

## 2.3

## ELEMENTS AND COMPOUNDS

## Section Review

## Objectives

- Explain the difference between an element and a compound
- Distinguish between a substance and a mixture
- Identify the chemical symbols of elements, and name elements, given their symbols

## Vocabulary

- element
- compound
- chemical change
- chemical symbol

## 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.

- A substance is either a(n) 1 or a(n) 2. 1. \_\_\_\_\_
- Compounds are made up of 3, which are always present in 2. \_\_\_\_\_  
the same 4 in a given compound. Compounds can be 3. \_\_\_\_\_  
broken down into simpler substances by 5 means. 4. \_\_\_\_\_
- If the composition of a material is fixed, it is a 6. 5. \_\_\_\_\_
- If the composition of a material may vary, it is a 7. 6. \_\_\_\_\_
- Each element is represented by a one- or two-letter 8. 7. \_\_\_\_\_
- For example, carbon is represented by the symbol 9, while 8. \_\_\_\_\_  
potassium is represented by the symbol 10. 9. \_\_\_\_\_
10. \_\_\_\_\_

## Part B True-False

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

- \_\_\_\_\_ 9. Heating a chemical compound produces elements.
- \_\_\_\_\_ 10. Compounds can be broken down into elements by physical means.
- \_\_\_\_\_ 11. An element is the simplest form of matter that has a unique set of properties.
- \_\_\_\_\_ 12. Compounds are represented by chemical formulas.

## Part C Matching

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

### Column A

- \_\_\_\_\_ 13. element
- \_\_\_\_\_ 14. compound
- \_\_\_\_\_ 15. mixture
- \_\_\_\_\_ 16. chemical symbol
- \_\_\_\_\_ 17. chemical change

### Column B

- a. substance that can be separated into simpler substances only by chemical means
- b. a physical blend of two or more components
- c. one or two letters that represent an element
- d. simplest form of matter that has a unique set of properties
- e. a change that produces matter with a different composition than the original matter

## Part D Questions and Problems

Answer the following questions in the space provided.

18. Classify each substance as an element or a compound.

a. water

a. \_\_\_\_\_

b. oxygen

b. \_\_\_\_\_

c. table salt

c. \_\_\_\_\_

d. sucrose

d. \_\_\_\_\_

e. gold

e. \_\_\_\_\_

19. Write the chemical symbols for each of the following elements.

a. potassium

a. \_\_\_\_\_

b. lead

b. \_\_\_\_\_

c. sodium

c. \_\_\_\_\_

d. chlorine

d. \_\_\_\_\_

e. sulfur

e. \_\_\_\_\_

20. Name the chemical elements represented by the following symbols.

a. Cu

a. \_\_\_\_\_

b. H

b. \_\_\_\_\_

c. Ag

c. \_\_\_\_\_

d. Fe

d. \_\_\_\_\_

e. N

e. \_\_\_\_\_