



PEI HWA PRESBYTERIAN PRIMARY SCHOOL
Mini Test 1

**PRIMARY 4
SCIENCE**
3rd March 2016

Name: _____ ()

Class: Primary 4 Teamwork _____

Total time: 30 mins

INSTRUCTIONS TO CANDIDATES

1. Write your Name, Class and Index No. at the spaces provided above.
2. DO NOT turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions in this question booklet.

FOR TEACHER'S USE

Marks (Section A) :	12
Marks (Section B) :	8
Total Marks (Sections A & B) :	20

There are a total of 9 pages in this booklet, excluding the cover page.

Section A (12 marks)

For each question from 1 to 6, 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. Shaun brings the following objects near a magnet.

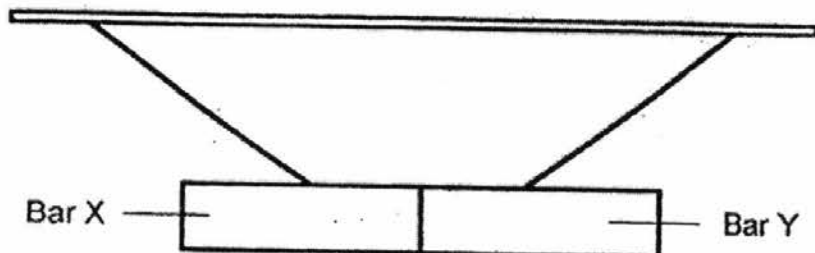
- A Iron fork
- B Glass panel
- C Plastic cup

Which of the objects will not be attracted to the magnet?

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

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2. The diagram below shows what happened when two bars were brought near each other.



Four statements about the characteristics of Bar X and Bar Y were made:

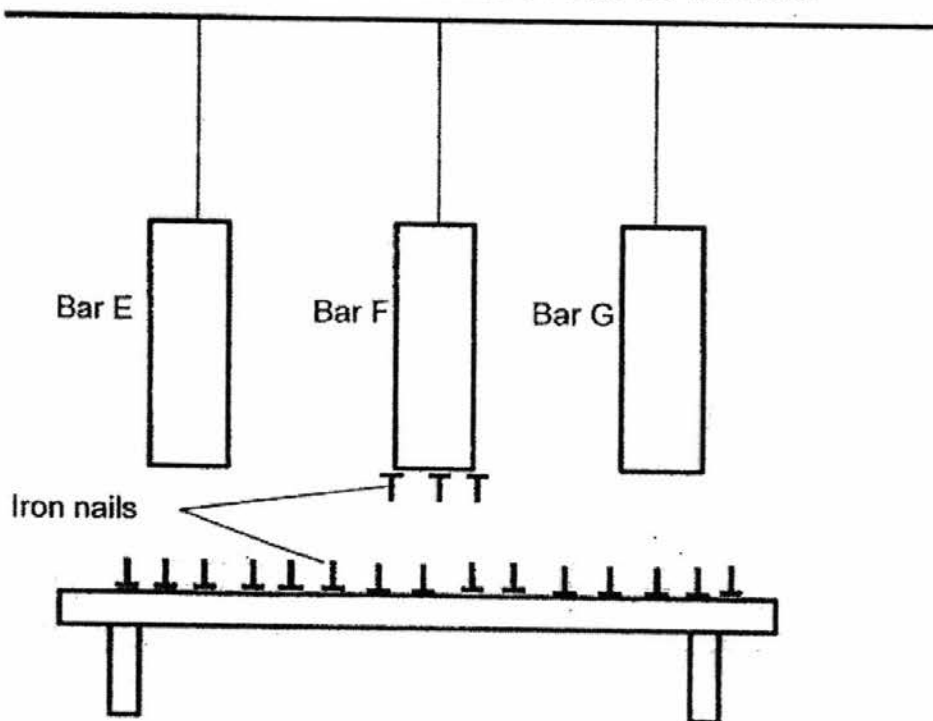
- A Bar X and Bar Y are both magnets.
- B Bar X and Bar Y are made of magnetic materials.
- C Bar X is a magnet whereas Bar Y is made of magnetic material.
- D Bar X is made of magnetic material but Bar Y is made of non-magnetic material.

Which of the following statements could be true?

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

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3. Jenny hung 3 bars, Bars E, F and G, of the same size from a ceiling as shown below. The bars were at the same distance from the iron nails.



