Name: _____ ( )

Class: Primary 3 _____

Primary 3
Semestral Assessment 2 – 2016
SCIENCE

BOOKLET A

27 Oct 2016

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

24 questions
48 marks

Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This booklet consists of 17 printed pages.

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. Joseph divided a tray of soil filled with earthworms into two equal parts as shown in diagram A below.

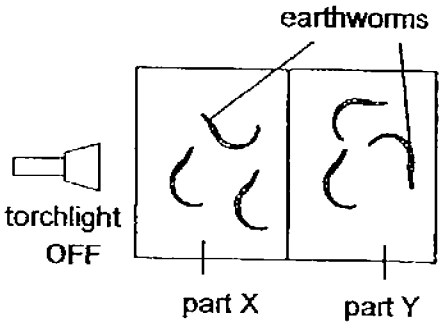


diagram A

He then switched on the torchlight placed near part X of the tray. After a day, he observed that all the earthworms went to part Y of the tray as shown in diagram B.

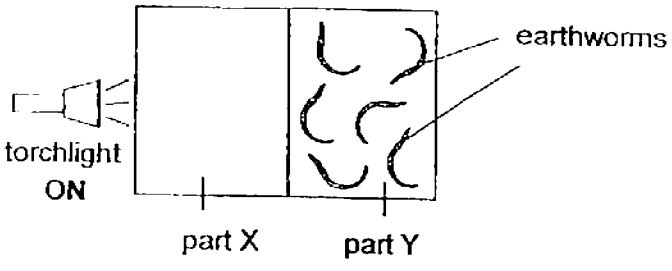
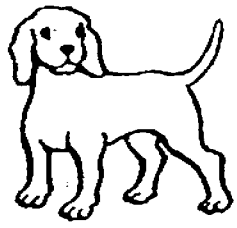


diagram B

What can he conclude from his experiment?

(1) Earthworms can reproduce.
(2) Earthworms respond to stimuli.
(3) Earthworms need water to stay alive.
(4) Earthworms like to grow in bright places.

2. Sally observed her puppy for an hour.



Which of her observations would not support the fact that her puppy is a living thing?

(1) It drinks milk.
(2) It has four legs.
(3) It barks at strangers.
(4) It wags its tail when it sees its owner.

3. Anette, Bala and Caixin found a bird's nest fern in the school garden as shown below.

bird's nest fern

They made the following statements.

Anette: The plant bears flowers.
Bala: The plant reproduces from spores.
Caixin: The plant can make its own food.

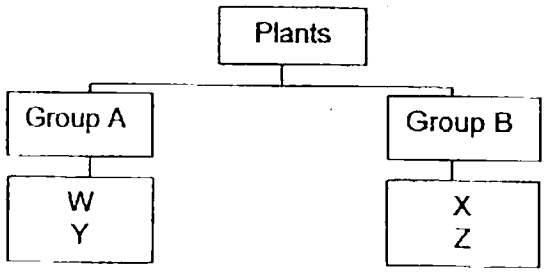
Whose statements are correct?

(1) Anette and Bala only
(2) Bala and Caixin only
(3) Caixin and Anette only
(4) Anette, Bala and Caixin

4. The table below shows the characteristics of plant, W, X, Y and Z.
A tick (✓) indicates that the characteristic is present in the plant.

	Characteristics		
Plant	**Has Flowers**	**Lives on Land**	**Makes its own food**
W	✓	✓	✓
X		✓	✓
Y	✓		✓
Z			✓

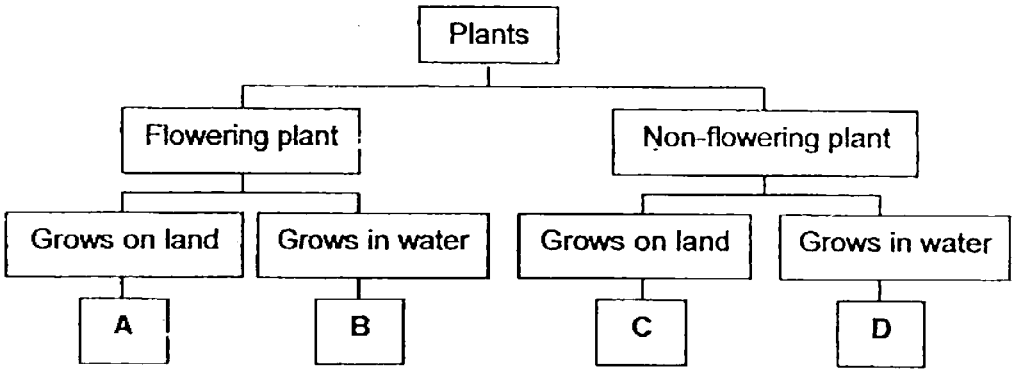
Tina uses the information above and draws the classification chart below.

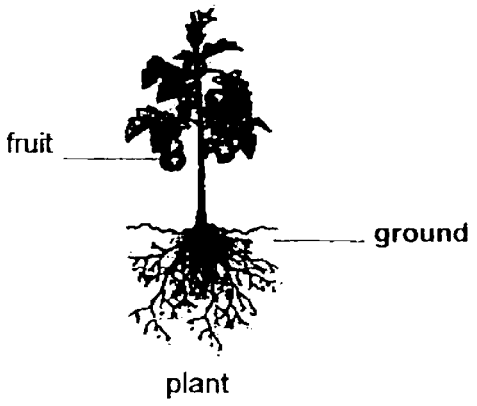


Which of the following are possible headings for group A and B?

