PEI CHUN PUBLIC SCHOOL

PRIMARY 6

TERM 1 WEIGHTED ASSESSMENT 2025

SCIENCE

(BOOKLET A)

Additional Materials: Optical Answer Sheet (OAS)

Total Time for Booklets A and B: 1 h 10 min

Name: _____ ( )

Class: Primary 6 / ( )_____

Date: 21 February 2025

Science Teacher: _____

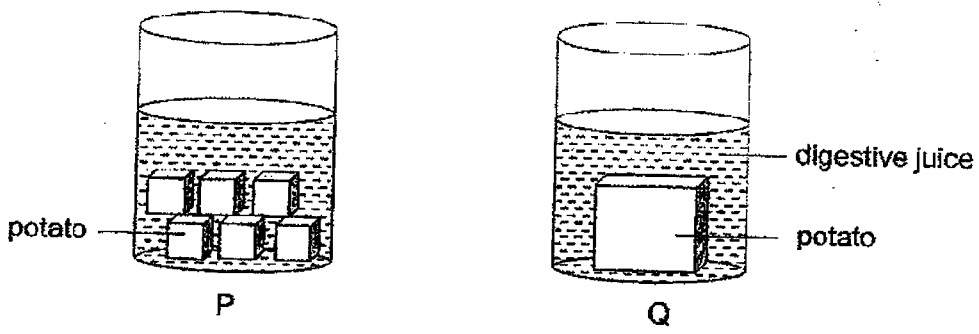
INSTRUCTIONS TO CANDIDATES

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

This booklet consists of **15** printed pages including the cover page.

Section A (16 × 2 marks)
For questions 1 to 16, choose the most suitable answer and shade its number (1, 2, 3 or 4) on the Optical Answer Sheet (OAS) provided.

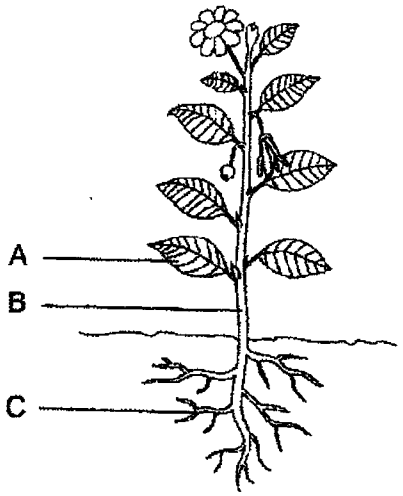
1 P and Q are similar beakers containing the same volume of digestive juices. Equal amounts of potato are placed in the beakers.



In which beaker would the potato take a longer time to be digested and what was the reason?

	Beaker	Reason
(1)	P	The potato has a smaller volume.
(2)	P	The potato has a smaller exposed surface area.
(3)	Q	The potato has a smaller exposed surface area.
(4)	Q	The potato has a larger volume.

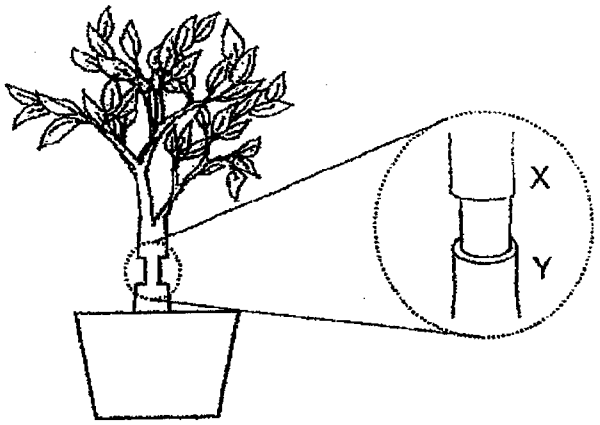
2 Which of the following help(s) to hold the plant upright?



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

3 Nazrul removed an outer ring of the stem from a plant as shown below.

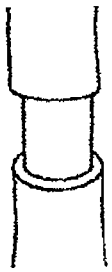
As a result, the food-carrying tubes between positions X and Y were removed while the water-carrying tubes remained in the stem.



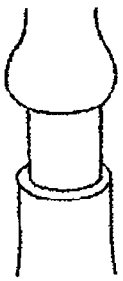
He left the plant in an open area and watered it daily for one week.

Which of the following diagrams shows the appearance of the stem after one week?

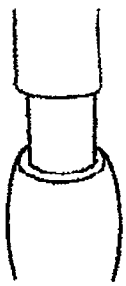
(1)



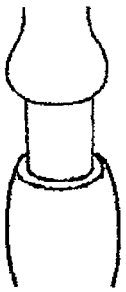
(2)



(3)



(4)



4 The table shows the breathing rates of Ben and Ken during an exercise.

Time (min)	Breathing rate (breaths per min)	
	Ben	Ken
0	12	16
3	17	19
6	21	22
9	25	26
12	32	32

Which statement is correct?

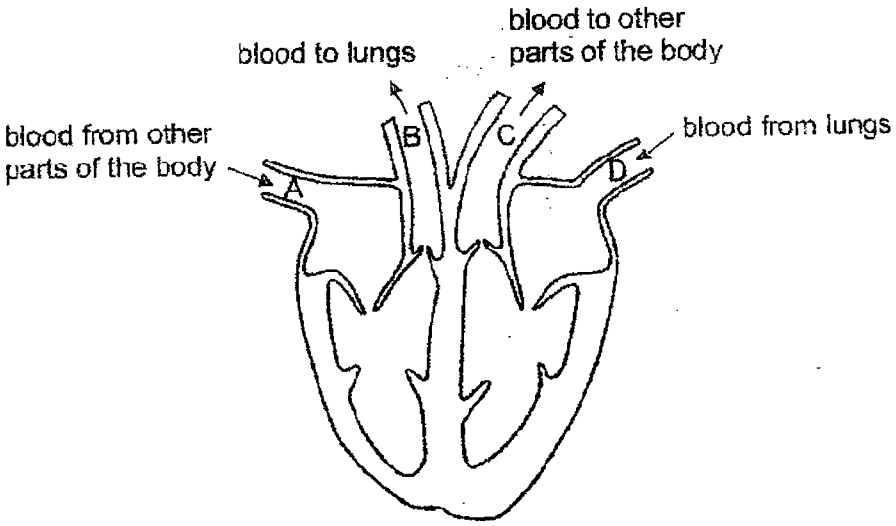
(1) Ben's breathing rate was higher than Ken's breathing rate.