She noticed that only Bar F had iron nails attracted to it.

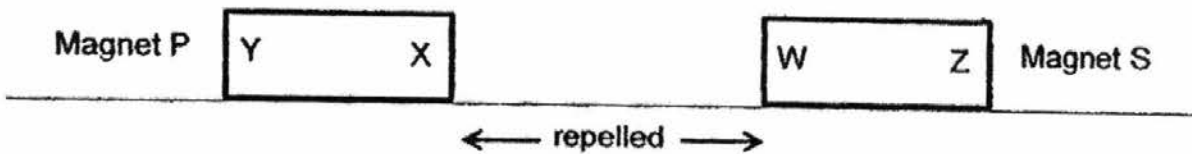
Why were there iron nails found only on Bar F?

Bar F _____

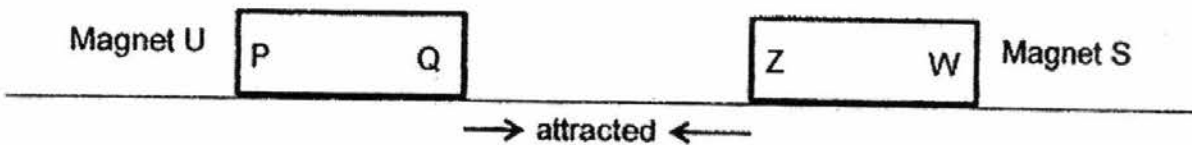
- (1) was sticky and some of the iron nails were stuck to it
- (2) must be a magnet but the rest of the bars were not
- (3) was a non-magnetic material but the rest of the bars were not
- (4) was nearer to the pile of iron nails than the rest of the bars

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4. Ali did an experiment with 2 magnets, Magnet P and Magnet S, as shown in the diagrams below.



He took another magnet, Magnet U, and brought it near Magnet S and the diagram below shows his observation.



If Pole Y was a South pole, which of the following would show the poles of Pole Q and Pole W?

	Pole Q	Pole W
(1)	South	South
(2)	South	North
(3)	North	North
(4)	North	South

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5. A magnet that is hung freely will come to rest in the _____ direction.

- (1) North-North
- (2) North-East
- (3) North-West
- (4) North-South

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6. Which of the following things make use of magnets to work?

- A Compass
- B Telephone
- C Maglev train
- D Electric kettle

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

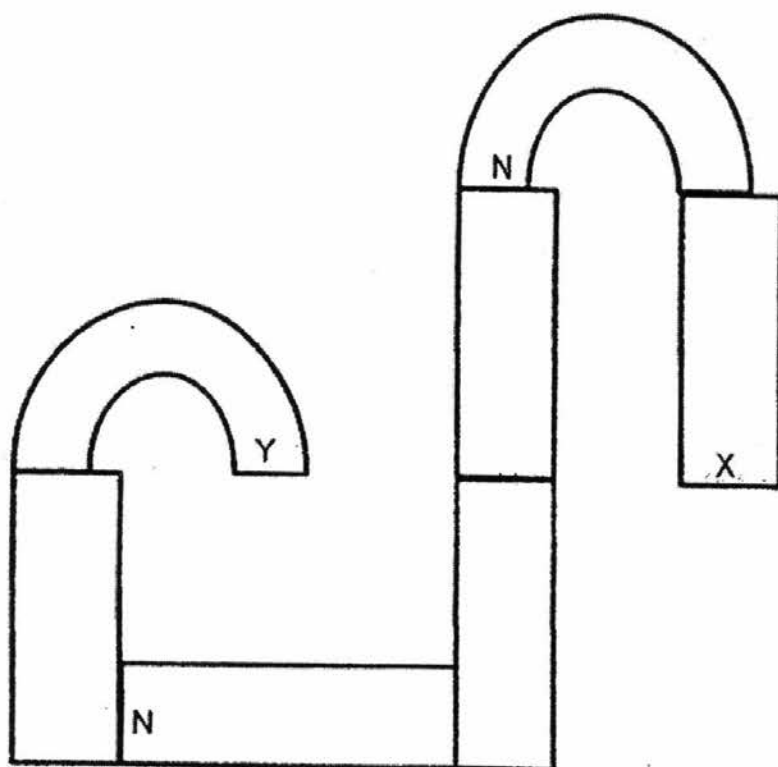
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Section B (8 marks)

Read questions 7 to 11 carefully. 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.

