St Hilda's Primary School
Primary 3
Science
Term 3 Weighted Assessment, 2024

Section A	18
Section B	12
Total Score	30

Name: _____ ( )

Class: P3 /

Duration: 45 minutes
Total no. of pages: 11
Section A: 18 Marks

Date: 16 August 2024

Parent's Signature: _____

For questions 1 to 9, write your answer (1, 2, 3 or 4) in the bracket provided.
[2 marks each]

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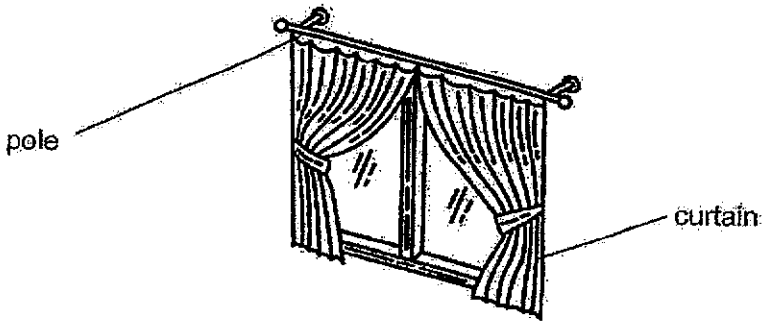
1 The diagram below shows heavy curtains hung on a pole. The curtains can be moved to the side when not in use.



Which of the following materials are suitable to make the pole and the curtain?

	pole	**curtain**
(1)	metal	fabric
(2)	ceramic	fabric
(3)	metal	glass
(4)	plastic	wood

( )

SCORE	2

2 A steel paper clip made from a piece of straight metal wire is shown below.

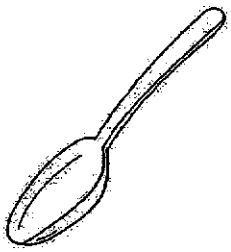
The metal wire can be formed into the shape of the paper clip without breaking because the wire is _____.

(1) strong
(2) flexible
(3) waterproof
(4) transparent

( )

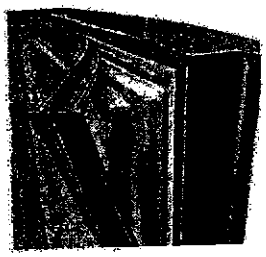
3 Which of the following uses magnet?