(2) Ben breathed in less oxygen per breath as compared to Ken.

(3) Ben and Ken have the same breathing rate when they are resting.

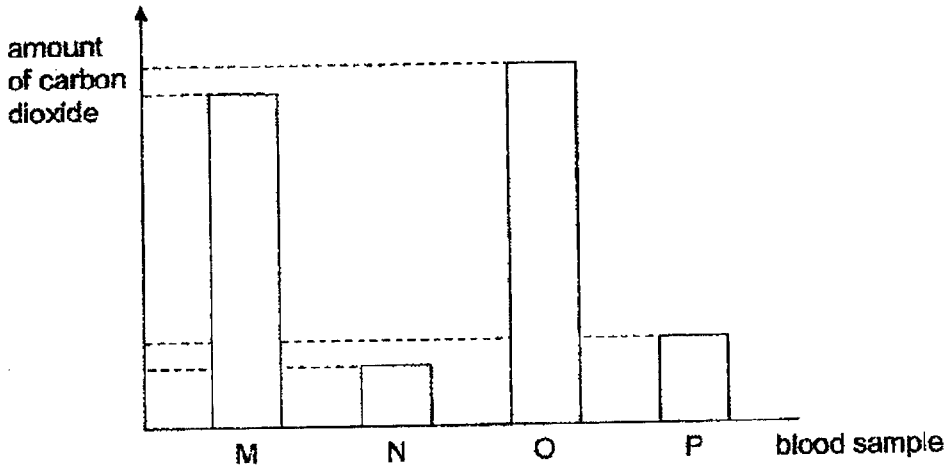
(4) Ben's breathing rate increased more than Ken's breathing rate during the exercise.

5 The diagram below shows the movement of blood to and from a human heart.



The same amount of blood was taken from blood vessels A, B, C and D.

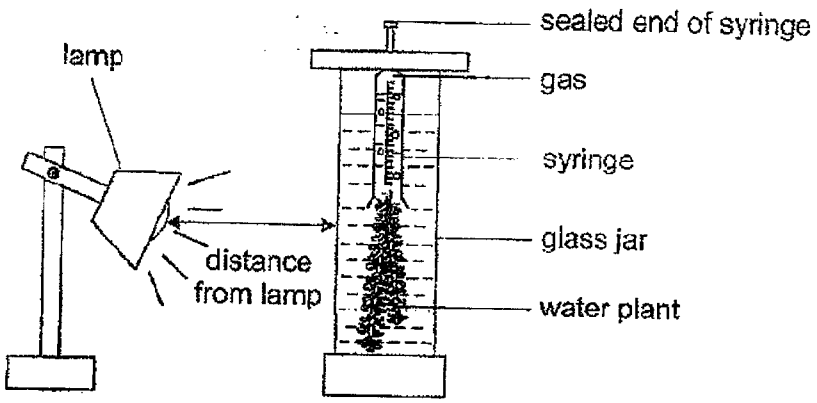
The graph shows the amount of carbon dioxide present in the four blood samples.



Which blood vessel was blood sample P most likely taken from?

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

6 May set up an experiment in a dark room as shown.



She placed a lamp at a distance of 10 cm from the glass jar. After one hour, she observed that 6 cm^3 of gas was collected in the syringe. She repeated the experiment by placing the lamp at different distances from the glass jar.

Which of the following shows the most likely result of the experiment?

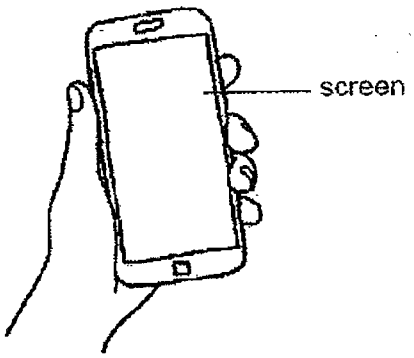
	Distance from the lamp (cm)	Volume of gas collected (cm^3)
(1)	20	more than 6
(2)	20	equal to 6
(3)	5	more than 6
(4)	5	equal to 6

7 Which of the following must a plant have to carry out photosynthesis?

A stomata
B chloroplasts
C food-carrying tubes
D water-carrying tubes

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

8 The diagram shows a mobile phone.

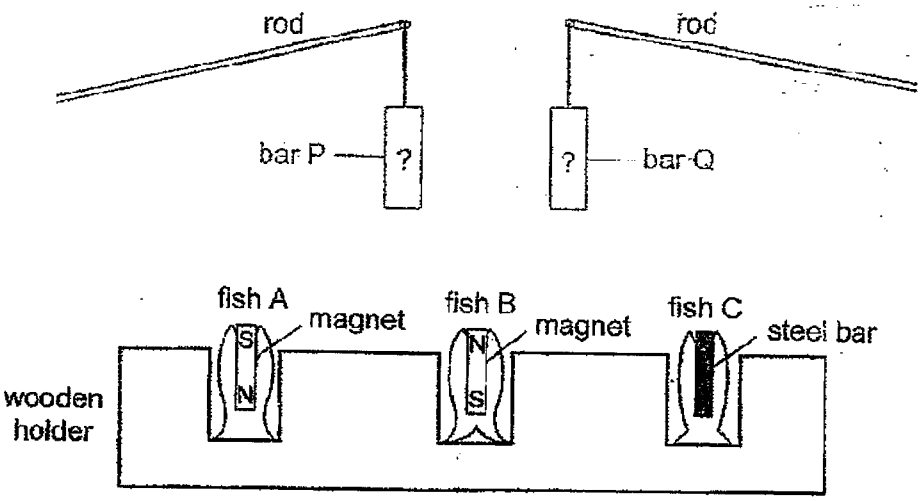


What are the properties of the material used to make the screen?

