

Chapter 21 Magnetism

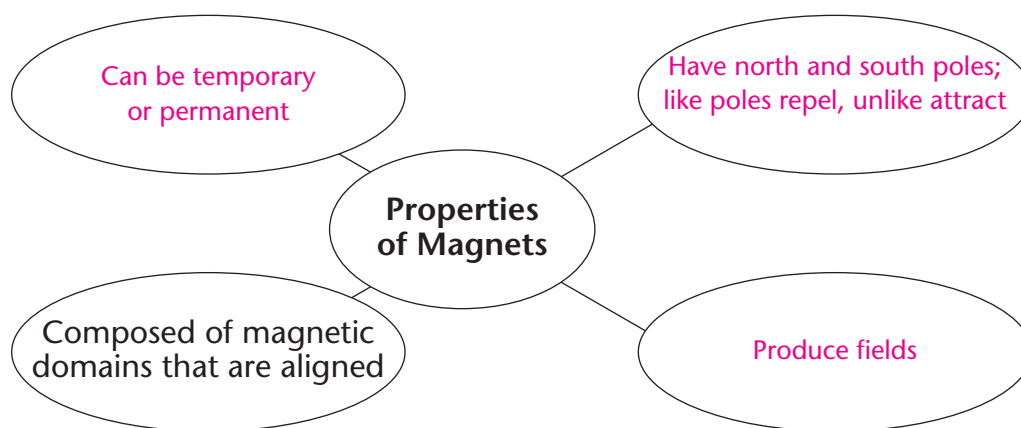
Section 21.1 Magnets and Magnetic Fields

(pages 630–633)

This section describes magnetic forces and magnetic fields. It discusses characteristics of magnetic materials.

Reading Strategy (page 630)

Using Prior Knowledge Before you read, copy the diagram below and add what you already know about magnets to the diagram. After you read, revise the diagram based on what you learned. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.



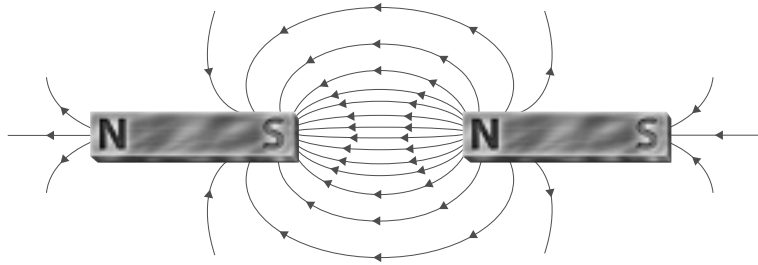
Magnetic Forces (page 630)

1. Is the following sentence true or false? Magnetic force can be exerted on moving charges, as well as on iron or on another magnet.
 true
2. Circle the letter of the correct answer. Where is the magnetic force strongest around a magnet?
 - a. the north pole
 - b. the south pole
 - c. both poles
3. Circle the letter of each sentence that is true about magnetic force.
 - a. Two magnets that approach each other may attract or repel.
 - b. Magnetic forces do not vary with distance.
 - c. Magnetic forces act over a distance.

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Magnetic Fields (pages 631–632)

For questions 4 and 5, refer to the figure below.



4. Circle the letter of the phrase that describes where the magnetic field is the strongest.

- a. at the poles
- b. between the poles
- c. in the gap between the magnets

5. Based on this figure, what would you expect to happen when the north pole of one magnet faces the south pole of another magnet?

Opposite poles will attract.

6. Circle the letter of each sentence that is true about magnetic fields.

- a. Magnetic fields surround a magnet and can exert a magnetic force.
- b. Field lines begin near the south pole of a magnet and extend toward the north pole.
- c. Iron filings are most attracted to areas where the field is strongest.

7. The area that is influenced by the magnetic field surrounding Earth is called the _____ . Circle the best answer.

- atmosphere ionosphere magnetosphere

Magnetic Materials (pages 632–633)

Match each term with its description.

Description	Term
<u> a </u> 8. Can be magnetized because it has many domains	a. ferromagnetic material
<u> c </u> 9. Has randomly oriented domains	b. magnetic domain
<u> b </u> 10. Has many atoms with aligned magnetic fields	c. nonmagnetized material