	Group A	Group B
(1)	Edible fruits	Inedible fruits
(2)	Strong stem	Weak stem
(3)	Land plants	Water plants
(4)	Flowering plants	Non-flowering plants

5. Study the classification chart below.

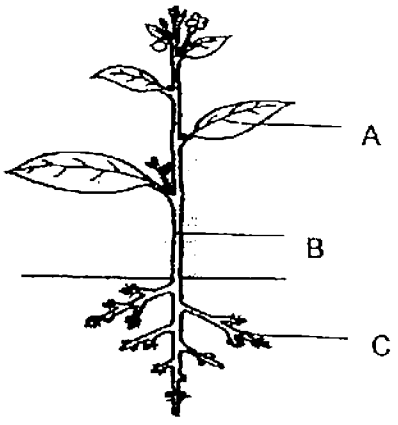




Based on the chart, which letter, A, B, C or D, best represents the plant shown above?

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

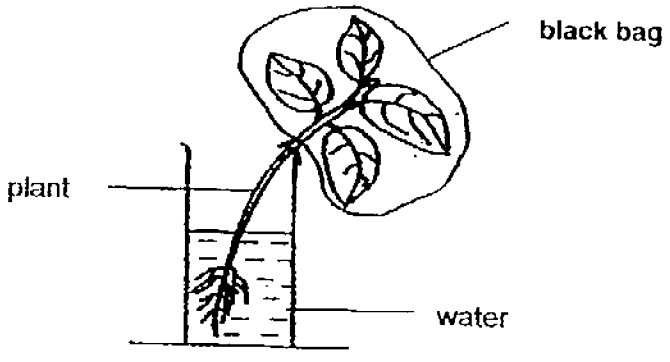
6. Mallika observed a plant shown below.



Which of the following best describes the functions of parts, A, B and C?

	A	B	C
(1)	Absorb water and mineral salts	Holds the plant upright	Make food
(2)	Holds the plant upright	Make food	Absorb water and mineral salts
(3)	Make food	Transport water, food and mineral salts	Anchor the plant firmly to the ground
(4)	Make food	Absorb water and mineral salts	Transport water, food and mineral salts

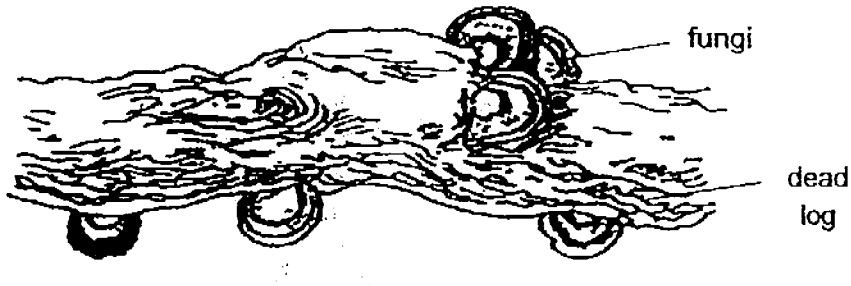
7. Hannah placed a plant with a plastic bag wrapped around its leaves in water as shown below. The plant died after a week.



Which one of the following best explains her observation?

(1) The plant did not have sufficient warmth.
(2) The plant could not reproduce as it had no flowers.
(3) The leaves could not take in sunlight to make food.
(4) The leaves of the plant could not get enough water.

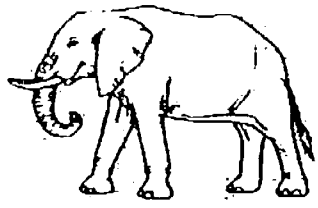
8. The diagram below shows some fungi growing on a dead log.



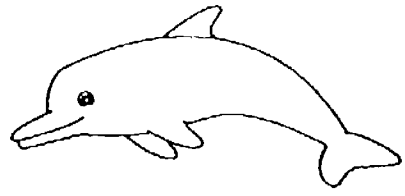
Which of the following statements about the fungi is true?

(1) The fungi reproduce by seeds.
(2) The fungi make food for the log.
(3) The fungi depend on the dead log for food.
(4) The fungi are plants that grow on dead logs.

9. The diagram below shows two animals.



elephant



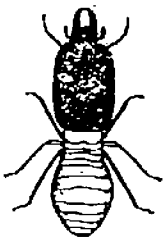
dolphin

Which of the following statements show the common characteristics of both animals?

A They breathe through lungs.
B They reproduce by laying eggs.
C They feed their young with milk.
D They have an outer body covering of scales.

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

10. Study the classification table below.

Group X	Group Y
 Eagle	 Termite
 Bat	 Spider

Which one of the following headings best represents Group X and Group Y?

	Group X	Group Y
(1)	Bird	Insect
(2)	Can fly	Cannot fly
(3)	Covered with feathers	Hard outer covering
(4)	Gives birth to live young	Lays eggs

11. Which of the following statements are true of all insects?

A They can fly.
B They have six legs.
C They cause diseases.
D They have three body parts.

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

12. Which one of the following best explains why bacteria is not classified as plants?

(1) They do not produce seeds.
(2) They are harmful to humans.
(3) They cannot make their own food.
(4) They can only be seen through a microscope.

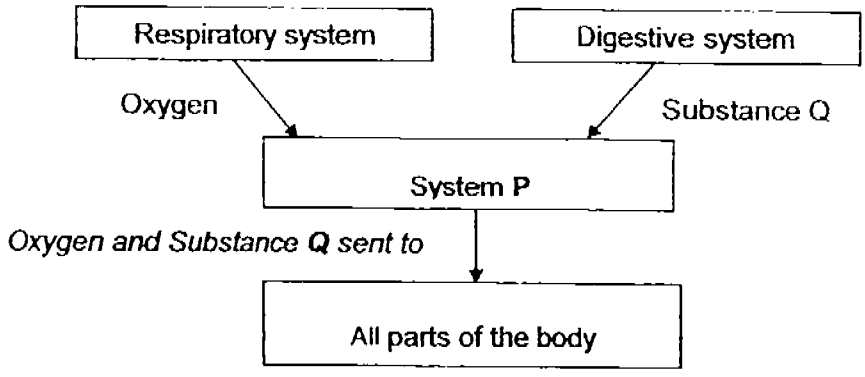
13. Which one of the following will have fungi growing on it after one week?