	Property		
	Flexible	**Waterproof**	**Allows light to pass through**
(1)	✓	✓	×
(2)	✓	×	✓
(3)	×	✓	×
(4)	×	✓	✓

Key
✓ : yes
× : no

9 John made a game using the objects shown below.



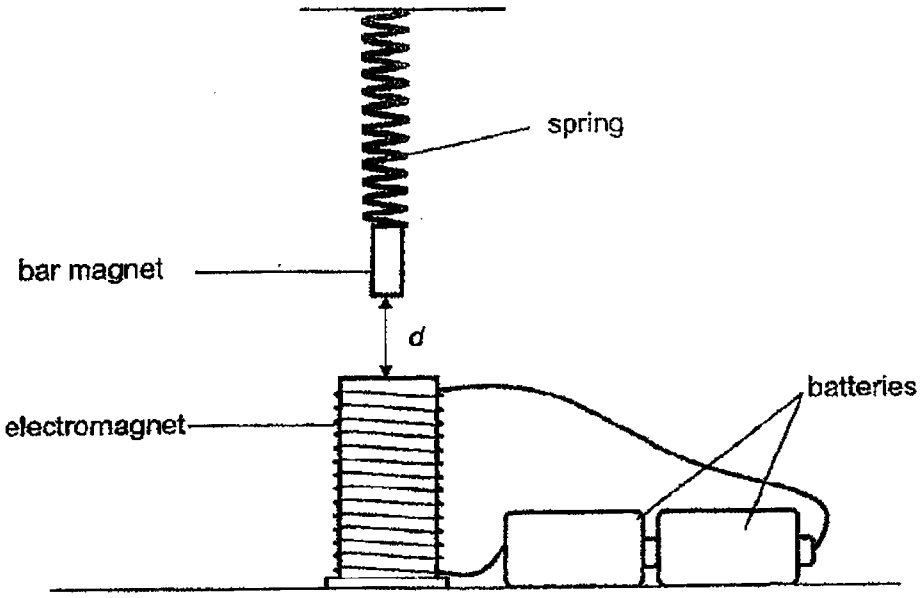
The lower end of the bar was used for catching toy fish.

Bar P could catch fish A and B only.
Bar Q could catch fish B and C only.

Which of the following about bars P and Q is correct?

(1) Both bars P and Q are magnets.
(2) Both bars P and Q are magnetic objects.
(3) Bar P is a magnet and bar Q is a magnetic object.
(4) Bar P is a magnetic object and bar Q is a magnet.

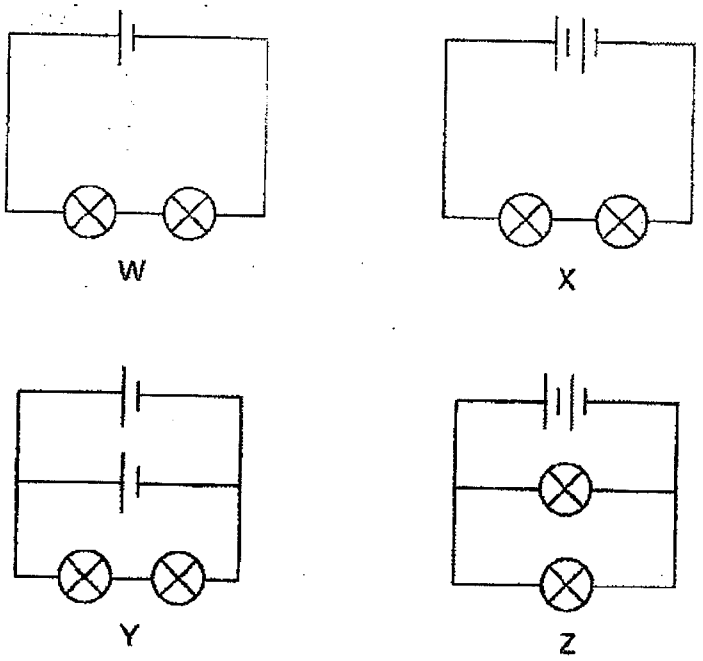
10 Kelly conducted an experiment using the set-up below. When the circuit was closed, the bar magnet was attracted to the electromagnet. She measured the distance *d* between the bar magnet and the electromagnet.



She repeated the experiment with only one battery. How would distance *d* change and what was the reason?

	Distance *d*	**Strength of the electromagnet**
(1)	decreased	decreased
(2)	decreased	increased
(3)	increased	decreased
(4)	increased	increased

11 Jasmine set up four circuits using identical batteries and bulbs in working condition to find out whether the arrangement of the bulbs in a circuit affects the brightness of the bulbs.



Which two circuits should Jasmine use for her investigation?

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

12 Six metal pins, A, B, C, D, E and F, were fixed onto a wooden board as shown in Diagram 1. Diagram 2 shows a battery and a bulb connected to two wires X and Y.

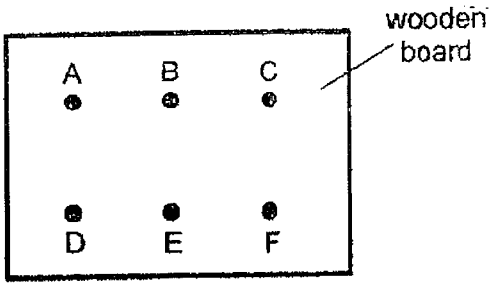


Diagram 1

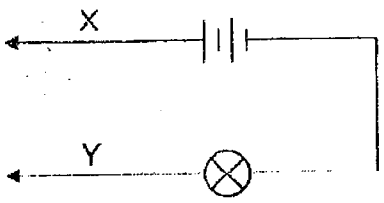


Diagram 2

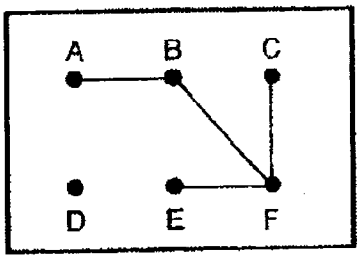
Garron connected some but not all of the pins on the wooden board in Diagram 1 with wires.

He then connected X and Y across different pairs of pins in turn. He recorded his results in the table below.

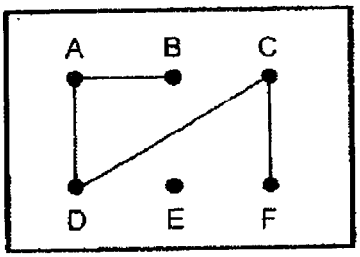
Pin connected to X	Pin connected to Y	Did the bulb light up?
A	B	yes
A	F	yes
C	D	no
D	E	yes

Which of the following correctly shows the connections made by Garron?

