

**6.1**

**ORGANIZING THE ELEMENTS**

**Section Review**

**Objectives**

- Explain how elements are organized in a periodic table
- Compare early and modern periodic tables
- Identify three broad classes of elements

**Vocabulary**

- periodic law
- metals
- nonmetals
- metalloids

**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.*

Chemists used the   1   of elements to sort them into groups. **1.** \_\_\_\_\_

The periodic table organizes the elements into vertical   2   **2.** \_\_\_\_\_

and horizontal   3   in order of increasing   4  . The table is **3.** \_\_\_\_\_

constructed so that elements that have similar chemical properties **4.** \_\_\_\_\_

are in the same   5  .   6   have a high luster, or sheen, **5.** \_\_\_\_\_

when cut. Most nonmetals are   7   at room temperature. **6.** \_\_\_\_\_

Elements with properties that are similar to those of metals **7.** \_\_\_\_\_

and nonmetals are called   8  . Across the periodic table, **8.** \_\_\_\_\_

the properties of elements become   9   metallic and **9.** \_\_\_\_\_

  10   nonmetallic. **10.** \_\_\_\_\_

## Part B True-False

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

- \_\_\_\_\_ 10. In his periodic table, Mendeleev arranged the elements in order of atomic number.
- \_\_\_\_\_ 11. There are six periods in a periodic table.
- \_\_\_\_\_ 12. Most of the elements in the periodic table are metals.
- \_\_\_\_\_ 13. The elements within a period have similar properties.

## Part C Matching

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

### Column A

### Column B

- |                      |  |
|----------------------|--|
| _____ 14. metals     | a. a vertical column of elements in the periodic table               |
| _____ 15. periods    | b. good conductors of heat and electric current                      |
| _____ 16. group      | c. poor conductors of heat and electric current                      |
| _____ 17. nonmetals  | d. have properties that are similar to those of metals and nonmetals |
| _____ 18. metalloids | e. the horizontal rows of the periodic table                         |

## Part D Questions and Problems

Answer the following questions in the space provided.

19. List the elements of Group 5A. Tell whether each is a metal, nonmetal, or metalloid.

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20. List three properties of metals.

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21. Name two elements that have similar properties to those of chlorine.

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