(1) A tin of biscuits
(2) A sealed bottle of water
(3) A slice of cake left on a table
(4) A tub of ice cream in the freezer

14. Digested food is absorbed into our blood through the walls of the _____.

(1) gullet
(2) stomach
(3) large intestine
(4) small intestine

15. Study the chart below.



Which of the following best represent system P and substance Q in the chart above?

	System P	Substance Q
(1)	Circulatory	Digested food
(2)	Skeletal	Undigested food
(3)	Circulatory	Undigested food
(4)	Muscular	Digested food

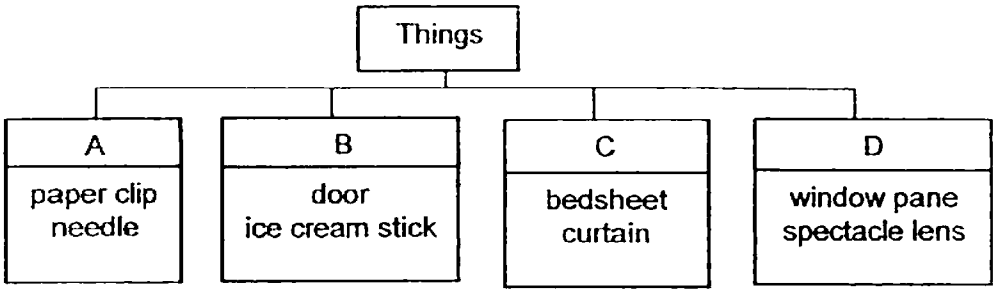
16. The diagram below shows a fork.

Metal is used to make a fork because it _____ _____.

A is strong
B is not flexible
C does not float on water
D does not allow light to pass through it

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

17. Some things are grouped according to the materials they are made of in the classification chart below.



In which group would you classify a key?

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

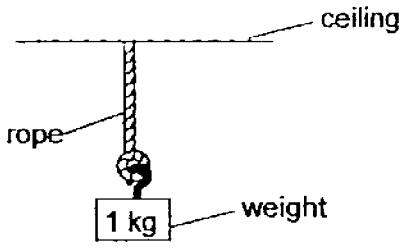
18. The properties of materials, S, T, U and V, are listed in the table below.
A tick (✓) shows that the material has the property.

	Materials			
Properties	**S**	**T**	**U**	**V**
Breaks easily		✓		✓
Flexible	✓		✓	
Absorbs water	✓			
Allows light to pass through				✓

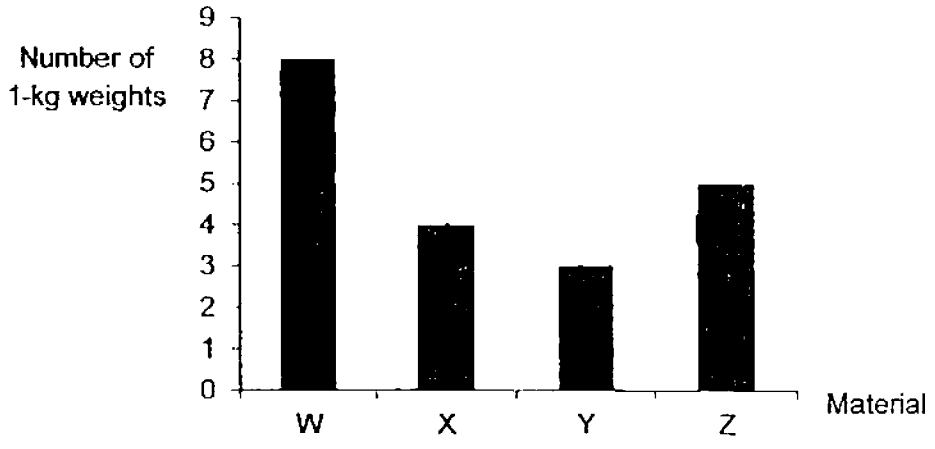
Based on the table above, which material, S, T, U or V, is most suitable for making a raincoat?

(1) S
(2) T
(3) U
(4) V

19. Mary carried out an experiment on four ropes made of different materials. The length and thickness of the ropes were the same. She hung a 1-kg weight on each of the ropes as shown below.



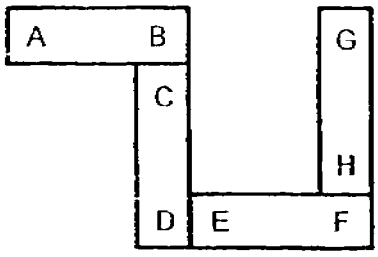
The bar graph below shows the number of 1-kg weights each of the ropes could hold before it broke.



Which of the following conclusions can be made from the experiment?

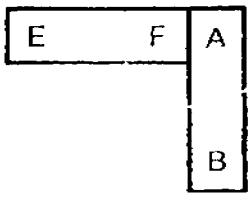
(1) Material X is stronger than material W.
(2) Material Z is stronger than material X.
(3) Material Y is less flexible than material Z.
(4) Material W is more flexible than material Y.

20. Five bar magnets with the ends marked A to H are arranged as shown below.

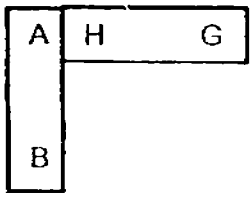


Which one of the following diagrams shows a possible arrangement of two of the magnets?