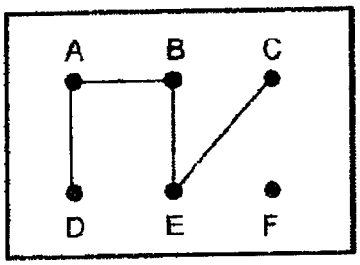
(1)



(2)



(3)



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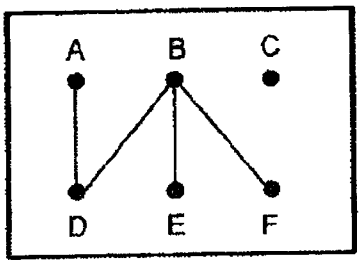
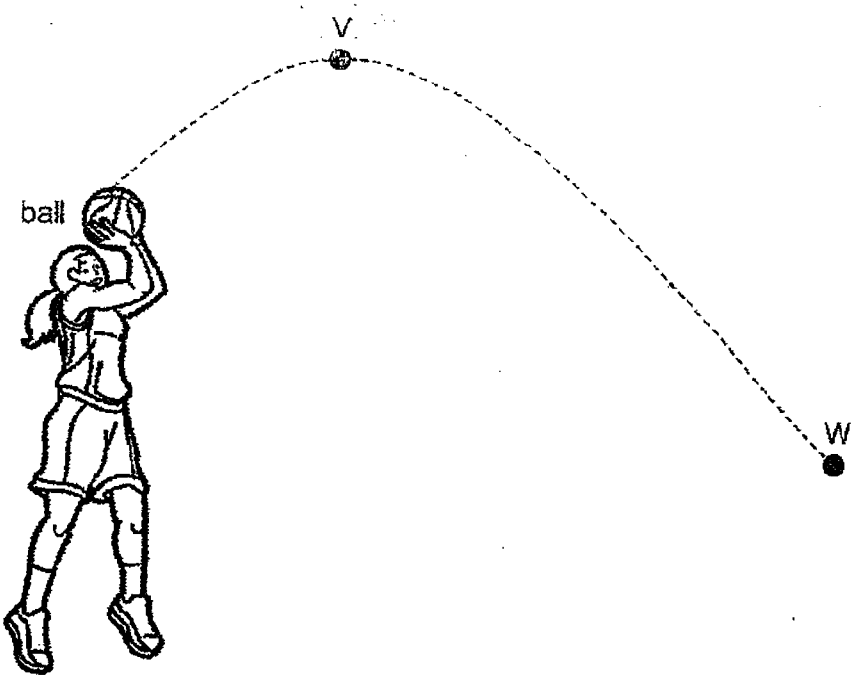


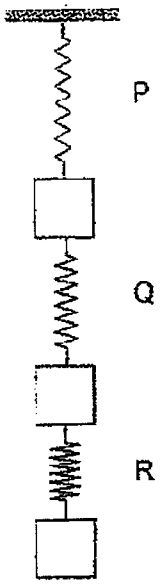
13 Jenny threw a ball into the air. The ball flew up to V, then dropped down to W as shown below.



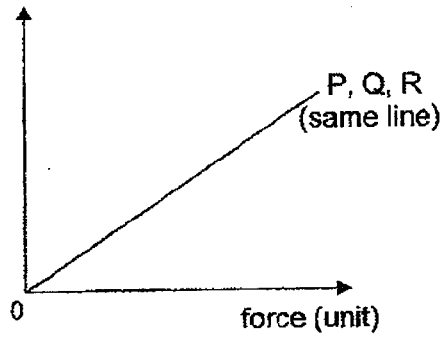
Which of the following correctly describes the changes in the gravitational force acting on the ball and mass of the ball as it moved from V to W?

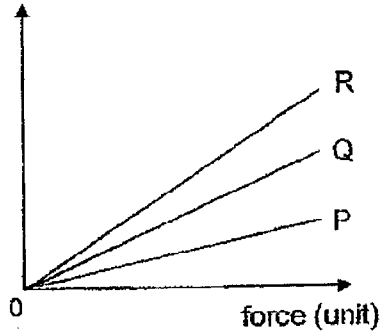
	Gravitational force acting on the ball	Mass of the ball
(1)	decreased	decreased
(2)	decreased	remained the same
(3)	remained the same	decreased
(4)	remained the same	remained the same

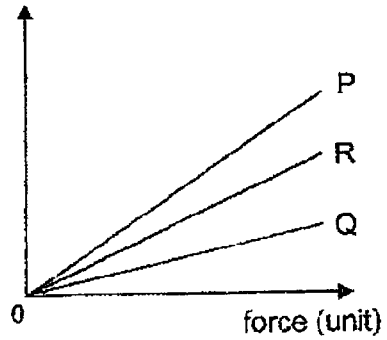
14 Kate hung three identical springs, P, Q and R, each attached to a block of equal mass from the ceiling. The results are as shown.

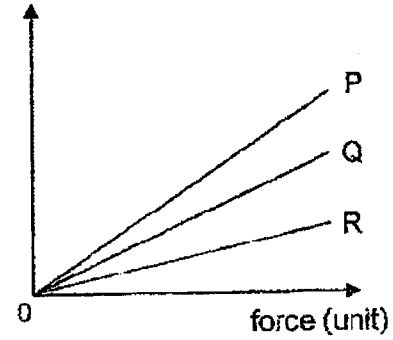


Which of the following correctly shows the relationship between the elastic spring force and the extension for springs P, Q and R?

