Describing Acids and Bases

Key Concepts

- What are the properties of acids and bases?
- Where are acids and bases commonly used?

Acids are compounds whose characteristic properties include the kinds of reactions they undergo. **An acid is a substance that tastes sour, reacts with metals and carbonates, and turns blue litmus paper red.** Acids react with certain metals to produce hydrogen gas. Acids are described as **corrosive**, meaning they "wear away" other materials. Acids also react with carbonate ions in a characteristic way. Carbonate ions contain carbon and oxygen atoms bonded together. When acids react with compounds made of carbonates, a carbon dioxide gas forms.

Litmus is an example of an **indicator**, a compound that changes color when in contact with an acid or a base. Sometimes chemists use other indicators to test for acids and bases, but litmus is one of the easiest to use.

Bases are another group of compounds that can be identified by their common properties. **A base is a substance that tastes bitter, feels slippery, and turns red litmus paper blue.** Like acids, bases react with other indicators. However, litmus paper gives a reliable, safe test.

Acids and bases are found almost anywhere. Acids are found in many fruits and other foods. Many acids have important roles in the body. **Acids and bases have many uses around the home and in industry.** Many of the uses of bases take advantage of their ability to react with acids.

Describing Acids and Bases (pp. 268–273)

This section describes properties of compounds called acids and bases.

Use Target Reading Skills

Before you read, preview the red headings. In the graphic organizer below, ask a question for each heading. As you read, write the answers to your questions.

Describing Acids and Bases

Heading	Question	Answer
Properties of Acids	What is an acid?	

Properties of Acids (pp. 268–270)

1. What are three characteristic properties of an acid?
   - **a.** _____
   - **b.** _____
   - **c.** _____
2. Why would you never use "sour taste" to identify a compound as acidic?

_____

_____

_____

Describing Acids and Bases *(continued)*

3. Why are acids often described as corrosive?

_____

_____

4. What happens when acids react with compounds made of carbonates?

_____

_____

5. A compound that changes color when in contact with an acid or a base is called a(n) _____.

6. Why does lemon juice turn blue litmus paper red?

_____

_____

_____

Properties of Bases (p. 271)

7. What three properties are characteristic of a base?

   a. _____

   b. _____

   c. _____

8. Is the following sentence true or false? A safe way to identify a base is to feel it. _____

Uses of Acids and Bases (pp. 272–273)

9. Is the following sentence true or false? Acids are found in many foods. _____

10. Acids and bases have many uses around the _____ and in _____.

11. Many of the uses of bases take advantage of their ability to react with _____.