



PEI HWA PRESBYTERIAN PRIMARY SCHOOL
Mini Test 1

PRIMARY 4
SCIENCE
1st March 2018

Name: _____ ()

Class: Primary 4 Teamwork _____

Parent's Signature

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.

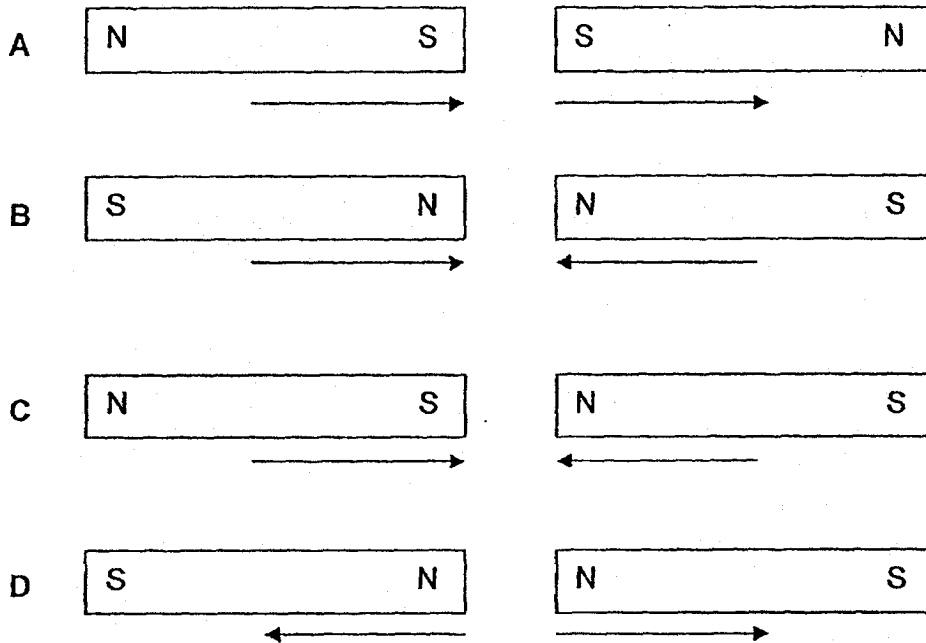
FOR TEACHER'S USE

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.

For each question from 1 to 6, four options are given. One of them is the correct answer.
Make your choice and write your answer (1, 2, 3 or 4) in the brackets provided. (12 marks)

1 Two bar magnets were brought close to each other.

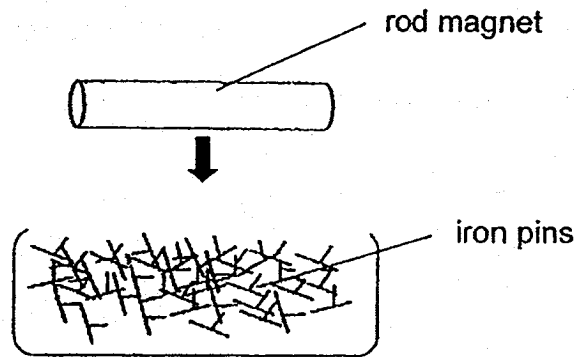


Which two of the diagrams (A, B, C and D) correctly show how the two bar magnets will interact when they are brought near each other?

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

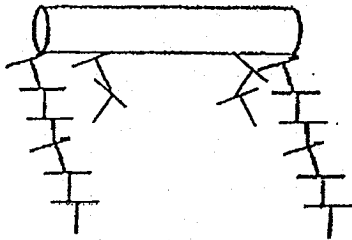
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- 2 Ben lowered a rod magnet into a box of iron pins as shown below.

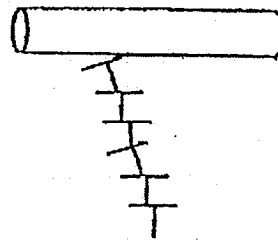


What would Ben likely to observe when he pulled the rod magnet out from the box of pins?