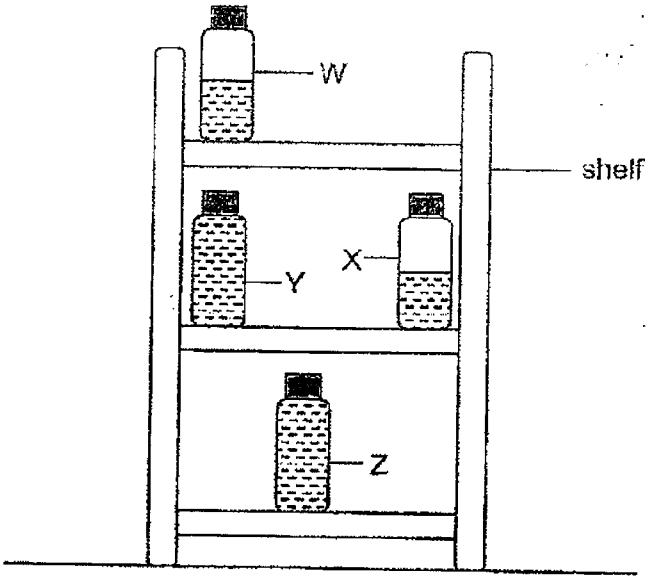
(1)


(2)


(3)


(4)


15 Four identical bottles were placed on a shelf at different heights. Bottles Y and Z are completely filled with water while bottles W and X are half-filled.



Which of the following statements is/are true?

A Bottle Z has the most gravitational potential energy.

B Bottle W has the most gravitational potential energy.

C Bottle X has less gravitational potential energy than bottle Y.

D Bottle X and Y have the same amount of gravitational potential energy.

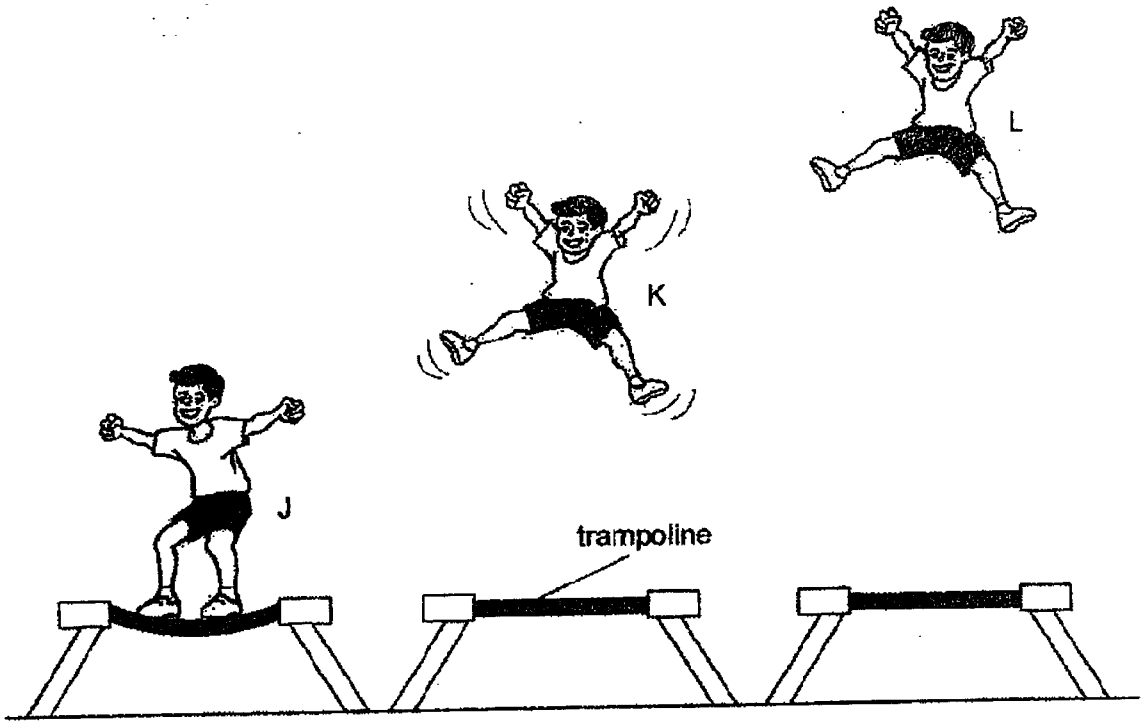
(1) B only

(2) C only

(3) A and C only

(4) B and D only

15 Hamid performed a jump on a trampoline. The diagram below shows him at different positions, J, K and L.



Hamid stood on the stretched trampoline at J before jumping up. He continued moving upwards from K to L. At L, he reached his highest point and stopped moving for a split second before falling.

Which of the following correctly describes the energy at J, K and L?

	Energy of trampoline when Hamid is at J	**Energy of Hamid at K**	**Energy of Hamid at L**
(1)	kinetic energy	potential energy and kinetic energy	potential energy
(2)	kinetic energy	potential energy	kinetic energy
(3)	potential energy	potential energy and kinetic energy	potential energy
(4)	potential energy	kinetic energy	potential energy

End of Section A

PEI CHUN PUBLIC SCHOOL

PRIMARY 6

TERM 1 WEIGHTED ASSESSMENT 2025

SCIENCE

(BOOKLET B)

Total Time for Booklets A and B: 1 h 10 min

Name: _____ ( )

Class: Primary 6 / ( )_____

Date: 21 February 2025

Science Teacher: _____

Parent's Signature: _____

SECTION A	/32
SECTION B	/28
TOTAL	/60

INSTRUCTIONS TO CANDIDATES

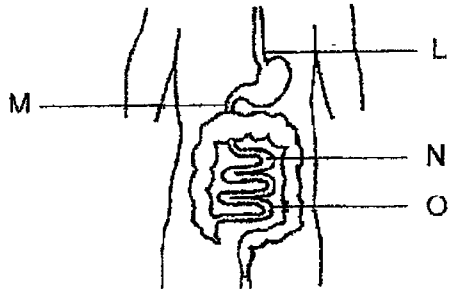
1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.

This booklet consists of 10 printed pages including the cover page.

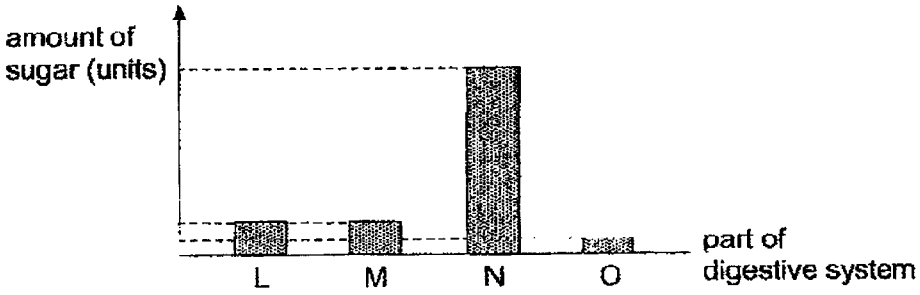
Section B (28 marks)
For questions 17 to 24, write your answers in the spaces provided.

