (a), what can we conclude about the plant? [1]

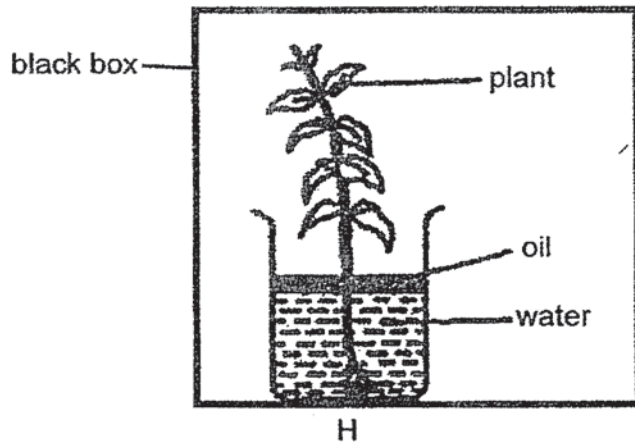
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Score	2
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Raju then put H into a black box as shown below.



(c) After another week, the plant died. Explain why.

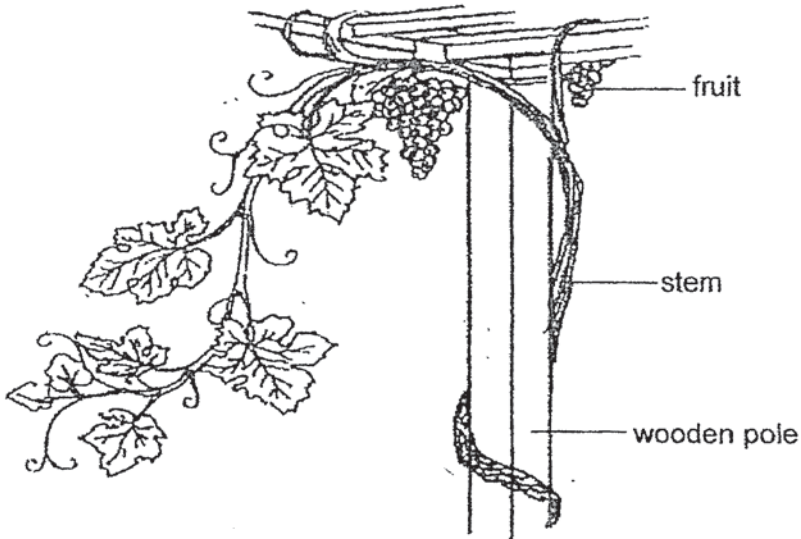
[1]

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Score	1
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28. The diagram below shows a plant growing in a garden.



(a) Based on the drawing above, which of the following statements are true about the plant. Put a tick (✓) in the box if the statement is correct. [1]

	Statement	Tick (✓)
(i)	It is a non-flowering plant.	
(ii)	It has a weak stem.	
(iii)	It can make food.	
(iv)	It does not need sunlight.	

Score	1
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Sam observed that a plant in a sunny area has both small leaves and large leaves.



small leaf in  
a sunny area



large leaf in a  
sunny area

(b) Which leaf can make more food? Explain why

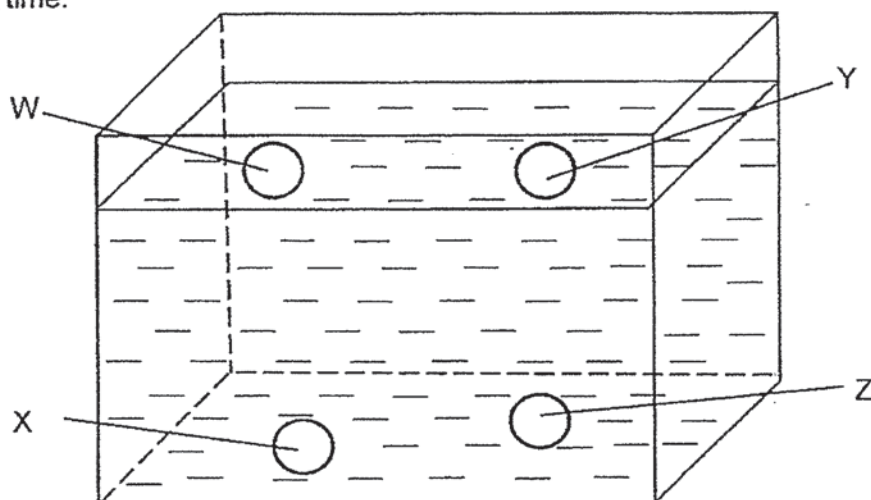
[1]