(1) Spoon

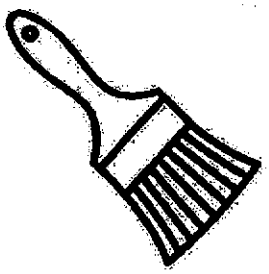


(2) Cup

(3) Refrigerator door



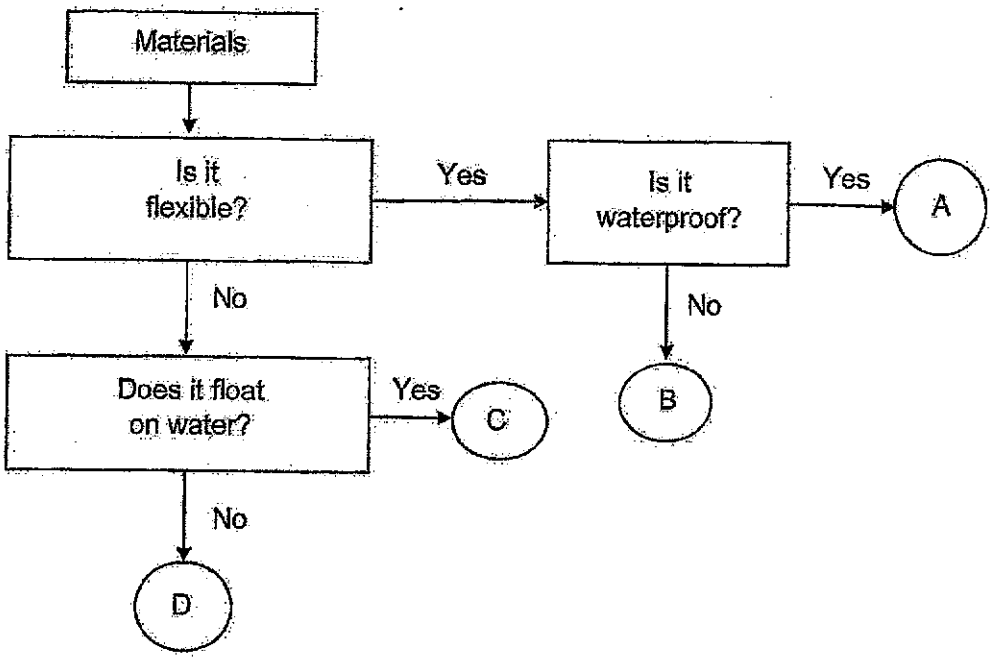
(4) Paint brush



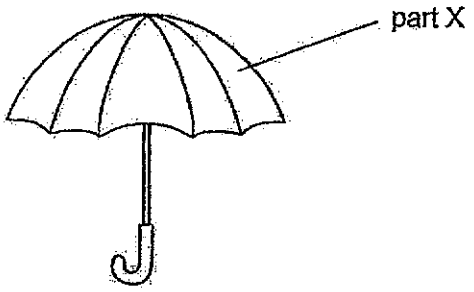
( )

SCORE	4

4 Study the flowchart below.



Based on the flowchart above, which of the following materials, A, B, C or D, is used to make part X of the umbrella?

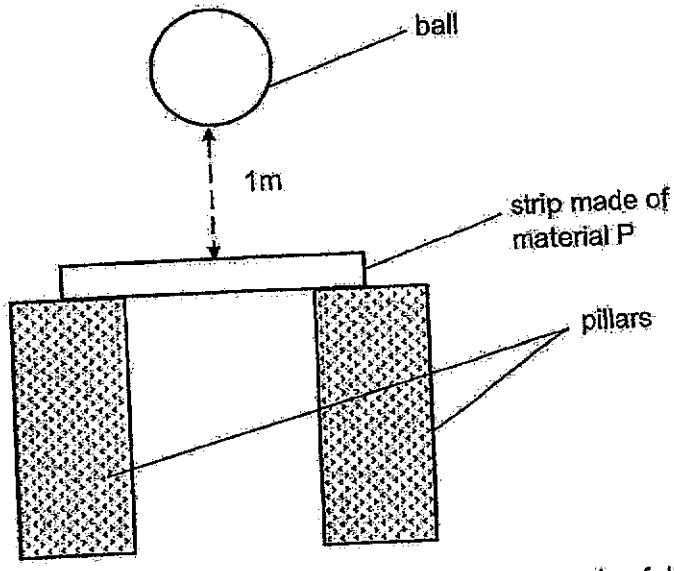


(1) A
(2) B
(3) C
(4) D

( )

SCORE	2

5 Sharon wanted to compare the strength of four materials, P, Q, R and S. She dropped a ball of different mass from a height of 1m onto a strip made of material P as shown below. The strips were of the same size, thickness and shape.



She recorded the mass of the ball that was dropped on the strips made of different materials before the strips broke. Her results are shown below.

Material of the strip	Mass of the ball dropped on the strip before the strip broke (kg)
P	5
Q	4
R	6
S	2

Based on the results above, which of the following conclusions is correct?

(1) Material R is the weakest material.

(2) Material S is the strongest material.

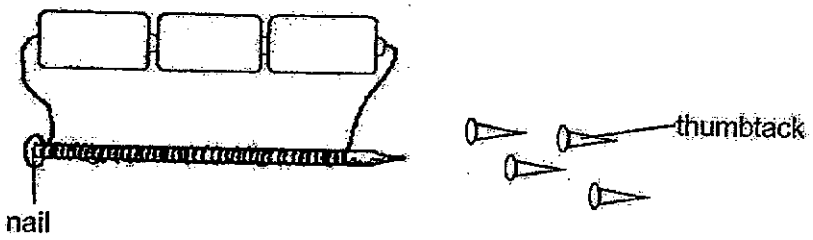
(3) Material P is stronger than material Q.