17 (a) State what digestion is. [1]

Paul ate a bowl of food X. Food X is digested into sugar. After four hours, the doctor measured the amount of sugar in various parts of the digestive system.



The graph shows the amount of sugar at different parts of the digestive system.



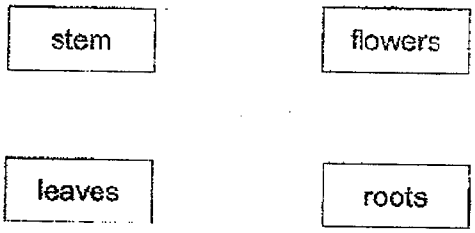
(b) Based on the graph, state whether food X is digested in the stomach. Explain why. [1]

(c) The amount of sugar decreased between parts N and O. Explain why. [1]

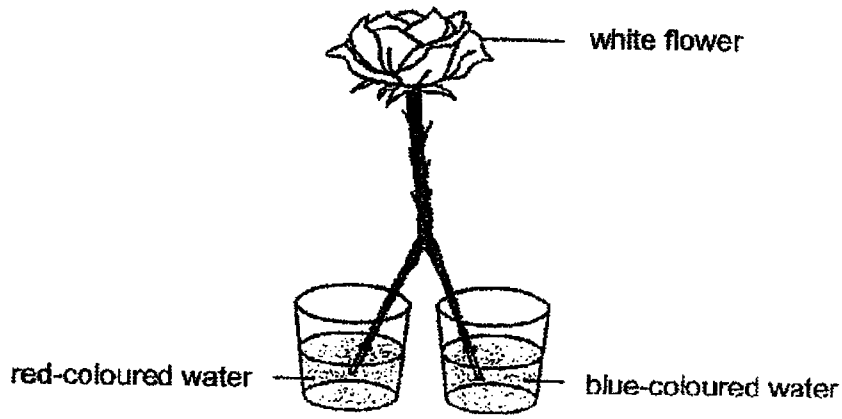
(d) Undigested food enters an organ after leaving the small intestine. Name this organ. State the main function of this organ. [1]

SCORE	

18 (a) Four parts of a plant are shown. Draw arrows (⟶) in the diagram below to show how water is transported in a plant. [1]



(b) Linda cut the lower stem of a white flower into two equal parts. She placed them into containers with different coloured water as shown.



After a short time, she observed that some parts of the flower turned red, some turned blue, while the rest remained white.
Explain her observations. [2]

_____

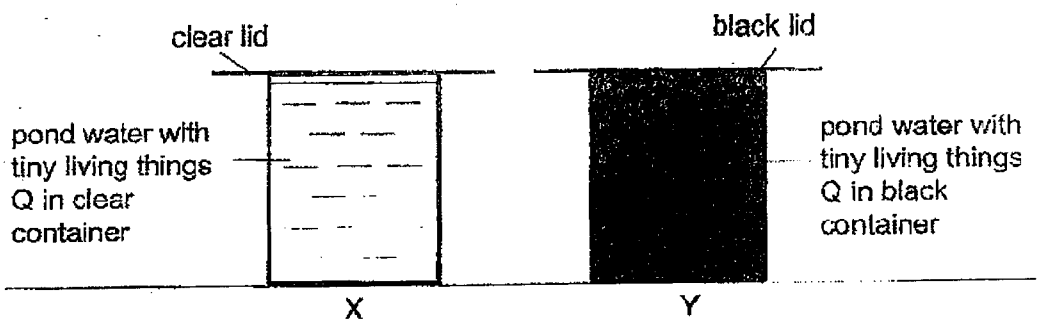
_____

_____

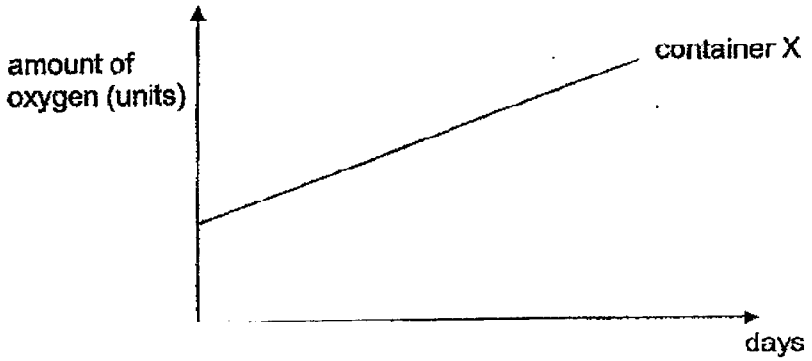
_____

SCORE

19 Johan placed the same amount of pond water which contained tiny living things Q into two identical glass containers, X and Y. He painted container Y black.



He placed both containers at the same place under bright light. He measured the amount of oxygen in each container daily. The results for container X are shown.



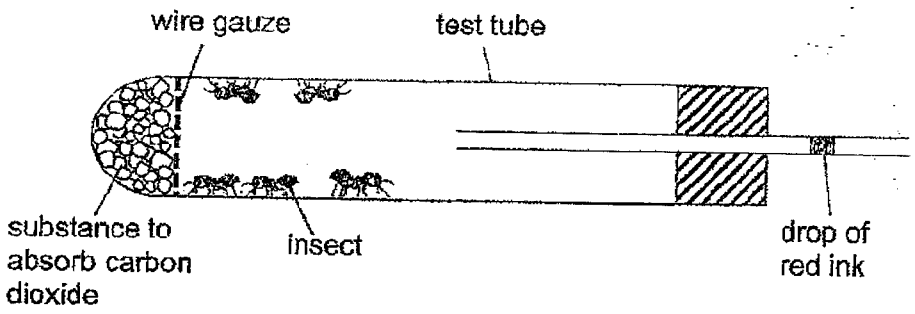
(a) Explain why the amount of oxygen in container X increased. [1]

(b) On the graph, draw a line to show how the amount of oxygen in container Y changes. Both containers X and Y had the same amount of oxygen at the start of the experiment. [1]