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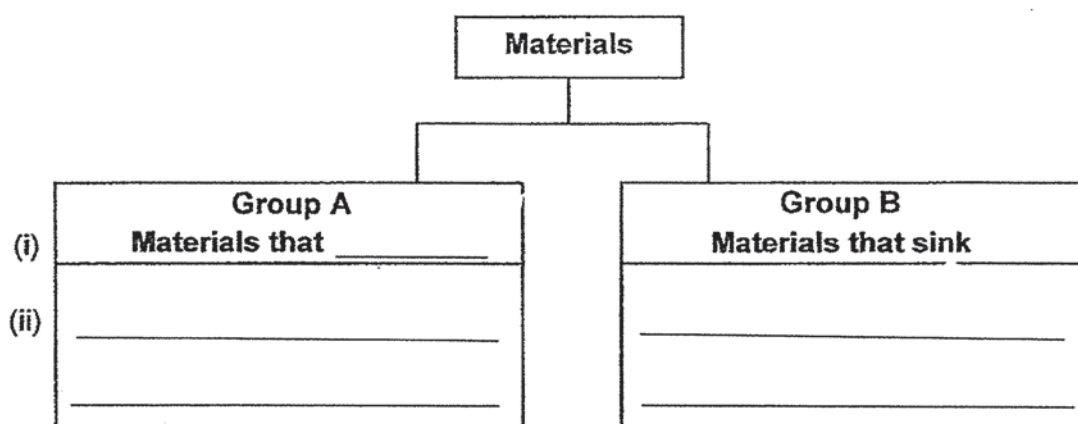
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Score	1
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29. Sam dropped four balls of the same size but made of different materials, W, X, Y and Z, into a tank of water. The diagram below shows the positions of the balls after some time.



- (a) Based on the above, (i) complete the description of Group A and (ii) classify the four materials, W, X, Y and Z, into two groups in the table below. [2]



- (b) Which material, X or Y, should a float for swimming be made of? Explain your choice. [1]

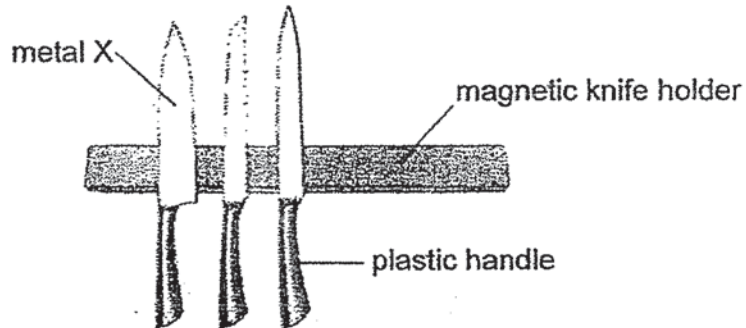
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Score	3
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30. A magnetic knife holder is a magnet used in the kitchen to hold knives in place as shown in the picture below.



