

Chapter 2 Properties of Matter

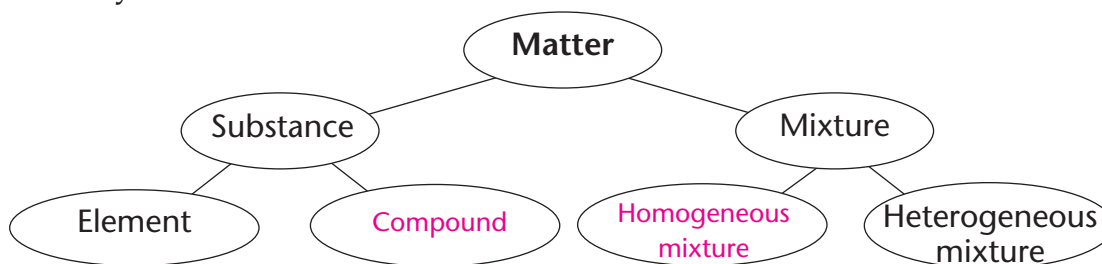
Section 2.1 Classifying Matter

(pages 38–44)

This section explains how materials are classified as pure substances or mixtures. It discusses types of pure substances and mixtures.

Reading Strategy (page 38)

Summarizing As you read, complete the classification of matter in the diagram below. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.



Pure Substances (page 39)

1. Is the following sentence true or false? Every sample of a pure substance has exactly the same composition and the same properties.

_____ true _____

2. The two categories of pure substances are _____ elements _____ and compounds.

Elements (page 39)

3. What is an element? An element is a substance that cannot be broken down into simpler substances.

4. Is the following sentence true or false? The smallest particle of an element is an atom. _____ true _____

Match each element to its correct symbol.

Element	Symbol
<u> b </u> 5. aluminum	a. C
<u> c </u> 6. gold	b. Al
<u> a </u> 7. carbon	c. Au

Chapter 2 Properties of Matter

Compounds (page 40)

8. Circle the letter of each sentence that is true about compounds.
- a. A compound always contains at least two elements.
 - b. The substances that make up a compound are always joined in a fixed proportion.
 - c. A compound has the same properties as the elements from which it is formed.

Mixtures (pages 41–42)

9. The properties of a mixture vary because the composition is not _____. Circle the correct answer.

homogenous heterogenous **fixed**

10. Is the following sentence true or false? A homogeneous mixture is a mixture in which it is difficult to distinguish the substances from one another.

true

Solutions, Suspensions, and Colloids (pages 42–44)

11. Circle the letter of the term that identifies the homogeneous mixture that forms when sugar is dissolved in a glass of hot water.

a. solution b. suspension c. colloid

12. Use the terms in the box to complete the table about solutions, suspensions, and colloids.

Homogenous	Suspension	Yes
Small	Colloid	Heterogenous

Solutions, Suspensions, and Colloids			
Type of Mixture	Relative Size of Largest Particles	Homogeneous or Heterogeneous?	Do Particles Scatter Light?
Solution	Small	Homogeneous	No
Colloid	Intermediate	Homogeneous	Yes
Suspension	Large	Heterogeneous	Yes

13. Circle the letter before each example of a colloid.

- a. windshield wiper fluid
- b. fog**
- c. homogenized milk**