(c) Suggest one possible reason that could have resulted in Johan obtaining inaccurate results. [1]

SCORE	

20 May set up the apparatus as shown below. In the set-up, the drop of red ink prevents air from entering the test tube.



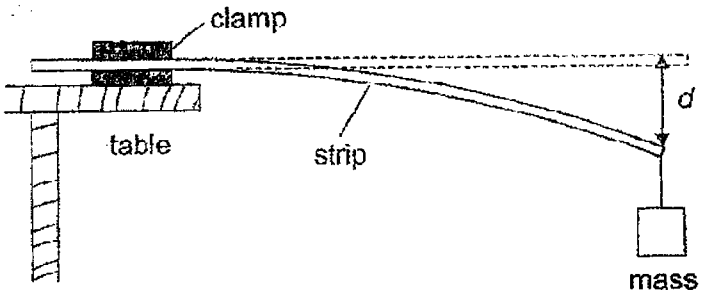
After a while, she observed that the drop of red ink moved towards the test tube.

(a) Explain how the gaseous exchange of the insects caused the drop of red ink to move towards the test tube. [2]

(b) Name a gas inside the test tube that remained the same in amount throughout the experiment. [1]

SCORE	

21 Ahmad set up an experiment as shown below to compare a property of three strips, A, B and C, which are made of different materials.



For each strip, he added a 500 g mass and measured the distance *d* moved by the end of the strip. His results are shown below.

Strip	Mass added (g)	*d* (cm)
A	500	4
B	500	0.5
C	500	2

(a) Based on Ahmad's experiment, which strip, A, B or C, is most suitable for making a food tray? Explain your answer. [1]

_____

_____

(b) State two variables of the strips that should be kept the same for the experiment to be a fair test. [1]

Variable 1: _____

Variable 2: _____

(c) Ahmad conducted another experiment with strips A, B and C. He added different masses for each strip until distance *d* of each strip is the same.

Based on the results above, write down the strip with the most mass added. [1]

Strip _____

SCORE	

22 Devi placed two ring magnets, G and H, through a wooden rod as shown in Diagram 1. She observed that magnets G and H were 4 cm away from each other.

Devi removed the magnets and placed them through the wooden rod again as shown in Diagram 2.

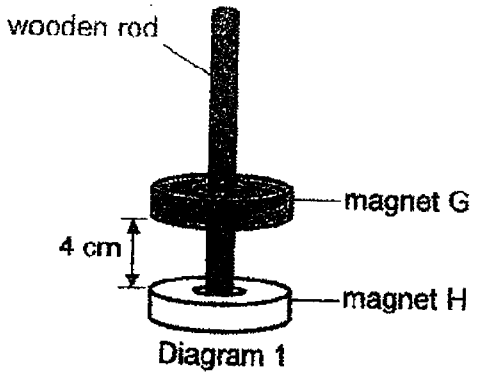


Diagram 1

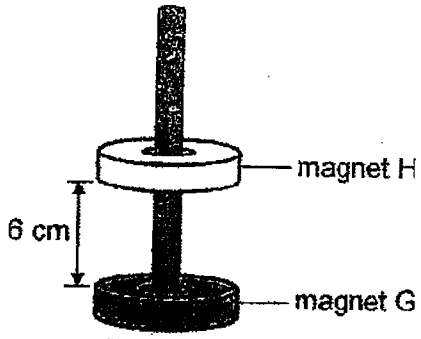
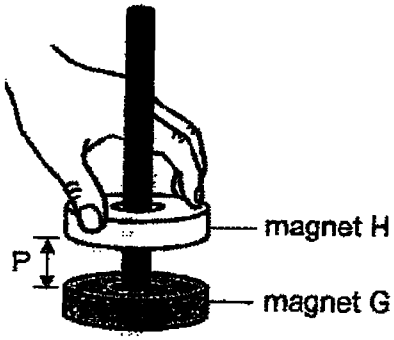


Diagram 2

(a) Explain why magnets G and H stayed apart as shown in Diagram 1. [1]

(b) Suggest a reason why the distance between the two magnets was greater when magnet H was placed above magnet G. [1]

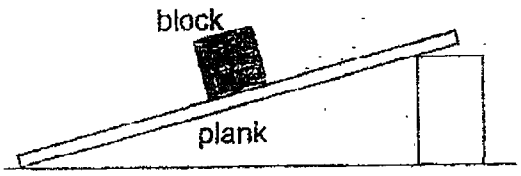
(c) Devi pushed magnet H towards magnet G as shown below.



She found that she needed to push harder as distance P decreases. Explain why. [1]

SCORE	

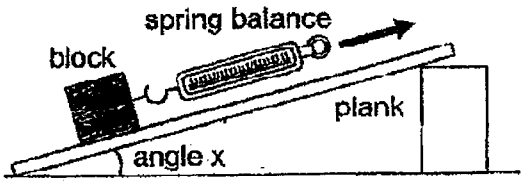
23 Hassan placed a block on a plank as shown in the diagram below.



(a) He observed that block did not slide down the plank.

Name the force(s) acting on the block when it was resting on the plank. [1]

(b) Hassan set up an experiment as shown below. He pulled the block up the plank using a spring balance. He repeated the experiment for different values of angle x. He wanted to find out how the pulling force changes with angle x.



Hassan used the same block throughout the experiment.
Give a reason how using the same block helps to make the experiment a fair test. [1]

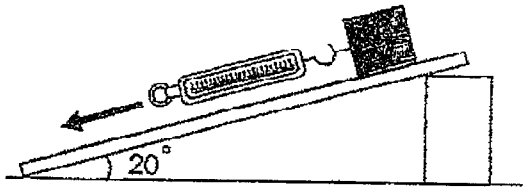
(c) The table below shows the results of Hassan's experiment.

Angle x (°)	Pulling force (units)
0	50
10	125
20	175
30	200

State the relationship between the pulling force and angle x. [1]

SCORE	

(d) Hassan pulled the same block down the same plank using a spring balance as shown below and measured the force required to pull the block down the plank.