- (a) Give an example of what metal X can be. [1]

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

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- (c) The magnetic knife holder cannot hold the knives by the handles. Explain why. [1]

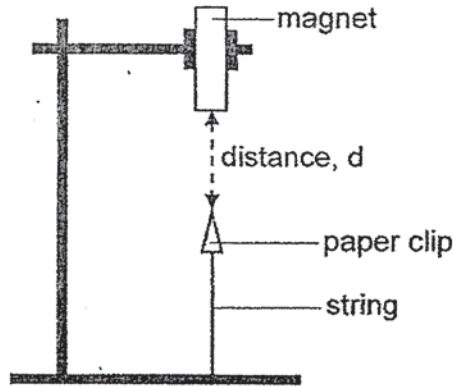
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Score	3
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31. Ken wanted to compare the strength of four magnets of similar size, E, F, G and H, using the setup below. He increased the distance between the magnet and the paper clip by moving the magnet up slowly until the paper clip fell.



The table below shows the results of his experiment.

Magnet	Distance, $d$ , between the paper clip and the magnet when the paper clip fell (cm)
E	3
F	6
G	4
H	5

- (a) State a variable of the paper clip that was kept the same so that the experiment is a fair test. [1]

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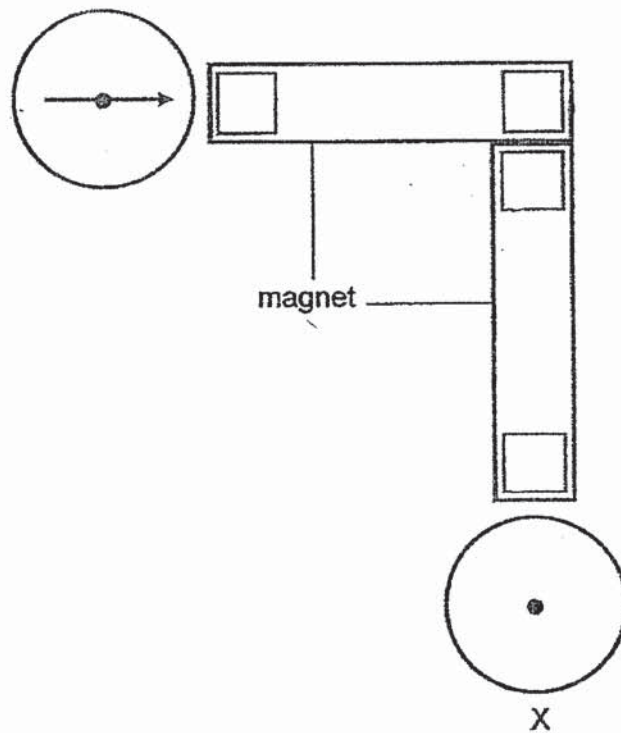
- (b) Based on the results of his experiment above, arrange the magnets according to their strength of attraction from the weakest to the strongest. [1]

weakest  → strongest

Score	2
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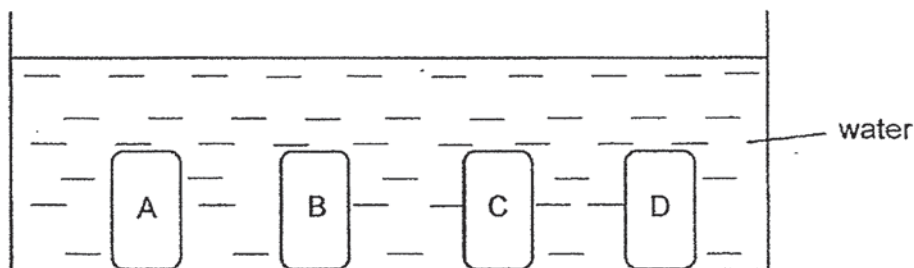
(c) Ken arranged 2 magnets and 2 compasses as shown below.

