

# Describing Matter

## What Properties Describe Matter?

**Matter** is anything that has mass and takes up space. All the "stuff" in the natural world is matter.

Matter can have many different properties, or characteristics that are used to describe, identify, and classify it. Materials can be hard or soft, hot or cold, liquid, solid, or gas. Some materials catch fire easily, but others do not burn. **Chemistry** is the study of matter and how it changes. Substances are one type of matter.

A **substance** is a single kind of matter that is pure, meaning it has a specific composition. That composition gives it specific properties. **Every form of matter has two kinds of properties—physical properties and chemical properties.**

A **physical property** is a characteristic of a substance that can be observed without changing it into a different substance. Examples of physical properties include state, freezing point, melting point, boiling point, luster, flexibility, ability to conduct heat and an electric current, hardness, temperature, texture, and color.

A **chemical property** is a characteristic of a substance that describes its ability to change into different substances. In order to observe the chemical properties of a substance, the substance must be changed into a different substance. Examples of chemical properties include rusting, tarnishing, and flammability.

On a separate sheet of paper, explain what matter is and how the physical and chemical properties of matter are alike and different.