

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.

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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
- b. apple juice
- c. gasoline
- d. hockey puck
- e. air

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

27. State whether the following changes are physical changes.

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

- a. _____
- b. _____
- c. _____
- d. _____