- (i) Label the poles of the magnets using 'N' and 'S' to indicate the north pole and the south pole of the magnets in the boxes provided. [1]
- (ii) Draw an arrow ( $\rightarrow$ ) to show the correct position of the needle in the compass, X. [1]



Score	2
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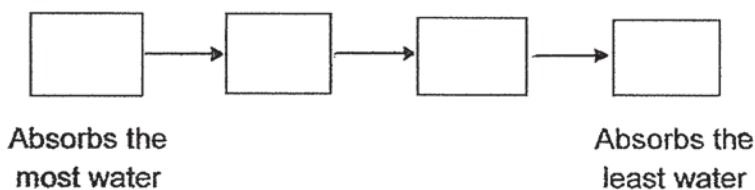
32. Michael weighed materials, A, B, C and D, of similar sizes. He then lowered them in a water tank for 2 minutes as shown in the diagram below.



After 2 minutes, he removed the materials from the water and weighed them again. He recorded the mass of the materials in the table below.

Material	A	B	C	D
Mass before placing it in water (g)	8	6	7	5
Mass after placing it in water for 2 minutes (g)	12	19	10	5

- (a) Arrange the materials, A, B, C and D, according to the amount of water they absorb. [1]



The drawing below shows a raincoat.



- (b) Based on the results above, which material, A, B, C or D, is most suitable to make a raincoat? Explain why. [1]

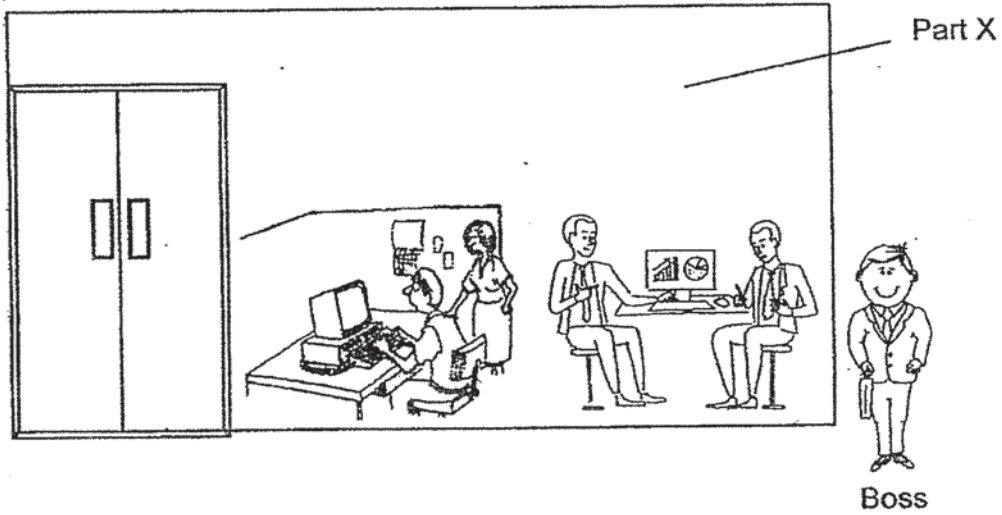
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Rashid was asked to suggest a material to make part X of a meeting room in an office. Part X should allow the boss to see the activities of the workers in the meeting room from outside.