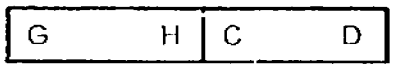
(1)



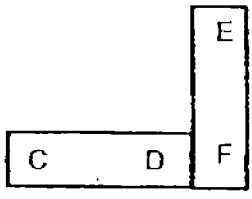
(2)



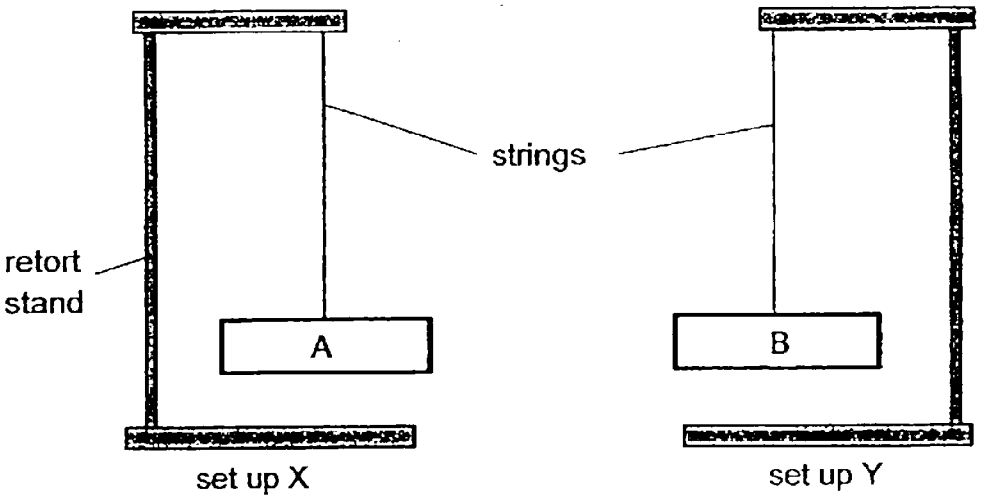
(3)



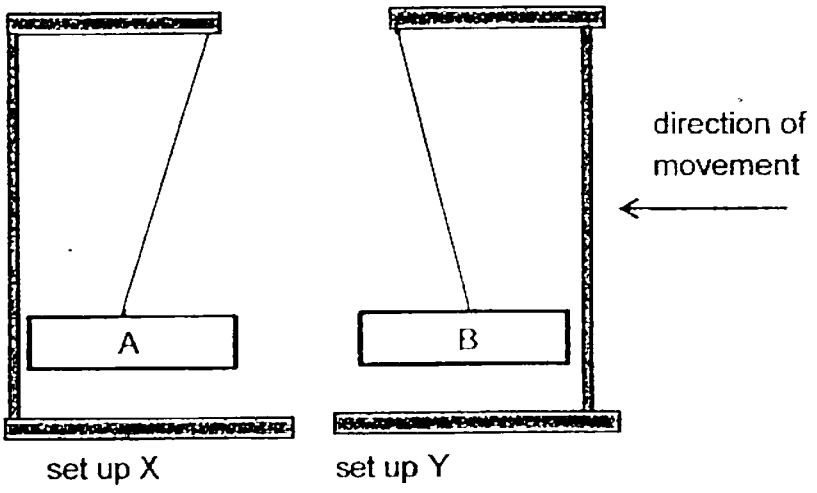
(4)



21. Objects, A and B, were freely suspended from two retort stands as shown below.



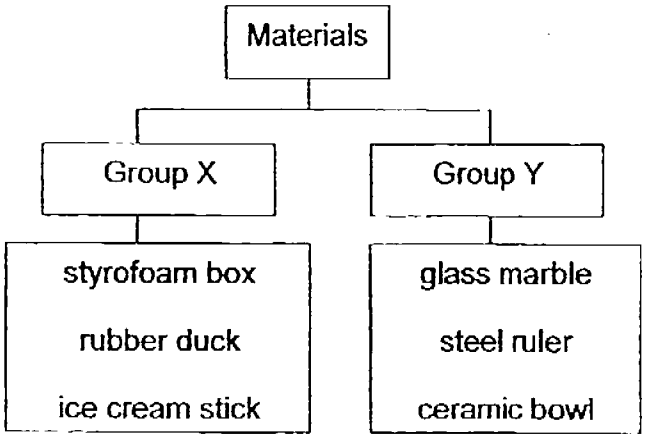
When set up Y was pushed closer to set up X, the following was observed.



Which one of the following statements best explains the observation above?

(1) Only object A is a magnet.
(2) Only object B is a magnetic material.
(3) The like poles of both magnets are facing each other.
(4) The unlike poles of both magnets are facing each other.

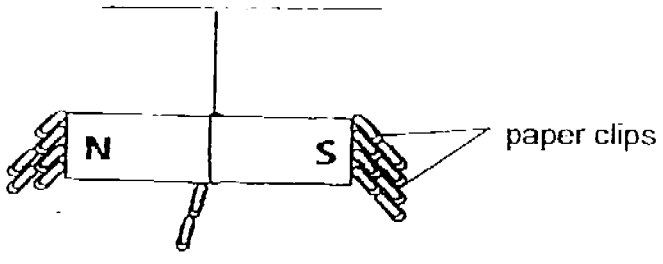
22. Study the classification chart below.



Which of the following are suitable headings for group X and Y?

	Group X	Group Y
(1)	man-made	natural
(2)	flexible	stiff
(3)	magnetic	non-magnetic
(4)	floats on water	sinks in water

23. The diagram below shows a bar magnet attracting some paper clips.



Which of the following statement(s) is/are correct?

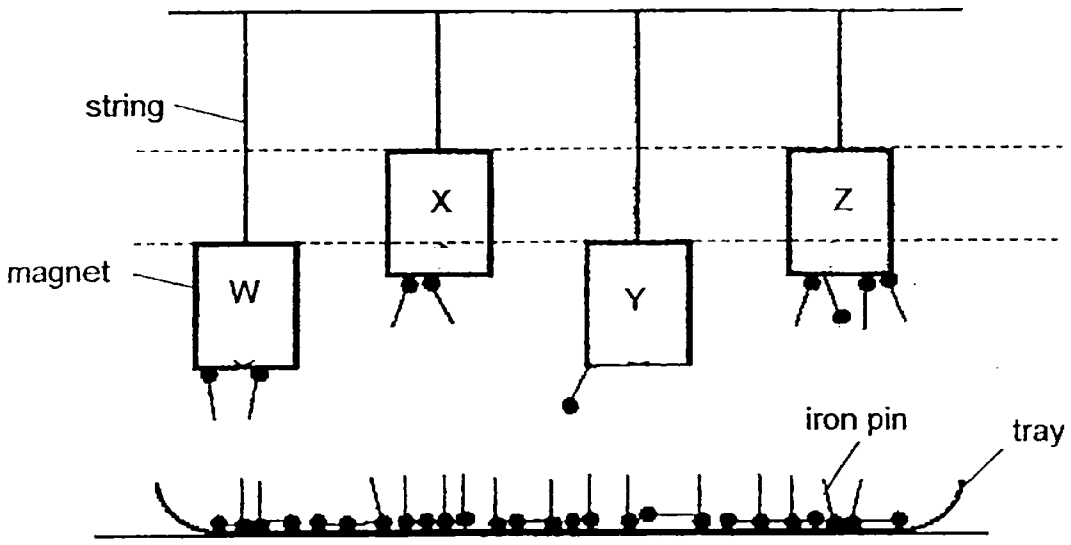
A The paper clips are made of magnetic materials.