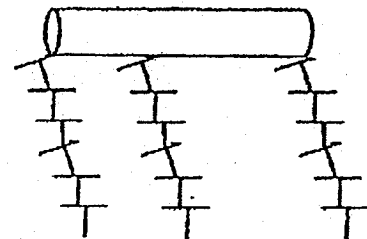
(1)



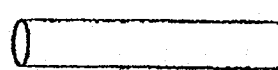
(2)



(3)



(4)



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3 Four pupils used the following methods to test if a metal bar is a magnet.

Alice : Bring the bar to one end of a magnet and if the magnet attracts it, then it is a magnet.

Ben : Bring the bar to one end of a magnet and if the magnet repels it, then it is a magnet.

Cara : Suspend the bar with a string and if it rests in the East-West direction, then it is a magnet.

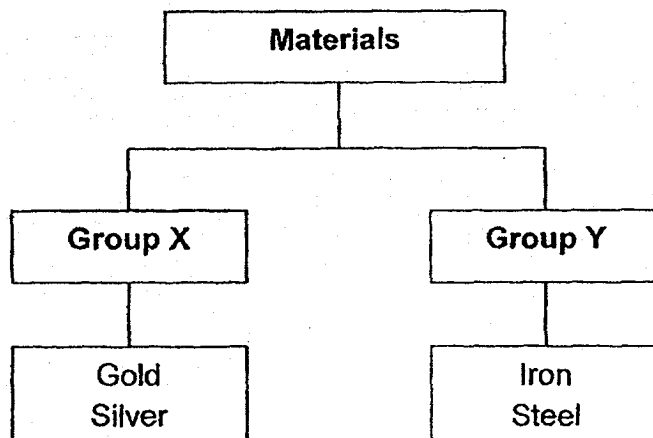
Dina : Suspend the bar with a string and if it rests in the North-South direction, then it is a magnet.

Which tests will help to identify if the metal bar is a magnet?

- (1) Alice and Cara only
- (2) Ben and Dina only
- (3) Alice, Ben and Dina only
- (4) Alice, Ben, Cara and Dina

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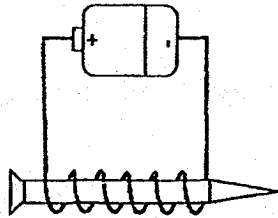
4 Study the classification table below.



Which of the following materials will you place in Group Y?

- (1) Nickel
- (2) Copper
- (3) Ceramic
- (4) Aluminium

- 5 Cara set up the following experiment to make an electromagnet using a battery and a wire coiled around an iron nail.



She increased the number of coils around the iron nail and counted the number of paper clips that were attracted to it. Then, she recorded the results in a table.

Which of the following table was Cara likely to get if she had successfully carried out the experiment?

(1)

Number of coils	10	20	30	40
Number of paper clips	5	5	5	5

(2)

Number of coils	10	20	30	40
Number of paper clips	18	16	14	10

(3)

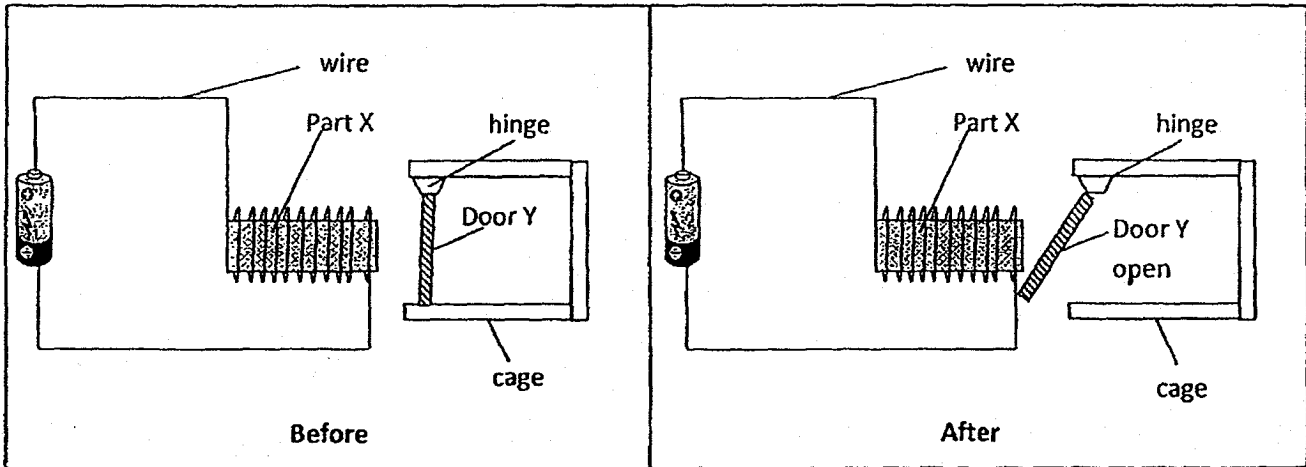
Number of coils	10	20	30	40
Number of paper clips	8	12	18	19