## Meeting Room



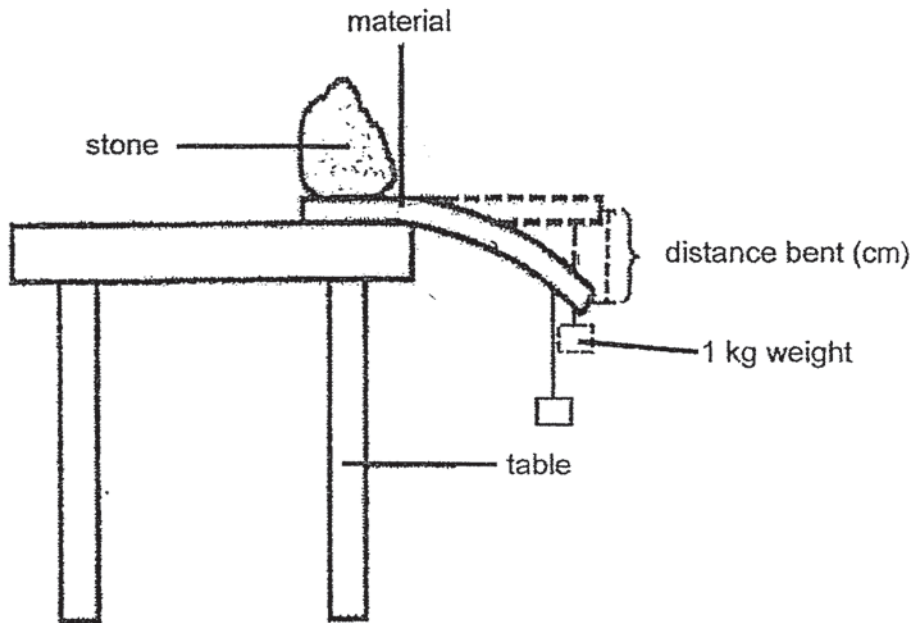
(c) Name a material that would be suitable to make part X. Give a reason for your answer. [1]

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Score	1
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33. Samuel set up an experiment using four different materials, A, B, C and D. He placed material A on the side of a table and placed a heavy stone on it to hold it down firmly as shown below. Then, he hung a 1 kg weight on the material at one end to bend it. He recorded the distance material A bent in the table below. He repeated the experiment with the remaining materials, B, C and D.



Material	Distance bent (cm)
A	20
B	0
C	8
D	10

- (a) Which property of the materials was tested in the above experiment? [1]

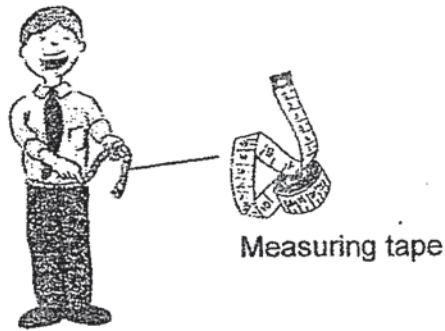
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Score	1
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Jim wants to buy a new pair of pants. He uses a measuring tape to measure his waist as shown in the diagram below.

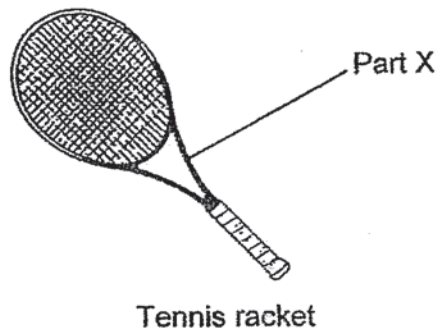


(b) Which material, A, B, C or D, is the most suitable to make the measuring tape? Explain why. [1]

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Mei Ling bought a new tennis racket as shown below.



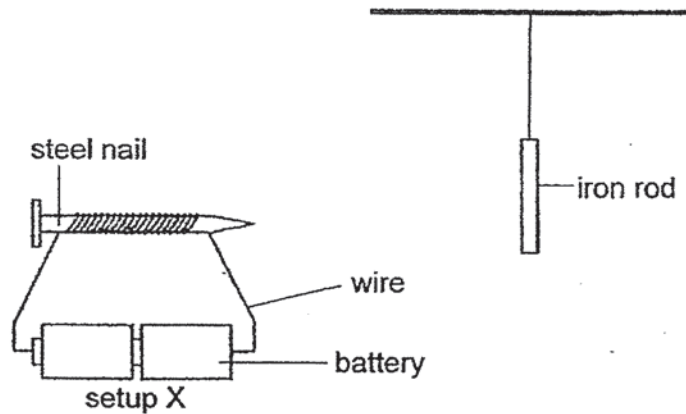
(c) Which material, A, B, C or D, is the most suitable to make Part X of the tennis racket? Explain why. [1]

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Score	2
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34. Suyin conducted an experiment using setup X and an iron rod below. She suspended the iron rod far away from the steel nail. She used new batteries for setup X.



