

UNIT
7

MAGNETS

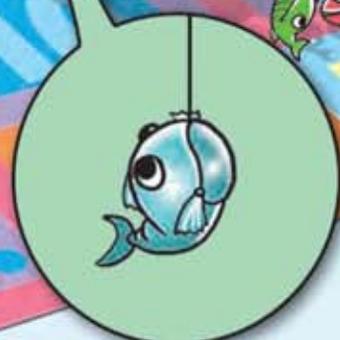


Have you ever tried this game?

Open your mouth.

I almost caught a fish.

Wow! I caught one again.



How do you catch the fish?



Uses of Magnets

Let us learn about magnets.
A magnet is useful in our daily life.





What are other examples of the use of magnets around you?



Teacher's Info

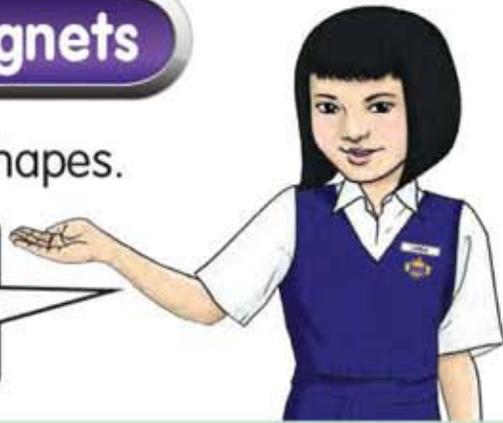
- Magnets are also used on handbags, chessboards, darts and notice board buttons.



Shapes of Magnets

Magnets come in various shapes.

What are the shapes of magnets? Let's look at the magnets below.



bar magnet



cylinder magnet



horseshoe magnet



U-shaped magnet



button magnet



ring magnet



HOTS

Why are magnets formed in various shapes?

7.1.2



Teacher's Info

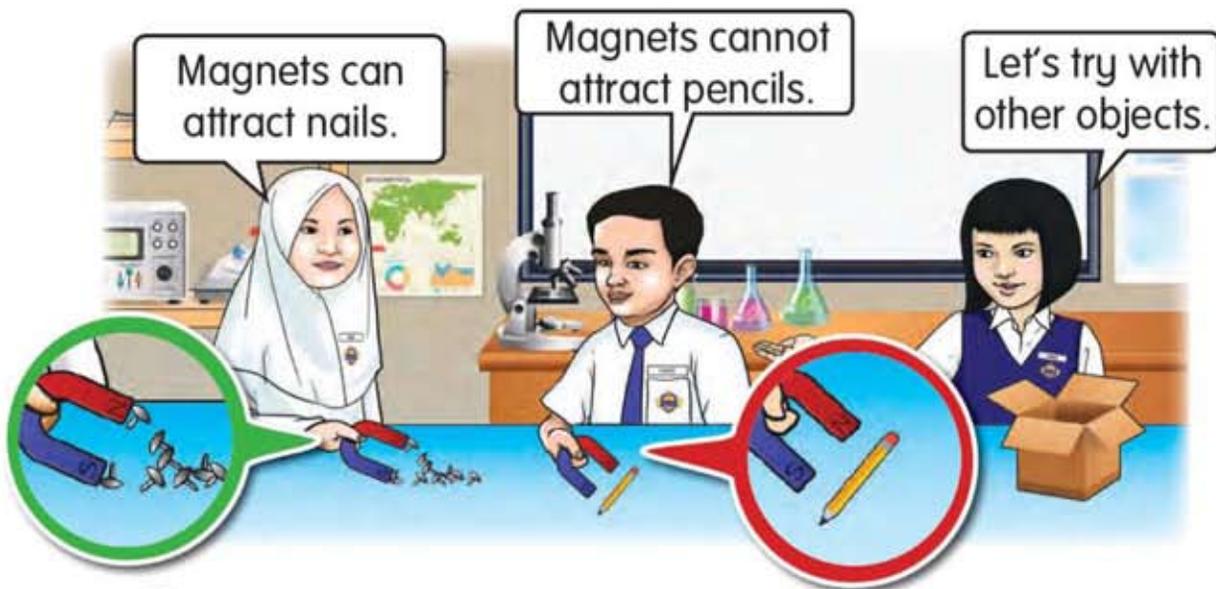
- Magnets are named based on their shapes.
- The poles of horseshoe magnets are closer compared to U-shaped magnets.

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Magnets are Great

Some objects are attracted to magnets.
Let us try the activity below.



Let's Test

Magnet Attracts Objects



APPARATUS AND MATERIALS



CAUTION



ice cream sticks



plastic button



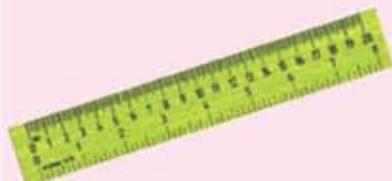
screw



rubber



bar magnet



plastic ruler



marble



CAUTION



safety pin



CAUTION



metal bottle caps

7.1.3
7.1.6



Teacher's Info

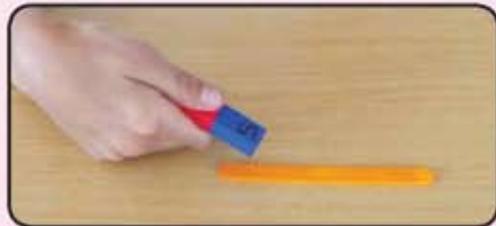
- Provide other suitable objects.