B The paper clips are made of non-magnetic materials.

C The magnetic attraction is strongest at the poles of the bar magnet.

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

24. Amy hung four similar magnets, W, X, Y and Z, above a tray of iron pins as shown below.



Based on their magnetic strength shown above, arrange the magnets from the weakest to the strongest.

(1) Z, X, Y, W
(2) Y, Z, W, X
(3) Y, W, X, Z
(4) Z, Y, X, W

END OF BOOKLET A

Name : _____ ( )

Class : Primary 3 _____

Primary 3
Semestral Assessment 2 – 2016
SCIENCE

BOOKLET B

27 Oct 2016

Booklet A	48
Booklet B	32
Total	80

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

10 questions
32 marks

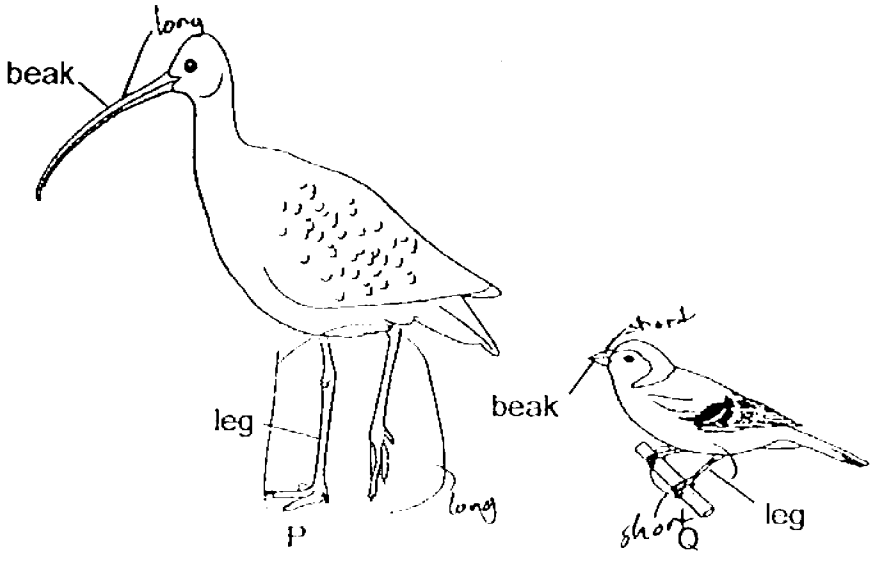
Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.

This paper consists of 11 printed pages.

Section B (32 marks)
For questions 25 to 34, write your answers in this booklet.

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

25. The diagram below shows two birds, P and Q.



(a) Based only on what is observable in the diagram above, state two main differences in their beaks and legs. [2]

