

# How Can Materials Be Identified?

**Main Idea** Physical and chemical properties are characteristics used to describe, identify, and classify matter.

**Fill in the blanks.**

1. A characteristic that can be measured or detected by the senses is called a(n) \_\_\_\_\_.
2. A(n) \_\_\_\_\_ is the ability of a material to change its chemical makeup.
3. Mass is a measure of the amount of \_\_\_\_\_ in an object or material.
4. Cubic centimeters ( $\text{cm}^3$ ), liters (L), and milliliters (mL) are units used to measure \_\_\_\_\_, or the amount of space a sample of matter takes up.
5. Pure water has a(n) \_\_\_\_\_, or mass per unit volume, of 1 g/mL.
6. The temperature at which a solid substance changes to a(n) \_\_\_\_\_ substance is known as the melting point.
7. The boiling point of a substance is the temperature at which it changes from a liquid to a(n) \_\_\_\_\_.
8. The measure of how much of one substance can dissolve another substance is called \_\_\_\_\_.
9. \_\_\_\_\_ is the ability of a material to carry energy.
10. Electrical conductivity refers to carrying electricity, and \_\_\_\_\_ conductivity refers to carrying heat.

## How Does Matter Change?

**Main Idea** Changes in matter can be classified as physical changes or chemical changes. A chemical change involves a change in the identity of the matter, whereas a physical change does not.

**Match each definition to its term.**

### Definitions

- \_\_\_\_\_ 1. a change in size, shape, or state in which no new substances are formed
- \_\_\_\_\_ 2. a change in which new substances are formed
- \_\_\_\_\_ 3. a specific example of a chemical change, such as the rusting of iron
- \_\_\_\_\_ 4. a substance that speeds up a chemical reaction but is not changed by the reaction
- \_\_\_\_\_ 5. the amount of matter remains the same during a chemical or physical change

### Terms

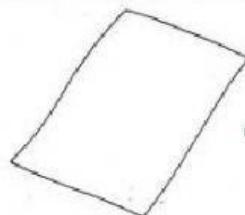
- a. chemical change
- b. catalyst
- c. chemical reaction
- d. conservation of matter
- e. physical change

**Use the drawings below to answer the question.**

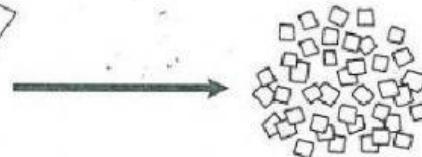
6. What kind of change in matter is shown?



- a. chemical
- b. physical



Sheet of paper

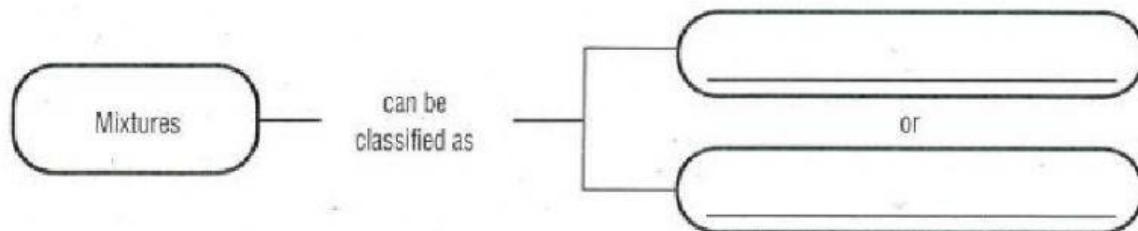


Sheet cut into pieces

Fill in the blanks with the correct terms.

1. A(n) \_\_\_\_\_ is a physical combination of two or more substances.

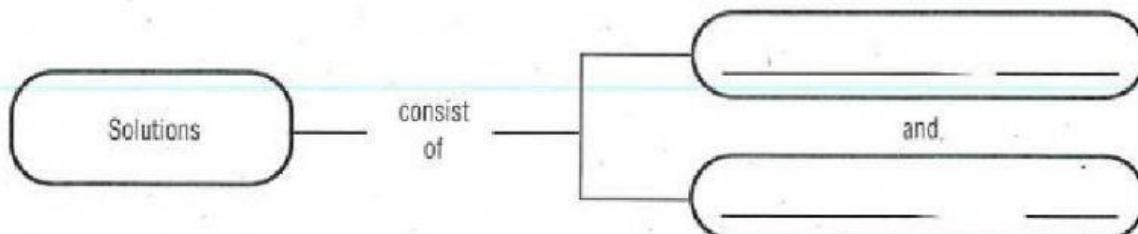
2. Complete the following diagram.



3. Each part of a mixture keeps its original \_\_\_\_\_.

4. Unlike a compound, the composition of a mixture can \_\_\_\_\_.

5. Complete the following diagram.



6. Because the substances of a solution are evenly distributed throughout the mixture, a solution is said to be \_\_\_\_\_.

7. The substance being dissolved in a solution is called the \_\_\_\_\_.

8. An alloy is a mixture of two or more \_\_\_\_\_.

*Study Guide*

