



# Chemistry

BACKGROUND INFORMATION

## The Main Points

- Chemistry is the study of the composition, structure, and properties of substances and their behavior under different conditions.
- Each of the more than 100 known elements has a unique kind of atom.
- Elements can combine chemically to form compounds.
- When different substances are put together, but do not combine chemically, a mixture is formed.
- The chemical and physical properties of substances affect their uses.

## Activities

5. pHact Finder pHun
6. Testing: One, Two, Three

**Chemistry is the study of the composition, structure, and properties of substances and their behavior under different conditions.** Many aspects of our daily lives involve chemistry. Cooking and cleaning rely on chemical reactions. The production of food and manufacture of clothing are linked to chemistry. The materials used to construct houses and other buildings, and to build vehicles, appliances, and other goods all use the products of chemistry. It is important for us to know the chemical properties of common liquids and powders.

The way substances are formed, their properties, and their behavior under different conditions are the subjects of the science of chemistry. Some information about the chemical as well as physical properties of substances can be obtained by using our senses of sight, hearing, taste, touch, and smell. In *pHact Finder pHun* and *Testing: One, Two, Three*, participants will use their senses to detect chemical reactions and learn about chemical and physical properties of some common substances. When colors change, gas or an odor is produced, or a temperature change occurs, we know that a chemical reaction has probably occurred. The changes that occur during the chemical reaction provide information about the properties of the substances involved in that reaction. Some changes do not involve chemical changes. When a substance changes, but its chemical makeup is not altered, that change is called a physical change. For example, breaking up a sugar cube changes its form but does not alter the sugar