(4) Material Q is weaker than material S.

( )

SCORE	2

6 An electromagnet was setup as shown below.

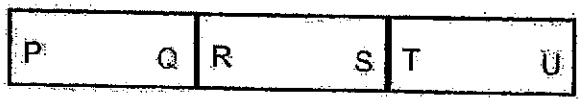


In order for the nail to attract the thumbtacks, what material should the nail and thumbtack be made of?

	Nail	Thumbtack
(1)	aluminium	rubber
(2)	aluminium	iron
(3)	steel	aluminium
(4)	iron	steel

( )

7 The diagram shows three magnets PQ, RS and TU.



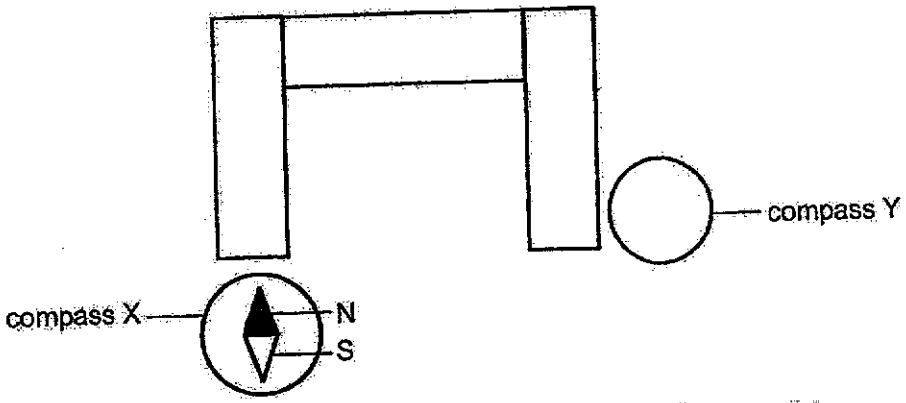
Which statement is correct?

(1) P will repel S.
(2) Q will repel T.
(3) R will attract U.
(4) R will attract P.

( )

SCORE	4

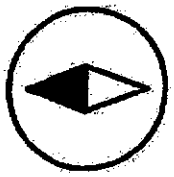
8 Lucy set up three bar magnets. She brought compass X towards the end of a bar magnet as shown in the diagram below.



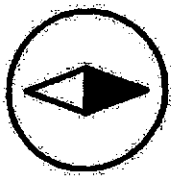
Which one of the following diagrams correctly represents the direction of the needle of compass Y?

(1)

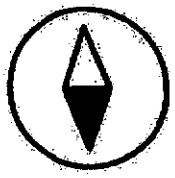
(2)



(3)



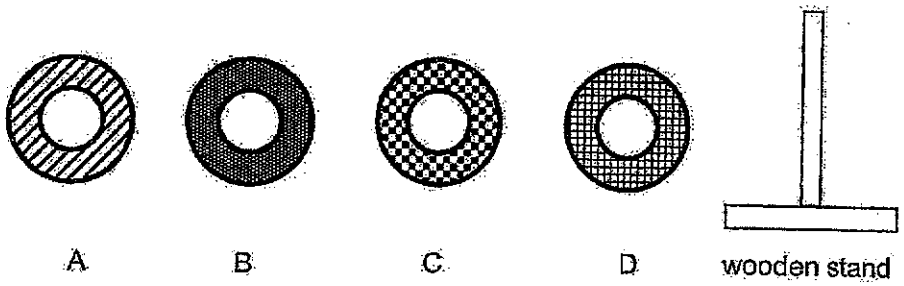
(4)



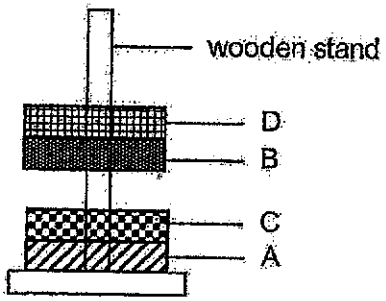
( )

SCORE	2

9 Shawn used four rings A, B, C and D of different materials as shown below to conduct an experiment.



He stacked the rings up through the wooden stand as shown below.



