Matter

Properties of Matter

Physical and Chemical Properties

- **Physical property** → characteristic of a substance that can change without the substance's becoming a different substance.
- Typically include odor, color, volume, state (gas, liquid, solid), density, melting point, and boiling point.
  - Think of it this way, you can change the color of your hair, shape of your body, or your name, but you are still you!

Physical and Chemical Properties

- **Chemical property** → characteristic that describes the ability of a substance to change to a different substance.
- Wood burning in a fireplace is a chemical change because it gives off heat and gases and leaves a residue of ashes (no longer wood!).
  - Other examples: steel rusting, food digesting, and plants growing.

Physical and Chemical Properties

Identifying Physical and Chemical Properties

Classify each of the following as a physical or a chemical property.

a. Gallium metal melts in your hand.

Physical Property

Why?

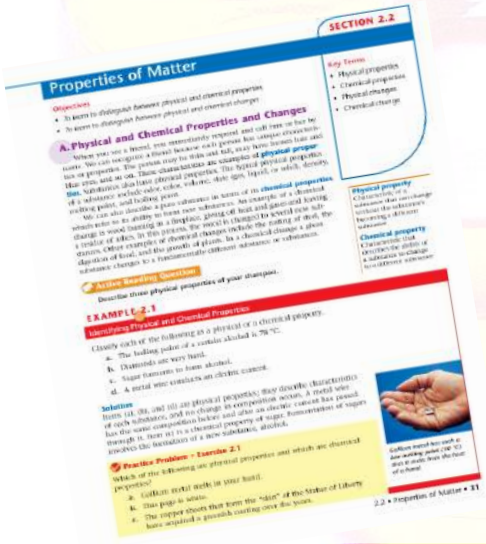
When solid gallium melts, it forms liquid gallium.

Physical and Chemical Properties

Identifying Physical and Chemical Properties

Classify each of the following as a physical or a chemical property.

b. The pages in your book are white.


SECTION 2.2

Properties of Matter

A. Physical and Chemical Properties and Changes

EXAMPLE 2.1

Identifying Physical and Chemical Properties

Physical Property

Why?

Color is a physical property, it does not change the paper.

Physical and Chemical Properties

Identifying Physical and Chemical Properties

Classify each of the following as a physical or a chemical property.

c. The copper sheets that form the “skin” of the Statue of Liberty have acquired a greenish coating over the years.

Chemical Property

Why?

Copper reacts with air to form a new substance that is green.


The
End!