(4)

Number of coils	10	20	30	40
Number of paper clips	5	0	0	0

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- 6 Mr Tan makes the door of a cage using an electromagnet as shown in the diagram below. When electricity is passed through the wire around Part X, Door Y is attracted by Part X and swings open. When the electricity is removed, Door Y closes.



Which of the following shows the correct materials used to make Part X and Door Y?

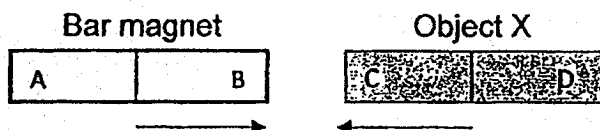
	Part X	Door Y
(1)	Iron	Wood
(2)	Wood	Iron
(3)	Wood	Wood
(4)	Iron	Iron

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Write your answers to the questions 7 to 10 in the spaces provided.

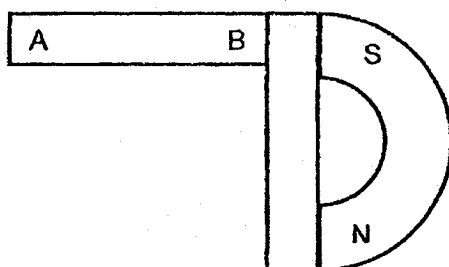
The number of marks available is shown in brackets [] at the end of each question or part question. (8 marks)

- 7 A bar magnet and Object X are placed near each other. Letters A, B, C and D represent the poles of the magnet and Object X. The arrows show the direction of the magnetic force from both the bar magnet and Object X.



- (a) Ali says that the observation above does not show that Object X is definitely a magnet. Do you agree with Ali? Explain your answer. [1]

The bar magnet is then arranged with one other identical bar magnet and a U-shaped magnet as shown in the diagram below.

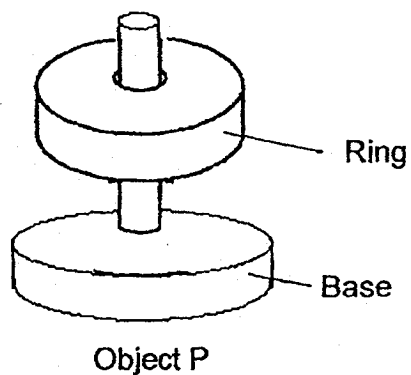


- (b) What are the poles at A and B? [1]

A : _____

B : _____

8. Alice slots a ring through the pole Object P.



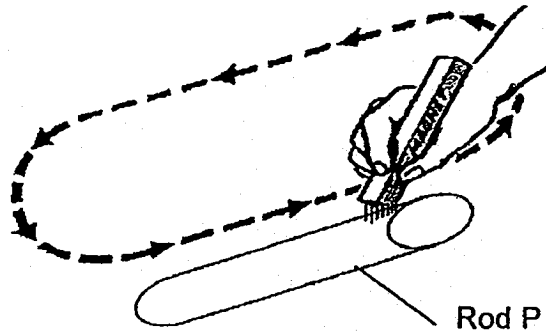
She observes that the ring floats above the base of Object P.