Which of the following shows the material of each ring?

	Material of ring			
	A	B	C	D
(1)	magnet	magnet	magnetic material	non-magnetic material
(2)	magnetic material	magnet	magnet	non-magnetic material
(3)	non-magnetic material	non-magnetic material	magnetic material	magnet
(4)	magnet	non-magnetic material	magnet	magnetic material

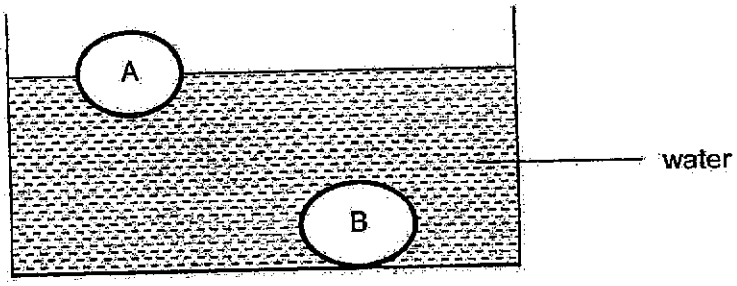
( )

SCORE	2

Section B: 12 marks

For questions 10 to 13, write your answers in this booklet.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

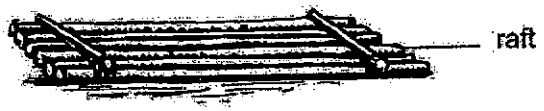
10 Two similar-sized balls of different materials, A and B, were placed in water. The balls stayed at the positions as shown below.



(a) Which material could balls A and B be made of? [1]
Circle the correct answer.

Ball	Circle the correct material
A	(wood / metal)
B	(wood / metal)

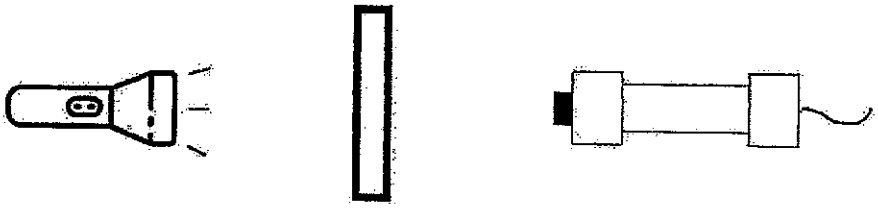
James was trapped on an island and needed to build a raft to get off the island.



(b) Which material A or B should the raft be made of? Explain why. [2]

SCORE	/ 3

11 Jenny tested four different materials, P, Q, R and S for the amount of light that can pass through the materials. She prepared the set-up below.



lit torch material light sensor

Material	Amount of light (units)
P	0
Q	90
R	160
S	40

(a) Arrange the materials, P, Q, R and S, from the material that allows the most light to pass through to the material that does not allow light to pass through. [1]

Allow most light to pass through → **Does not allow light to pass through**

(b) Which material, P, Q, R or S, is most suitable to make the lens of a spectacle? Explain why. [2]

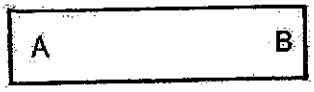
SCORE 3

12 Devi carried out an experiment with a magnet and three bars, W, X and Y made of different materials. The ends of the bars are labelled as A and B as shown below. She brought the north pole of the bar magnet near the ends of the three bars.

bar W

magnet

bar X



bar Y

She recorded her observation in the table below.