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GROUP ACTIVITY

Steps



- Put an object on the table.
- Put a magnet near the object.
- Observe the magnet's reaction towards the object.
- Record your observation in the table as shown below.
- Repeat the above steps using other objects.

Object	Magnet reaction (✓)	
	Attract	Does not attract
Ice cream stick		
Safety pin		
Marble		

- Explain the possible reaction of the object towards the magnet.

QUESTIONS

- What are the objects attracted to the magnet?
- What are the objects not attracted to the magnet?

The magnet can attract objects but not all objects can be attracted to the magnet.



HOTS

In a game, paper clips are mixed with talcum powder in a plate. Think of a simple way to separate the paper clips from the talcum powder.





Attraction and Repulsion of Magnets

When two magnets are put close together they can attract or repel. Every magnet has two opposite poles, the North and South poles.



north pole

south pole

Observe the situation below.

Let's put these two magnets closer.



Both magnets attract when put closer!

What happens when the same poles are put closer?



Let's investigate.



Let's Test

Attract and Repel



APPARATUS AND MATERIALS



two bar magnets

7.1.4



Teacher's Info

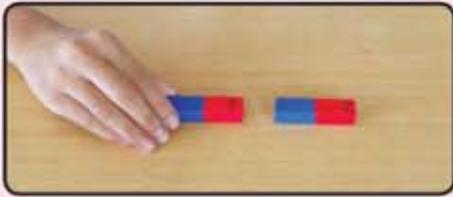
- Teachers may use magnets of other shapes for the investigation.

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44-45, 47-48

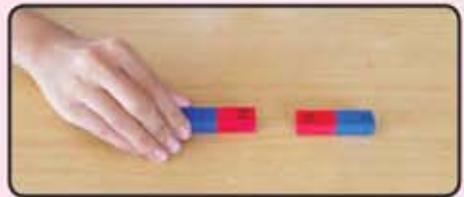


GROUP ACTIVITY

Steps



- 1 Put two bar magnets close to each other as above.
- 3 Observe what happens.

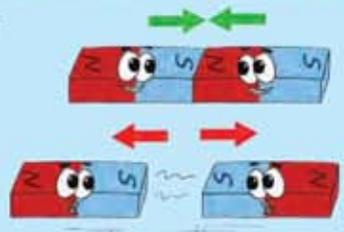


- 2 Repeat the step by reversing the pole of one magnet.

QUESTIONS

1. What happens when two same poles of magnets are brought closer together?
2. What happens when two opposite poles of magnets are brought closer together?

Magnets with opposite poles will attract when brought close together. Magnets with the same poles will repel when brought close together.



Strengths of a Magnet

Only a few paper clips are attracted.

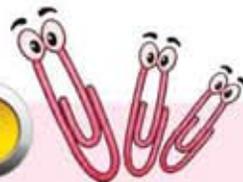
Ha! My magnet attracts more paper clips.

Does each magnet have different strength?
Let us investigate.



Let's Test

My Magnet is Stronger



APPARATUS AND MATERIALS

- U-shaped magnet
- button magnet
- ruler
- bar magnet
- ring magnet
- 4 paper clips

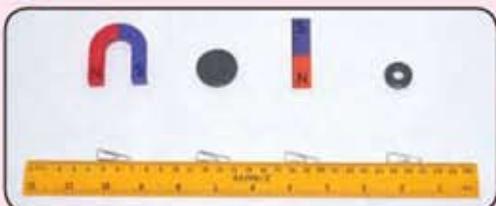


GROUP ACTIVITY

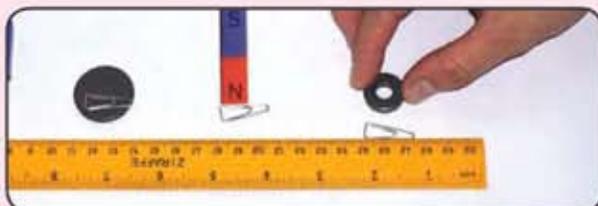
Steps



1 Put the paper clips at the side of the ruler. Arrange them in one row.



2 Place the magnets at the same distance in front of the paper clips.



3 Move the magnets closer to the paper clips. Stop moving the magnets once the paper clips are attracted.

QUESTION

Which magnet is the strongest? Why?

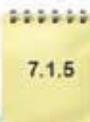


Let's Revise

1. Name the shape of the following magnets.



2. Which of the following objects contain a magnet?

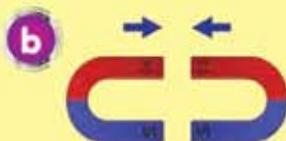


Teacher's Info

- A stronger magnet can attract paper clips from a longer distance.
- Other shapes of magnets can be used for further investigation.



- State two objects that can be attracted to magnets.
- What happens when these two magnets are put close together?



- A stronger magnet can attract more paper clips. True or false?



Recall

- Magnets are useful in our daily life.
- Magnet shapes:
 - bar
 - cylinder
 - U-shaped
 - horseshoe
 - button
 - ring
- A magnet can attract objects but not all objects are attracted to the magnet.
- Opposite poles of magnets will attract when brought closer together. Same poles of magnets will repel when brought closer together.
- Every magnet has different strength.



Science Recreation

One Malaysia Pin

- Produce an attractive pin using the 1Malaysia logo.
- Use two button magnets to produce the pin.

