



Observing the Magnetic Polarity of Different Bar Magnets

PURPOSE

To determine the magnetic polarity (north or south poles) of different bar magnets and observe how like and unlike poles interact.

MATERIALS

- 2 or more bar magnets (different sets or sizes)
- Small compass
- Sticky notes or labels
- Paper and pencil
- A non-magnetic surface

BACKGROUND

Every bar magnet has two poles: a North (N) pole and a South (S) pole. Unlike poles attract each other. Like poles repel each other. A compass has a small magnetized needle. The end of the needle that points toward geographic north is called the **north-seeking end**.

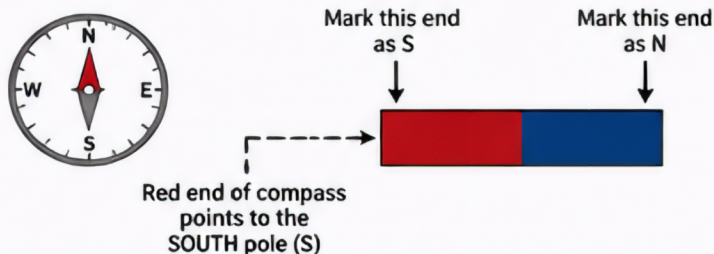
SAFETY

- Do not snap magnets together. They can break or pinch skin.

PROCEDURE

1. Place a bar magnet on the table.
2. Put the compass near one end of the magnet. The **red (north-seeking)** end of the compass needle will point toward the magnet's south pole.
3. Mark that end of the magnet as "S" (south).
4. The opposite end will be **the north** pole. Mark it as "N".
5. Repeat steps 1–4 for each bar magnet.
6. Test the poles by bringing the ends of magnets close together. Record whether they attract (A) or repel (R).

USING A COMPASS TO FIND POLES



OBSERVATIONS & RESULTS

Magnet	Pole Identified with Compass		Interactions (A = Attract, R = Repel)		
	Left End	Right End	Left of Magnet to Left of Magnet	Left of Magnet to Right of Magnet	Right of Magnet to Right of Magnet
Magnet 1					
Magnet 2					
Magnet 3					

ANALYSIS QUESTIONS

1. What did you notice about the poles of all the magnets you tested? _____
2. What happens when like poles are brought close together? _____
3. What happens when unlike poles are brought close together? _____
4. How can a compass help you find the poles of an unknown magnet? _____



THINK FURTHER!

Do all bar magnets have the same strength?
Test which magnet can pick up the most paper clips.

NOTES / DRAWINGS