- (a) What would Suyin observe happening to the iron rod when setup X was moved close to the iron rod? [1]

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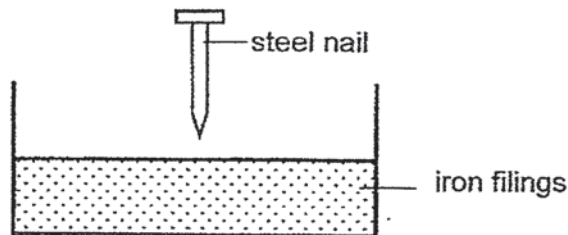
- (b) Explain your answer in (a). [1]

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The steel nail was then removed from the coils of wires before it was lowered into a container of iron filings.



- (c) However, no iron filings was attracted to the steel nail. Explain why. [1]

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End of Booklet B

Score	3
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## ANSWER KEY

YEAR : 2019  
 LEVEL : PRIMARY 3  
 SCHOOL : TAO NAN SCHOOL  
 SUBJECT : SCIENCE  
 TERM : SEMESTRAL ASSESSMENT 2

### BOOKLET A

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

### BOOKLET B

Q23. (a) Living thing X needs air and reproduces.

(b) Living things need water to survive.

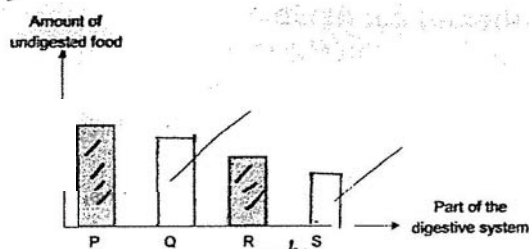
Q24. (a) circulatory system, muscular system

(b) The skull protects the brain.

Q25. (a) P, S

(b) The amount of digested food ~~decreases~~ *decreases*.

(c)



Q26. (a) Living thing D ~~is~~ *makes* food while living thing A does not.

(b)(i) B (ii) D (iii) C (iv) A

Q27. (a) H, G

(b) The roots of the plant in beaker H absorbs water.

(c) There was not enough sunlight for the plant to make food to stay alive.

Q28.

- |        |   |
|--------|---|
| (a)(i) |   |
| (ii)   | ✓ |
| (iii)  | ✓ |
| (iv)   |   |

(b) The large leaf can make more food as it can trap more sunlight.

Q29(a)

Group A Materials that float	Group B Materials that sink
W	X
Y	Z

(b) Y. Y will float on water and will not sink.

Q30. (a) Iron

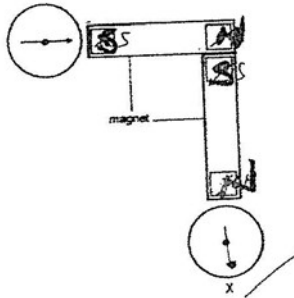
(b) Iron is a magnetic material so it can get attracted by the magnetic knife holder.

(c) Plastic is a non-magnetic material so it cannot be attracted by the magnetic knife holder.

Q31. (a) The length of paper clip.

(b) E, G, H, F

(c) (i)(ii)



Q32. (a) B, A, C, D

(b) Material D, it does not absorb any water, showing that it is waterproof and will not get wet thus being the most suitable material for a raincoat.

(c) Plastic, it is transparent so the boss can see through it.

Q33. (a) flexibility

(b) A, it is the most flexible.

(c) B, so part X will be stiff and not flexible.

Q34. (a) The iron rod will get attracted to the steel nail.

The steel nail had become an electromagnet.

The steel nail is no longer a magnet so it cannot attract any iron

filli...

2  
8-12