Beaks: _____

_____

Legs: _____

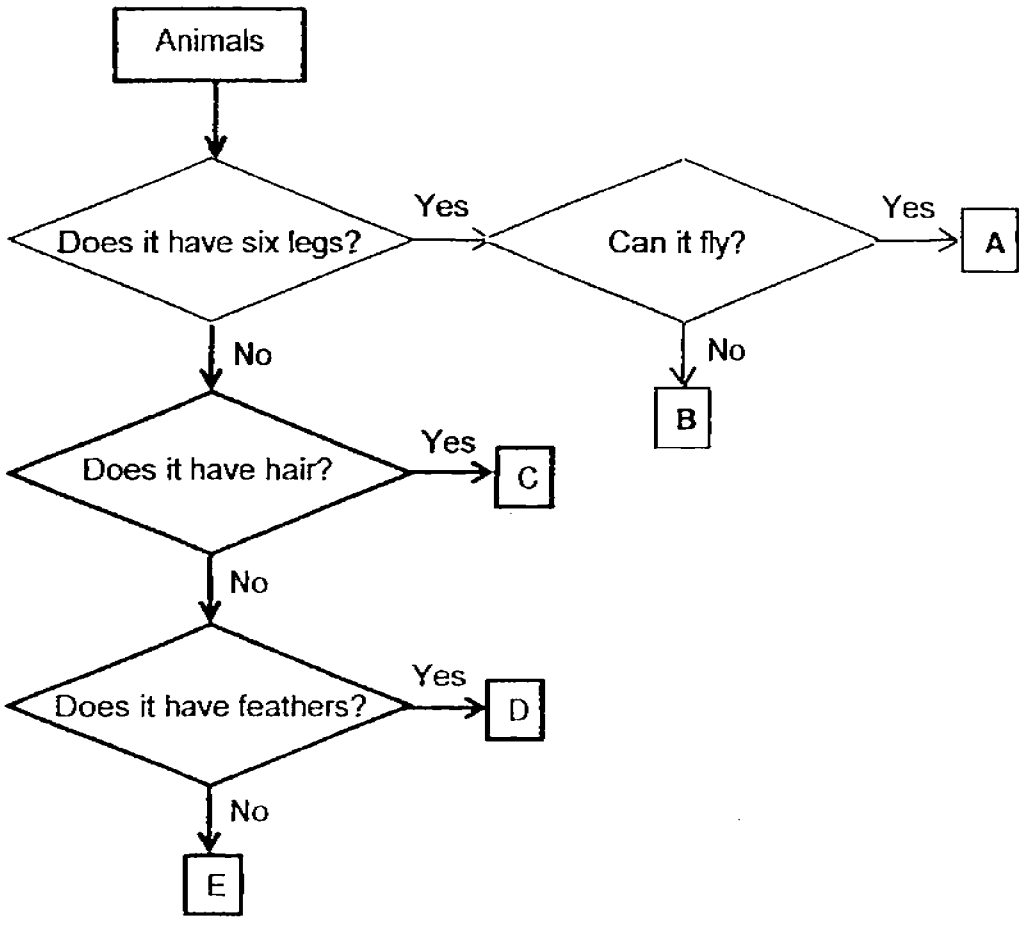
_____

(b) State one similarity in the reproduction method of P and Q. [1]

_____

_____

26. Study the flow chart below.



(a) Based on the flowchart above, write the letters, A, B, C, D or E, that best represent the following animals in the boxes below. [2]

Bee	Frog	Bat	Penguin

(b) Based on the above flowchart, state one similarity between A and B. [1]

_____

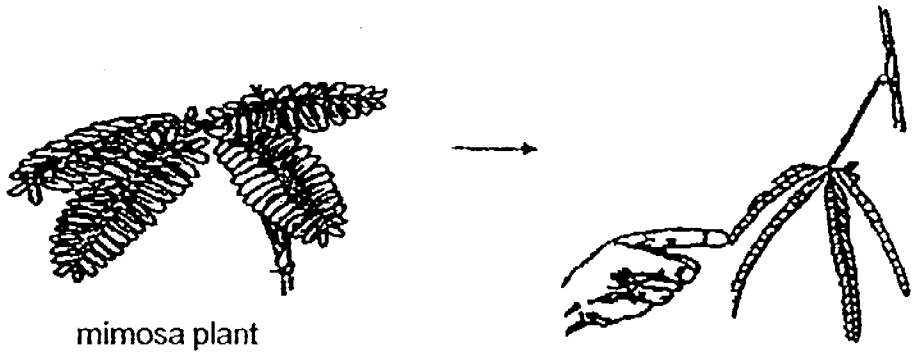
_____

(c) Based on the above flowchart, state one difference between C and D. [1]

_____

_____

27. The diagram below shows the leaves of the mimosa plant before and after being touched. The mimosa plant closes its leaves when touched.

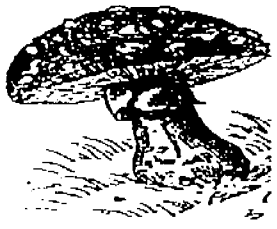


mimosa plant

(a) Name the characteristic of living things shown by the above observation. [1]

_____

The diagram below shows a mushroom.



mushroom

(b) Tom said the following," Both the mimosa plant and the mushroom can make their own food."

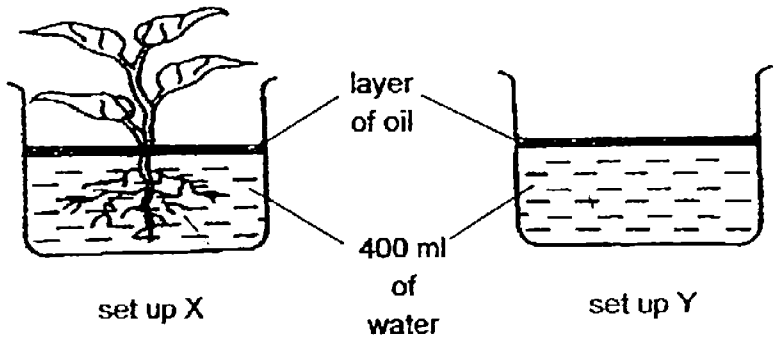
Explain why this statement is **not** correct. [2]

_____

_____

_____

28. Alice set up the following experiment as shown below. She placed a plant in set up X but not in set up Y.



(a) Which of the set ups, X or Y, would have lesser water after 4 days? [1]

_____

_____

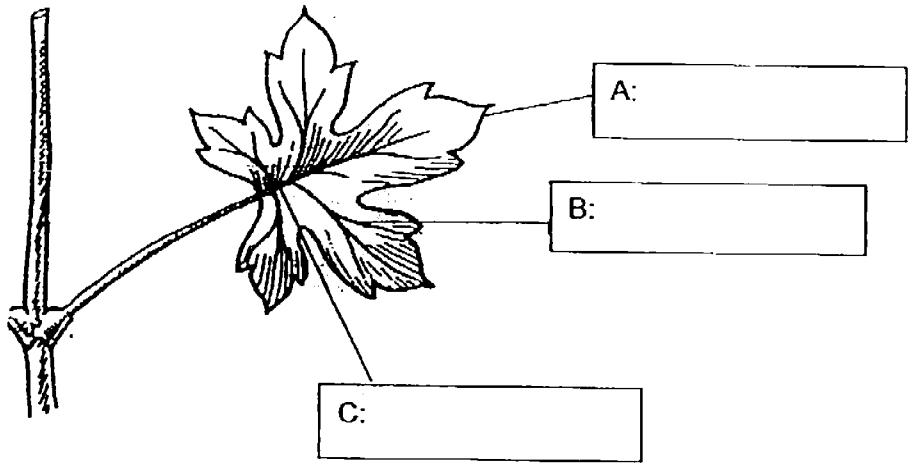
(b) Give a reason for your answer in (a). [2]

_____

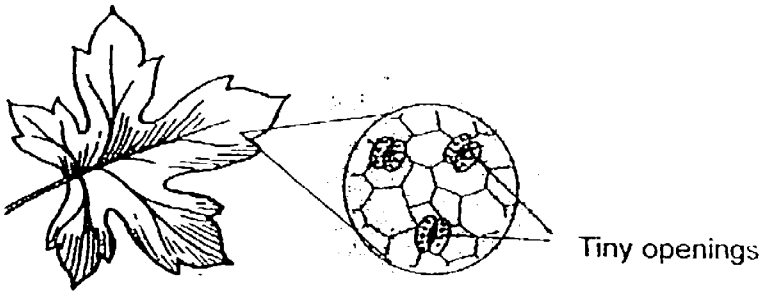
_____

29. The diagram below shows a leaf from a plant.

(a) Identify parts, A, B and C. [3]



There are many tiny openings on the leaf as shown below.



