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PAYA LEBAR METHODIST GIRLS' SCHOOL (PRIMARY)
WEIGHTED ASSESSMENT 1 2023
PRIMARY 4 SCIENCE

Section A	/18
Section B	/12
Total	/30

Name: _____ ( )

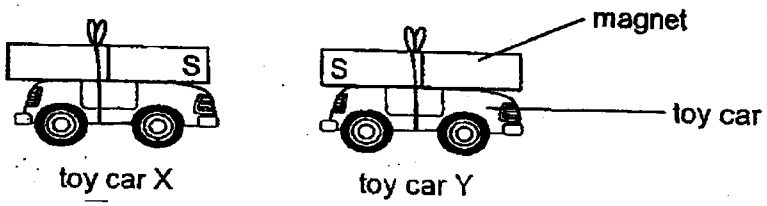
Class: Primary 4 _____

Date: _____ Parent's Signature: _____

Section A: Multiple Choice Questions (18 marks)

For each question from 1 to 9, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and write your answer in the brackets provided.

1. Two identical magnets were tied to toy cars X and Y as shown below. The S-poles of the two magnets are placed close together.



Which of the following shows the direction the toy cars will move?

	Direction toy car X moves	Direction toy car Y moves
(1)	→	←
(2)	→	→
(3)	←	→
(4)	←	←

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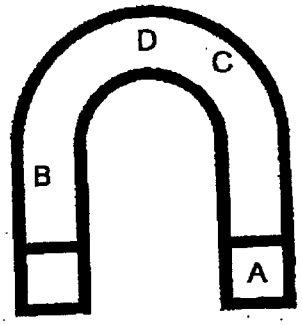
2. Which one of the following can be made into a temporary magnet?

(1) steel rod
(2) glass rod
(3) plastic rod
(4) wooden rod

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3. The diagram below shows a U-shaped magnet. A, B, C and D are different points on the magnet.

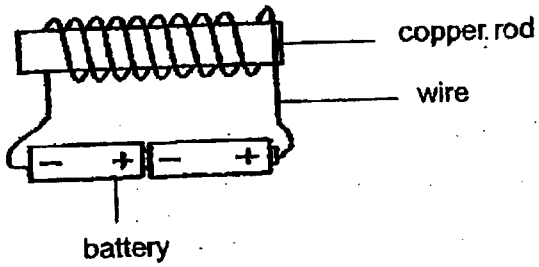


Adalyn placed the magnet in a box of steel clips.
Which part of the magnet will attract the most number of steel clips?

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

( )

4. Daniel made an electromagnet as shown below. The batteries were in good working condition and the wires were connected properly.



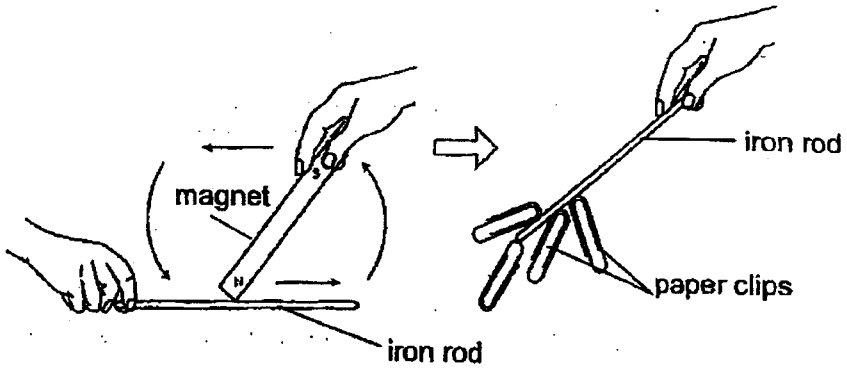
When the electromagnet was brought close to some steel paper clips, none of the paper clips were attracted to it. What could be the reason?

(1) The rod was too short.
(2) The wire was too short.
(3) There were not enough batteries.
(4) The rod was made of a non-magnetic material.

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5. Jane used the stroking method to make a magnet. She stroked an iron rod 20 times. The iron rod attracted four paper clips as shown below.

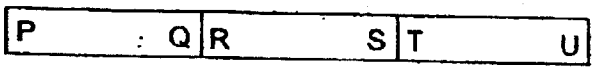


What should Jane do if she wants to attract fewer paper clips?
She should _____.

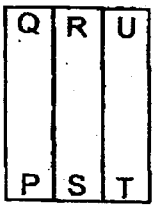
(1) use a shorter iron rod
(2) stroke the iron rod fewer times
(3) use a plastic rod instead of an iron rod
(4) stroke the iron rod in a different direction

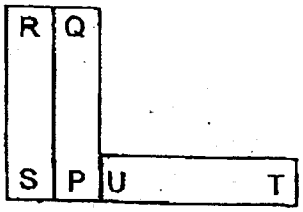
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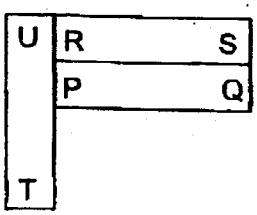
6. Three bar magnets PQ, RS and TU can be arranged as shown below.