7. Gopal was playing with 5 bar magnets and 2 U-shaped magnets. He formed this set-up as shown in the diagram below.



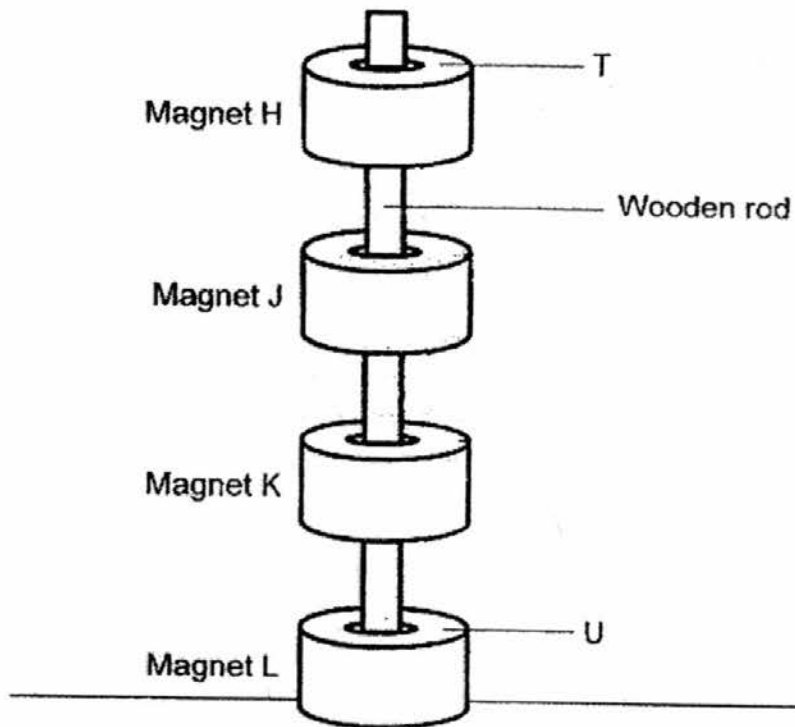
Identify the poles of X and Y.

[1]

(a) Pole X: _____

(b) Pole Y: _____

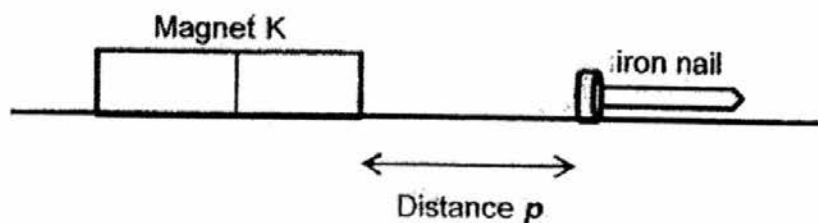
8. Kevin set up the following with 4 ring magnets, Magnets H, J, K and L. The 4 ring magnets were floating above one another as shown below.



- (a) If surface T of Magnet H was a South pole, what could be the pole of surface U on Magnet L? [1]

- (b) Why were the ring magnets floating above one another? [1]

9. Jasmine carried out an experiment using a bar magnet and an iron nail as shown below.



She put a bar magnet K on the table and measured the furthest distance p that the iron nail could be placed before the bar magnet attracted the iron nail. She then repeated the same experiment using magnets L, M and N and recorded the results in the table below.

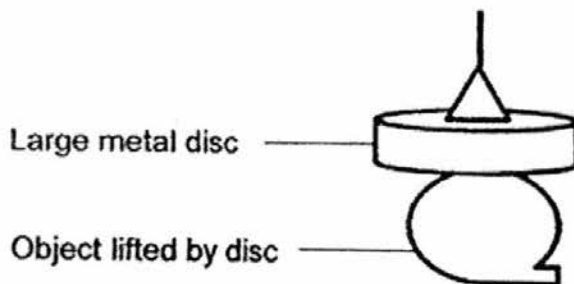
Magnets	Distance p (cm)
K	9
L	6
M	4
N	2

Based on her results, which magnet, Magnets K, L, M or N, was the weakest? [1]

10. Susan brought the South pole and the North pole of a magnet near Object W and recorded her observations in the table below.