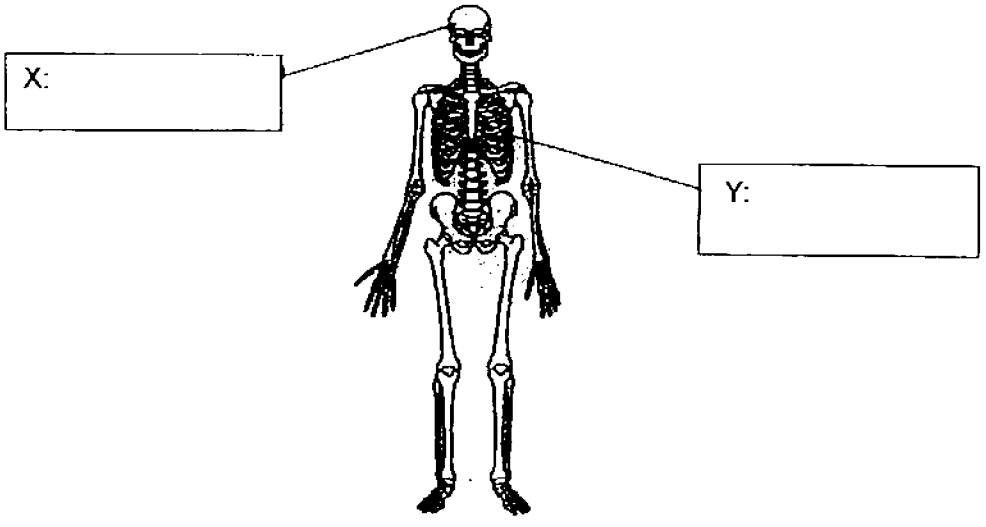
(b) What is the function of the tiny openings on the leaf? [1]

_____

_____

30. Study the diagram below.

(a) Identify parts, X and Y. [1]



(b) Part X protects the _____ [½]

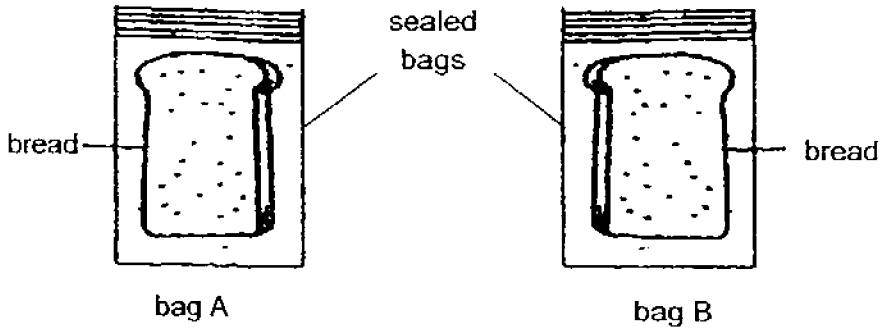
Part Y protects the _____ [½]

(c) Name the other body system which needs to work with the skeletal system to enable us to move around. [1]

_____

_____

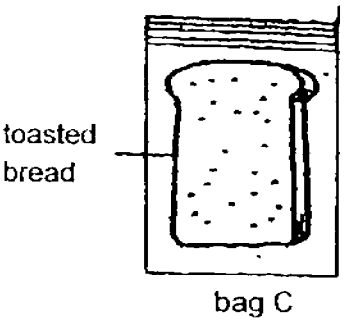
31. Ann carried out an experiment to find out if mould needs light to grow. She used two slices of bread as shown in the set ups below.



(a) In the table below, place a tick (✓) next to each condition that needs to be kept the same in the experiment. [1]

Condition	Kept the same
Type of bread	
Location to place bag A and B	
Amount of water on the bread	
Type of bag	

(b) In another experiment, Ann toasted a piece of bread for ten minutes under high temperature and placed it into bag C after it had cooled down.



After two weeks, she observed no mould had grown on the bread. Explain why. [1]

_____

_____

32. Mei Ling set up an experiment as shown below to compare the flexibility of three different materials, X, Y and Z, which are of the same length and thickness.

diagram 1

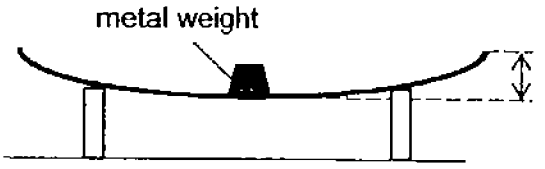


diagram 2

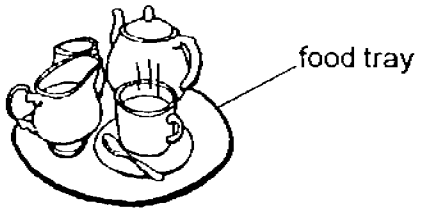
A metal weight of 50g was placed in the middle of material X. She measured the distance *d*. She repeated her experiment using materials, Y and Z. She recorded her results in the table below.