(i) Based on the results of Hassan's experiment, how much would the pulling force be? Choose your answer by ticking (✓) in the correct box. [1]

☐ less than 50 units ☐ more than 50 units but less than 175 units ☐ more than 175 units

(ii) Give a reason for your answer in (i). [1]

_____

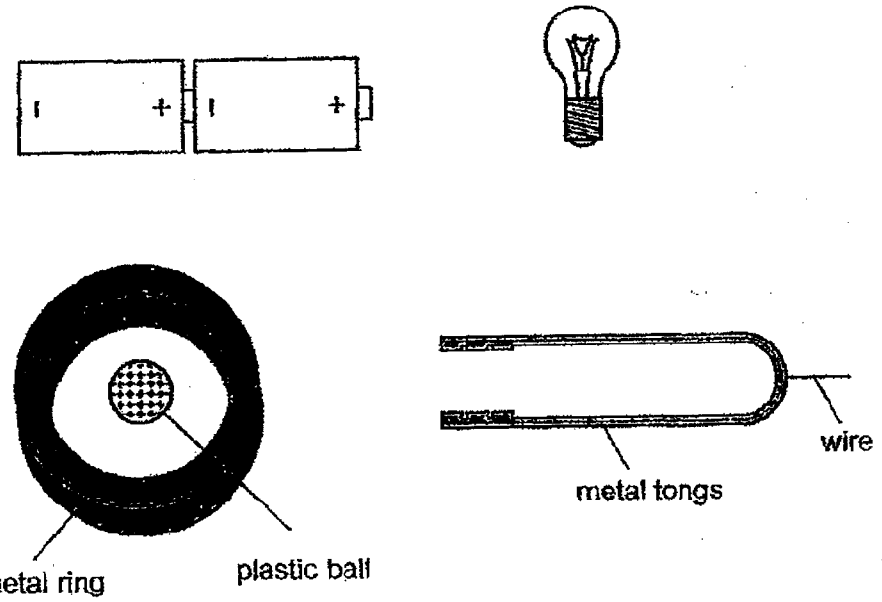
_____

SCORE	

24 Ivy set up a circuit to play a game. She wants to remove the plastic ball from the metal ring with a pair of metal tongs.

If the pair of metal tongs touches the metal ring, the bulb lights up and the player loses.

(a) The diagram below shows part of the circuit. Use a pencil to complete the circuit below such that when the pair of metal tongs touches the metal ring, the bulb will light up. [2]



(b) Ivy added a new bulb to the circuit and the brightness of the first bulb decreased when the circuit was closed.
Describe how Ivy connected the new bulb to the circuit. [1]

(c) The game cannot be played if the ring is made of plastic. Explain why. [1]

End of Section B

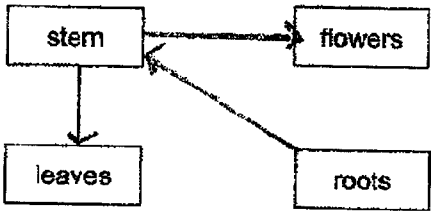
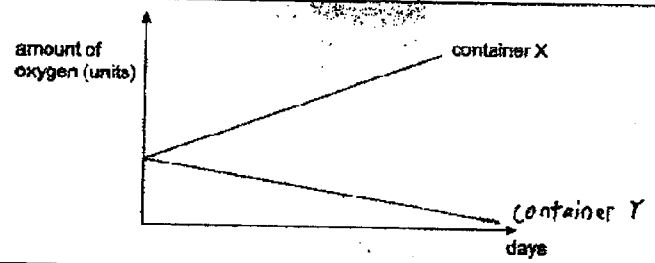
SCORE	

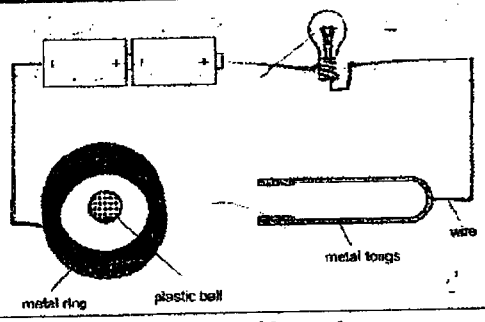
YEAR : 2025
LEVEL : PRIMARY 6
SCHOOL : PEI CHUN PUBLIC SCHOOL
SUBJECT : SCIENCE
TERM : TERM 1 WEIGHTED ASSESSMENT

(BOOKLET A)

Q1	3	Q2	1	Q3	2	Q4	4	Q5	3
Q6	3	Q7	4	Q8	4	Q9	4	Q10	3
Q11	4	Q12	4	Q13	4	Q14	1	Q15	2
Q16	3								

(BOOKLET B) Q17 a. Digestion is a process when food is being broken down into a simpler substance and would be absorbed into the blood.

Q17 c	b)	No. Food is digested as the amount of sugar in Land M is the same.
	b)	The sugar is absorbed into the blood.
	c)	~~Large intestine. To absorb into the blood.~~
	d)	Large intestine. To absorb water from the undigested food.
Q18	a)	
	b)	The coloured water was transported by the separate water carrying tube to different parts of the flower. No coloured water was transported to the white part. carbon dioxide
Q19	a)	The tiny living things in X, took in trapped light and photosynthesized. As a result, it gave out oxygen.
	b)	
	c)	The number of tiny living things in both containers might not be the same.
Q20	a)	When the insect gave out carbon dioxide and took in oxygen, the substance absorbed the carbon dioxide and the amount of gas in the test tube decreased, causing the drop of red ink to move towards the test tube.
	b)	Nitrogen.

Q21	a)	Strip B. It is the least flexible.
	b)	Variable 1: Length of strip Variable 2: Thickness of the strip
	c)	Strip B
Q22	a)	The like pole of G and H were facing each other and they repelled, causing G and H to stay.
	b)	Magnet H is lighter than G.
	c)	The amount of magnetic force between H and G was greater when distance P decreases so she found that she needed to push harder.
Q23	a)	Gravity pull and friction.
	b)	The mass and material of the black will be kept the same.
	c)	As angle X increases, the pulling force also increases.
	d)	(i) ✓ Less than 50 units (ii) Gravity acting on block helps to pull the block down by the slope.
Q24	a)	
	b)	The bulbs are arranged in series.
	c)	Plastic is a non-magnetic material and it is an electrical insulator and the circuit would not be closed when the plastic tongs touch the metal ring.