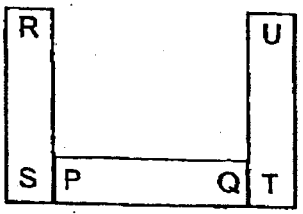


Which one of the following arrangements of the magnets is **not** possible?

(1)


(2)


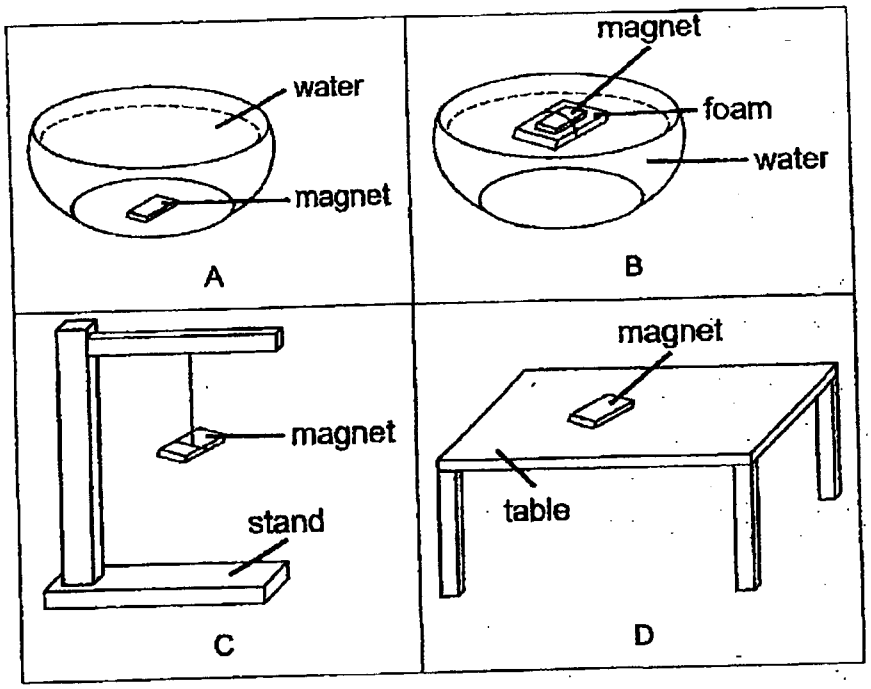
(3)


(4)


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7. Linda wanted to use a magnet to tell direction.



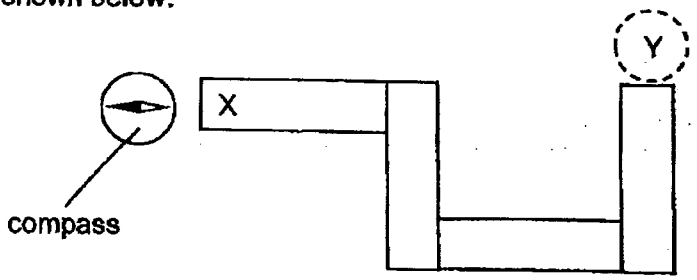
Which of the above set-ups would allow her to do so?

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

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8. Four magnets were arranged such that they were attracted to one another. A compass was placed near end X and the direction of the compass needle is as shown below.



What would be the direction of the needle when the compass was placed at Y?

(1) 

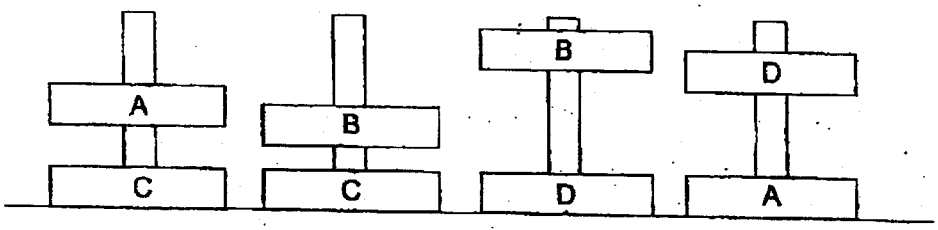
(2) 

(3) 

(4) 

( )

9. Michael set up an experiment to compare the different strengths of four different magnets, A, B, C and D. The set-ups are as shown below.



Which of the following statements is most likely true?

(1) Magnet B is the weakest magnet.

(2) Magnet D is the strongest magnet.

(3) Magnet A is as strong as magnet B.

(4) Magnet C is stronger than magnet A.

