

**Elements and the Periodic Table** ▪ *Reading/Notetaking Guide***Organizing the Elements** (pp. 131–137)

*This section explains how the elements are organized in a chart called the periodic table. It also explains what information the periodic table contains.*

**Use Target Reading Skills**

*Before you read, preview the periodic table in Figure 14 in your textbook. Then, complete the graphic organizer by writing two questions about the table. As you read, answer your questions.*

**Periodic Table of the Elements**

<b>Q.</b> Why are atoms arranged in periods?
<b>A.</b>
<b>Q.</b>
<b>A.</b>

**Mendeleev's Periodic Table** (pp. 132–133)

1. What did Dmitri Mendeleev discover in 1869?

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2. What is the atomic mass of an element?

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3. Mendeleev noticed that patterns appeared when he arranged the elements in what way?

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4. Is the following sentence true or false? Mendeleev also grouped elements that had similar properties. \_\_\_\_\_

5. Mendeleev's periodic table had \_\_\_\_\_ blank spaces left in it, which represented elements that had not yet been discovered.

6. What does the word *periodic* mean?

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7. A chart of the elements showing the repeating pattern of their properties is called the \_\_\_\_\_.

**The Modern Periodic Table** (pp. 133–137)

8. The modern periodic table is now arranged according to \_\_\_\_\_.

9. How can an element's properties be predicted?

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10. Each horizontal row in the periodic table is called a(n) \_\_\_\_\_.

11. Is the following sentence true or false? Across a period from left to right, the properties of elements change according to a pattern. \_\_\_\_\_

12. Circle the letter of each term that refers to elements in a column of the periodic table.

- a. period
- b. family
- c. group
- d. symbol

13. Circle the letter of the statement that is true about elements in each group.

- a. They all have the same atomic mass.
- b. They all have similar characteristics.
- c. They all have similar atomic numbers.
- d. They all have the same chemical symbol.

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14. The atomic number for the element calcium (Ca) is 20. How many protons and electrons does each calcium atom have?

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15. A one- or two-letter representation of an element is called a(n)

\_\_\_\_\_.

16. Why do some elements have symbols that are very different from the English names of the elements?

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17. Use the square from the periodic table to fill in the blanks below.

a. Name of element: \_\_\_\_\_

b. Chemical symbol: \_\_\_\_\_

c. Atomic mass: \_\_\_\_\_

d. Atomic number: \_\_\_\_\_