Material	Amount of weight (g)	Distance (cm)
X	50	3
Y	50	1
Z	50	2

(a) Arrange the materials, X, Y and Z, according to their flexibility. Start with the least flexible material. [1]

(least flexible) _____ , _____ , _____ (most flexible)

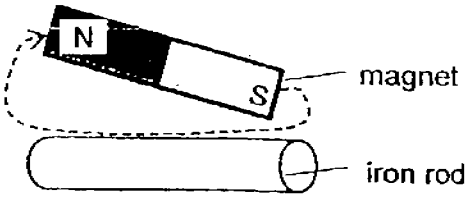
(b) Based on the experiment above, which material, X, Y or Z, is most suitable for making a food tray? Explain your answer. [2]



_____

_____

33. Amy stroked an iron rod ten times in the direction shown below.



(a) Explain what would happen to the iron rod after she stroked it with a magnet? [1]

_____

_____

Amy then placed the iron rod next to some paper clips and recorded the number of paper clips attracted. She repeated the experiment with different number of strokes and recorded her results in the table shown below.

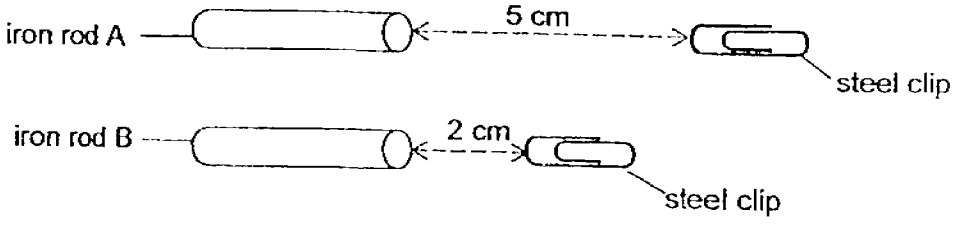
Total number of strokes	Number of paper clips attracted
10	2
15	5
20	11

(b) Based on the results above, what can she conclude about the experiment? [1]

_____

_____

In another experiment, Amy stroked another two iron rods, A and B, using the same magnet. She observed that iron rod A attracted the steel clip from a distance of 5 cm while iron rod B attracted the steel clip from a distance of 2 cm.

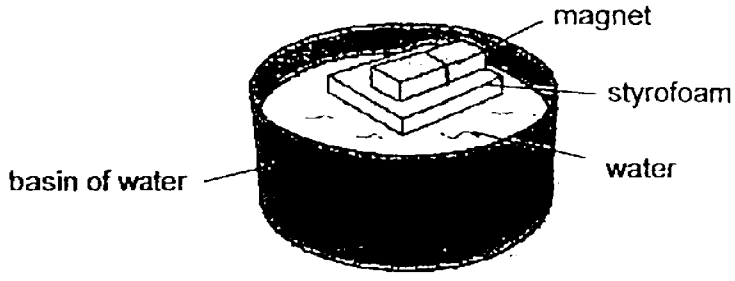


(c) Based on her observations, which iron rod was stroked more times? Give a reason for your answer. [2]

_____

_____

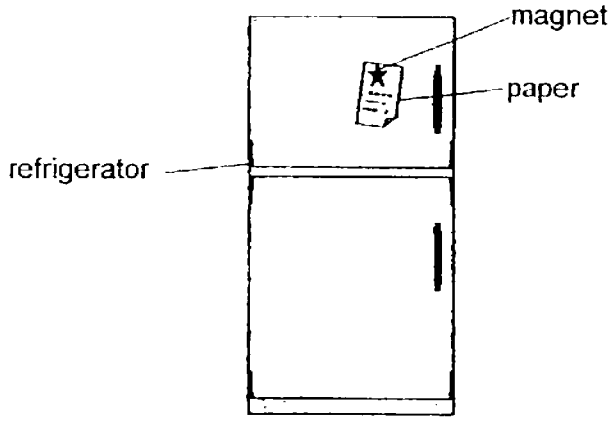
34. John conducted an experiment as shown below. He placed a magnet on a piece of styrofoam and allowed it to float on the water surface in a basin of water as shown below.



(a) When the magnet was allowed to turn freely, in which direction would the magnet come to rest? [1]

_____

John noticed that his mother had left a piece of paper on the door of the refrigerator. The paper was held onto the door with the help of a magnet as shown below.



(b) Name the material that the door of the refrigerator is most likely made of? [1]

_____

(c) Give a reason why the magnet was able to hold the piece of paper on the door of the refrigerator? [1]

_____

_____

END OF PAPER

YEAR : 2016
LEVEL : PRIMARY 3
SCHOOL : CHIJ ST NICHOLAS GIRLS'
SUBJECT : SCIENCE
TERM : SA2

Booklet A

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

Booklet B

Q25 (a) Beaks: Bird P has a long beak while bird Q has a short beak.

Legs : Bird P has long legs while bird Q has short legs.

(b) They reproduce by laying eggs.

Q26 (a)

Bee	Frog	Bat	Penguin
A	E	C	D

(b) Animal A and B has six legs.

(c) Animal C has hair while animal D does not have hair.

Q27 (a) Living things responds to changes.

(b) The mimosa plant can make its own food while the mushroom cannot make its own food. Mushrooms obtain their food from dead or living things.

Q28 (a) Set up X.

(b) The roots of the plant in set up X absorbed the water as living things need water to survive. There was no plant in set up Y, so it will not have lesser water after 4 days.

Q29 (a)

A : Leaf blade

B : Veins

C : Stalk

(b) To exchange gases with its surroundings.

Q30 (a)

X : Skull

Y : Ribcage

(b) Part X protects the brain.

Part Y protects the lungs and the heart.

(c) The muscular system.

Q31 (a)

Condition	Kept the same
Type of bread	✔
Location to place bag A and B	
Amount of water on the bread	✔
Type of bag	✔

(b) It had no moisture. Mould needs moisture to grow.

Q32 (a) Material Y, Material Z, Material X

(b) Material Y. It is the least flexible.

Q33 (a) She was turning the iron rod into a temporary magnet.

(b) As the total number of strokes increases, the number of paper clips attracted increases.

(c) Iron rod A. It could attract the steel clip from the longer distance.

Q34 (a) It would rest in a north-south direction.

(b) Iron

(c) Magnetism is able to pass through the paper which is a non-magnetic material.

End