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END OF SECTION A

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Section B: 12 marks

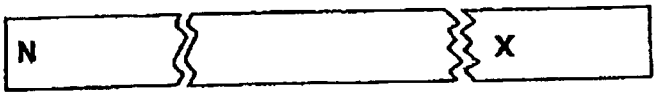
For questions 10 to 13, write your answers in the spaces provided.
The number of marks available is shown in brackets [ ] at the end of each question or part question.

10. Lisa was given a magnet by her friend.

(a) How many poles does a magnet have? [1]

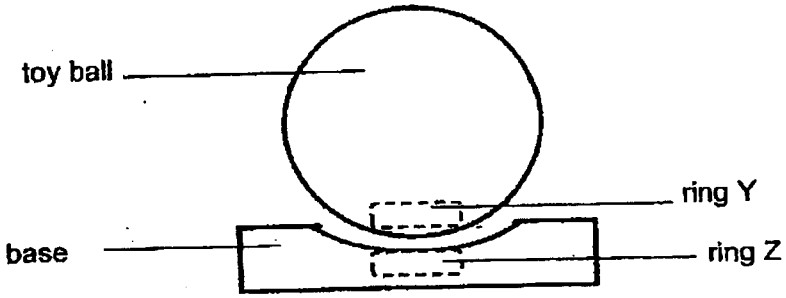
(b) Lisa accidentally dropped the magnet and it broke into three parts.

The North pole of one part of the broken magnet is as shown below.



(b) What is pole X? [1]

11. The diagram below shows a toy ball "floating" above a base. There are two rings inside the toy ball.



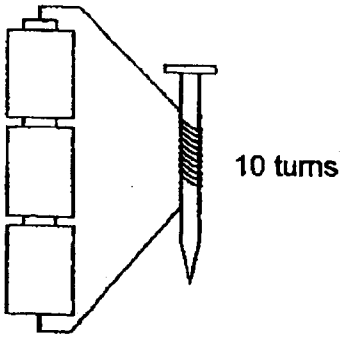
(a) Based on the diagram above, what could the rings be? [1]

(b) Explain why the toy ball "floats" above the base. [2]

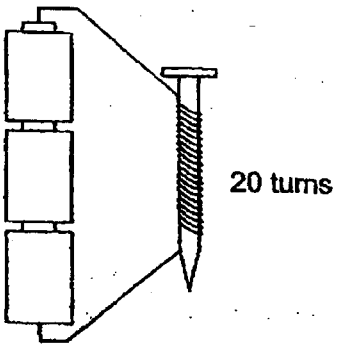
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12. Ravi conducted an experiment to find out if the number of turns of coils around the iron nail affects the strength of the electromagnet. He prepared two set-ups as shown below.



Set-up A



Set-up B

(a) Which of the following variables must be kept the same to ensure a fair experiment? [1]

Variables	Tick (✓) the variables that should be kept the same
type of battery	
type of iron nail	
number of batteries	
number of turns of coils around the iron nail	

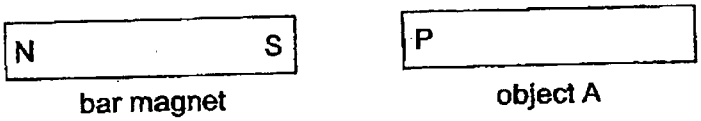
(b) Which set-up, A or B, would make a stronger electromagnet? Give a reason for your answer. [1]

(c) State another way to increase the strength of an electromagnet. [1]

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13. David conducted an experiment with a bar magnet and object A. One end of object A was marked as P. The bar magnet was then brought close to object A as shown below.



David observed that the end P of object A was attracted to the South pole of the bar magnet.

(a) Based on his observation, David concluded that object A must be a magnet. However, his sister told him that he might not be right. Why did his sister say so? [1]

_____

(b) Describe and explain how David could conclude that object A is a magnet without using any additional apparatus. [2]

_____

_____

_____

David placed the bar magnet further away from object A as shown below.



(c) David observed that the end P of object A was not attracted to the magnet. Explain his observation. [1]

_____

_____

4

END OF SECTION B

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SCHOOL : PAYA LEBAR METHODIST GIRLS' SCHOOL
LEVEL : PRIMARY 4
SUBJECT : SCIENCE
TERM : 2023 WA 1

CONTACT :

SECTION A

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
3	1	1	4	2	3	3	4	2

SECTION B

Q10)	a) Magnet has 2 poles b) North
Q11)	a) The rings could be magnets b) The like poles of ring Y and ring Z face each other, causing them repel and exert a force on each other, making the toy ball float.
Q12)	a) TIck the following ("Type of battery", "Type of iron nail", Number of batteries") b) Set up B. It has more turns of coil of wire around iron nail which increases the magnetic power of the electromagnet. c) Increase the number of batteries
Q13)	a) Object A. b) David could use the end of P of object A to check if it repels the North pole of the bar magnet. If it is repelled, it is a magnet. If it is attracted, it is a magnetic object instead of a magnet. c) The bar magnet was not strong enough to attract object A at a further distance.

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