Study the statements below and tick (✓) the correct columns.

[2]

	True	False
The ring is a magnet.		
The base is not a magnet.		
Both the base and the ring have like poles facing each other		
Both the base and the ring are made of a non-magnetic material.		

- 9 Danny sets up the experiment below to turn Rod P into a temporary magnet.



- (a) What method is Danny using to make Rod P into a temporary magnet? [1]

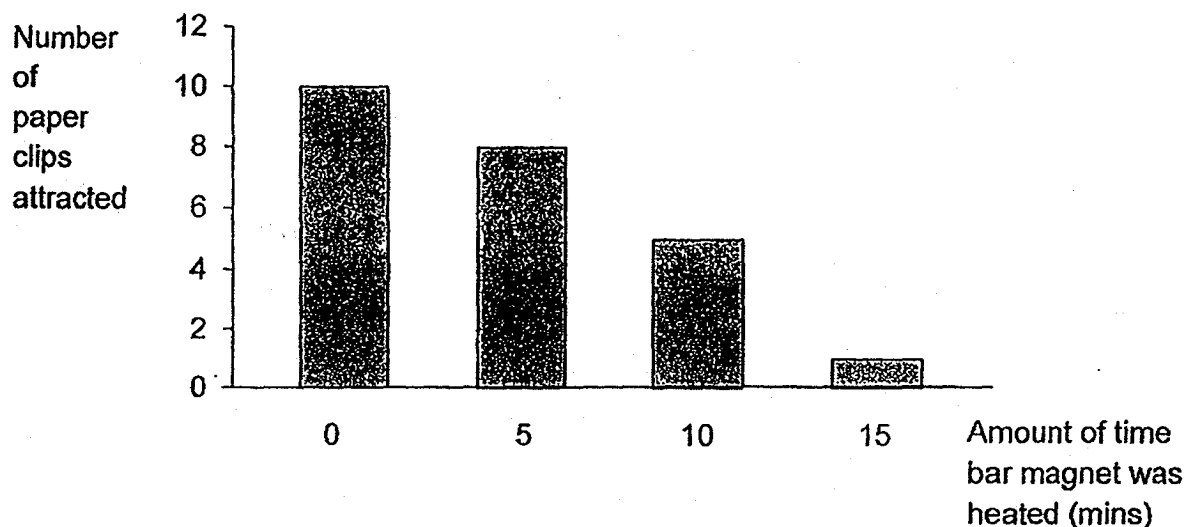
- (b) Using the same method, Danny wants to make rod P into a magnet with a **stronger** magnetism. State 2 ways he can do so. [1]

(i)

(ii)

- 10 Elisa recorded the number of paper clips that are attracted to a bar magnet. She repeated the experiment after heating the bar magnet over a candle flame for different amount of time.

The bar graph below shows the number of paper clips that were attracted to the bar magnet.



- (a) How many paper clips could the bar magnet attract after it was heated for 10 [1] minutes?
-
- (b) From the experiment, what can Elisa conclude about the effect of heating on the bar [1] magnet?
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EXAM PAPER 2018 (P4)

SCHOOL : PEI HWA

SUBJECT : SCIENCE

TERM : CA1

Q1	Q2	Q3	Q4	Q5	Q6
4	1	2	1	3	4

Q7) a) Yes, I agree with Ali. Object X could be made up of a magnetic material that can be attracted by the bar magnet.

b) A : N

B : S

Q8) The ring is a magnet – True

The base is not a magnet – False

Both the base and the ring have like poles facing each other – True

Both the base and the ring are made of a non-magnetic material – False

Q9) a) Danny is using a magnet to stroke Rod P.

b) i) He can use a bar magnet to stroke on Rod P.

ii) He can use a magnet with a stronger magnetism to stroke on Rod P.

Q10) a) Five paperclips

b) Heating up a magnet makes the magnet lose its magnetism. Therefore, heating up a magnet makes the magnet lose its magnetism.