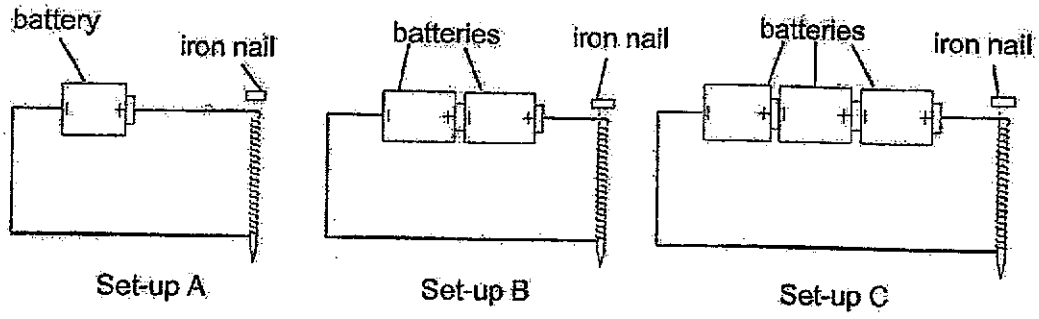
Bar	Reaction of the north pole of the magnet brought near the ends of each bar	
	A	B
W	attract	attract
X	no reaction	no reaction
Y	repel	attract

(a) Based on the results above, can bar X be made of rubber? Explain your answer. [1]

(b) Which bar, W, X or Y, is a magnet? Explain your answer. [2]

SCORE	3

13 Vinash wanted to find out if the number of batteries affect the strength of the electromagnet. The iron nail in each set-up has 20 coils of wire around it.



He recorded the number of steel paper clips that each of the magnetised iron nail in set-up A, B and C will attract.

	Set-up		
	A	B	C
Number of steel paper clips attracted	3	6	10

(a) Which variables should Vinash keep constant for this experiment to be a fair one? Tick (√) the correct box(es). [1]

Variables	To be kept constant
Material of the nail	
Number of batteries	
Number of coils of wire around the nail	

(b) State the relationship between the number of batteries and the strength of the electromagnet. [1]

_____

_____

(c) State another way to make a stronger electromagnet. [1]

_____

END OF PAPER

SCORE	3

ST. HILDA'S PRIMARY SCHOOL
PRIMARY 3 SCIENCE
TERM 3 WEIGHTED ASSESSMENT, 2024
(Simplified Answer Key)

Section A

1.	1	6.	4
2.	2	7.	3
3.	3	8.	3
4.	1	9.	2
5.	3		

Section B

This simplified answer key only provides a reference and the key concepts have been bolded. Variation of students' answers have been accepted if they have shown conceptual understanding.

10 (a)

Ball	Material
A	**wood**
B	**metal**

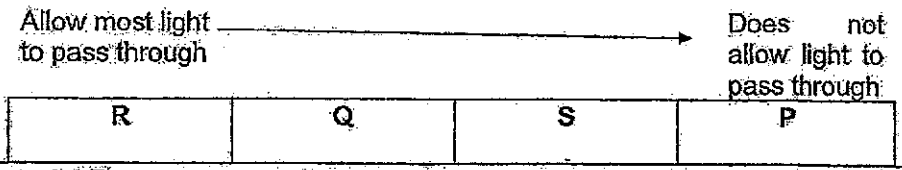
10 (b)

C: **Material A**

E: Material A **floats on water but material B sinks in water.**

R/U: Raft made of A **will float** and people on the raft will not drown.

11 (a)



11 (b)

C: **Material R**

E: Material R **allows most light to pass through/transparent.**

R/U: The user **can see things clearly** when wearing spectacles made of Material R.

<table>
<tr><td>12 (a)</td><td>Yes. Bar X can be made of rubber. Rubber is a non-magnetic material so it cannot be attracted by the magnet.</td></tr>
<tr><td>12 (b)</td><td>Bar Y . When the North pole of bar Y is placed near the North pole of the magnet, it repels.</td></tr>
<tr><td>13 (a)</td><td><table><tr><th>Variables</th><th>To be kept constant</th></tr><tr><td>Material of the nail</td><td>✓</td></tr><tr><td>Number of batteries</td><td></td></tr><tr><td>Number of coils of wire around the nail</td><td>✓</td></tr></table></td></tr>
<tr><td>13 (b)</td><td>As the number of batteries increases, the strength of the electromagnet increases.</td></tr>
<tr><td>13 (c)</td><td>Make <u>more coils of wire around the iron nail</u> .</td></tr>
</table>