Object	Tested with South pole	Tested with North pole
W	Attracts	Attracts

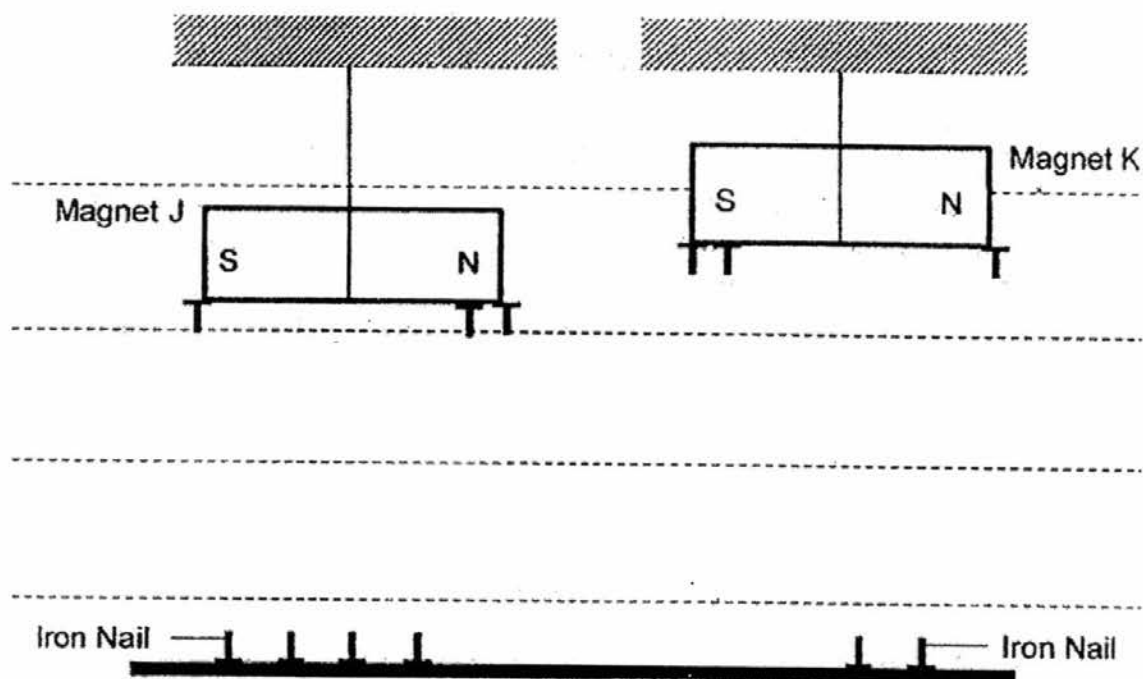
Susan visited a scrapyard and noticed that a large metal disc was connected to a circuit. It was used to separate magnetic objects from non-magnetic objects as shown in the diagram below.



- (a) Based on the results of her experiment, Susan thought that Object W should be used to make the large metal disc in the scrapyard. Do you agree with her? Explain why you say so. [1]

- (b) Susan decided to change the large metal disc to a permanent magnet. Do you agree with Susan's decision? Explain why you say so. [1]

11. In an experiment involving 2 bar magnets (J and K), Jim presented his observations by drawing the diagrams as shown below.



The bar magnets (J and K) were hung at a certain height from some identical iron nails on each side of the table.

- (a) What could Jim conclude from the above observation about Magnet J and Magnet K? [1]

- (b) Explain why more iron nails are attracted to the poles of the magnets. [1]

END OF PAPER

EXAM PAPER 2016

SCHOOL : PEI HWA PRESBYTERIAN PRIMARY SCHOOL
SUBJECT : PRIMARY 4 SCIENCE
TERM : MINI TEST 1

SECTION A: MCQ

Q1	Q2	Q3	Q4	Q5	Q6
3	3	2	3	4	4

SECTION B:

Q7(a) South Seeking Pole

Q7(b) North Seeking Pole

Q8(a) The pole of surface U on Magnet L would be the North seeking pole.

Q8(b) The ring magnets were not touching one another as the repulsion force between each ring magnet kept them separated.

Q9 Magnet N was the weakest. (E)

Q10(a) Yes. W is a magnetic material and will become magnet when electricity pass through it.

Q10(b) I would disagree with Susan. Permanent magnet does not lose magnetism easily. **OR** The metal would then be attracted to the permanent magnet and separation would be difficult.

Q11(a) No conclusion can be made. (Unfair) Different distance from the tray.

Q11(b) The poles of the magnets are much stronger than the centre of the magnet. Hence, more nails would be attracted to the poles rather than the centre of the magnet.