

2.1

PROPERTIES OF MATTER

Section Review

Objectives

- Identify physical properties and physical changes
- Distinguish intensive properties from extensive properties
- Differentiate among three states of matter

Vocabulary

- | | | |
|----------------------|---------------------|-------------------|
| • mass | • substance | • gas |
| • volume | • physical property | • vapor |
| • extensive property | • solid | • physical change |
| • intensive property | • liquid | |

Part A Completion

Use this completion exercise to check your understanding of the concepts and terms that are introduced in this section. Each blank can be completed with a term, short phrase, or number.

Properties used to describe matter can be classified as 1 **1.** _____
 or 2 . The 3 of an object is a measure of the amount of **2.** _____
 matter the object contains. The 4 of an object is a measure of **3.** _____
 the space occupied by the object. An extensive property is one that **4.** _____
 depends on the 5 of matter. An intensive property is one that **5.** _____
 depends on the 6 of matter. **6.** _____

A 7 is matter that has uniform and definite composition. **7.** _____

A solid has a definite 8 and 9 . A liquid has a definite **8.** _____
 volume, but takes the 10 of its container. A 11 takes **9.** _____
 both the shape and volume of its container. **10.** _____
11. _____

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

- _____ **11.** Matter has mass and occupies space.
- _____ **12.** A liquid has a definite shape.
- _____ **13.** Heating a solid to 200°C will cause it to change to a liquid.
- _____ **14.** Gases are easier to compress than liquids.

Part C Matching

Match each description in Column B to the correct term in Column A.

Column A	Column B
_____ 15. volume	a. a quality or condition of a substance that can be observed or measured without changing the substance's composition
_____ 16. mass	b. matter that takes both the shape and volume of its container
_____ 17. substance	c. matter that has a uniform and definite composition
_____ 18. physical property	d. measure of the space occupied by an object
_____ 19. solid	e. matter that has a definite volume and takes the shape of its container
_____ 20. liquid	f. a change to a material that does not change its composition
_____ 21. gas	g. gaseous state of a substance that generally exists as a liquid or solid at room temperature
_____ 22. vapor	h. matter that has a definite shape and volume
_____ 23. physical change	i. the amount of matter that an object contains
_____ 24. extensive property	j. depends on the type of matter in a sample
_____ 25. intensive property	k. depends on the amount of matter in a sample

Part D Questions and Problems

Answer the following questions in the space provided.

26. Classify each of the following as a solid, liquid, gas, or vapor.

- | | |
|----------------|----------|
| a. steam | a. _____ |
| b. apple juice | b. _____ |
| c. gasoline | c. _____ |
| d. hockey puck | d. _____ |
| e. air | e. _____ |

27. State whether the following changes are physical changes.

- | | |
|----------------------|----------|
| a. melting butter | a. _____ |
| b. breaking a window | b. _____ |
| c. burning gasoline | c. _____ |
| d. boiling water | d. _____ |