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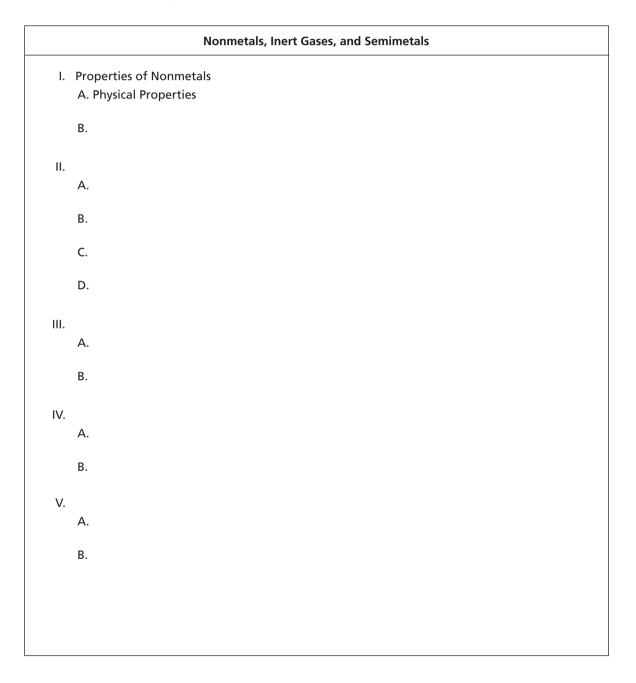
Elements and the Periodic Table • Reading/Notetaking Guide

# Nonmetals, Inert Gases, and Semimetals (pp. 148–155)

This section describes the properties of the elements in the periodic table that are not metals.

### **Use Target Reading Skills**

As you read, complete the outline about nonmetals, inert gases, and semimetals. Use the red headings for the main ideas and the blue headings for subtopics when possible. Add supporting details.



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Elements and the Periodic Table • Reading/Notetaking Guide

## Nonmetals, Inert Gases, and Semimetals (continued)

### Properties of Nonmetals (pp. 149–150)

- 1. The elements that lack most of the properties of metals are called
- 2. Where are the nonmetals located on the periodic table?
- 3. Is the following sentence true or false? Four of the nonmetals are gases at room temperature.
- 4. Circle the letter of each sentence that is true about the physical properties of nonmetals.
  - a. Solid nonmetals are brittle.

\_\_\_\_\_

- **b.** They usually have lower densities than metals.
- **c.** Most are shiny.
- d. They are good conductors of both heat and electricity.
- 5. Except for the Group 18 elements, most nonmetals readily form

Families With Nonmetals (pp. 150–153)

- 6. Circle the letter of the number of electrons that an atom in the carbon family can gain, lose, or share.
  - **a.** 1 **b.** 4 **c.** 5 **d.** 6
- 7. All living things contain what kind of compounds?
- 8. Circle the letter of the number of electrons that an atom in the nitrogen family usually gains or shares.
  - **a**. 2 **b.** 7
  - **c.** 5 **d.** 3
- 9. The atmosphere is almost 80 percent \_\_\_\_\_
- **10.** A molecule composed of two atoms is called a(n)

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- **11.** Circle the letter of the number of electrons that an atom in the oxygen family usually gains or shares.
  - **a.** 6 **b.** 7 **c.** 5 **d.** 2
- **12.** Circle the letter of each sentence that is true about oxygen.
  - **a.** The oxygen you breathe is a diatomic molecule.
  - **b.** Oxygen rarely combines with other elements.
  - **c.** Oxygen is the most abundant element in Earth's crust.
  - **d.** Ozone (O<sub>3</sub>) collects in a layer in the upper atmosphere.
- **13.** Circle the letter of the number of electrons that an atom in the halogen family usually gains or shares.
  - **a.** 4
  - **b.** 1
  - **c.** 6
  - **d.** 3
- **14.** Is the following sentence true or false? Uncombined halogens are dangerous to humans. \_\_\_\_\_

#### Inert Gases (p. 154)

- 15. Circle the letter of each sentence that is true about the inert gases.
  - **a.** They exist in large amounts in the atmosphere.
  - **b.** They are chemically unreactive.
  - **c.** They readily gain, lose, or share electrons.
  - **d.** They are used in glowing electric lights.
- **16.** Complete the table about families of nonmetals.

Nonmetals			
Family	Group Number	Nonmetals in Family	
<b>a.</b> Carbon family			
<b>b.</b> Nitrogen family			
c. Oxygen family			
d. Halogen family			
e. Inert gases			

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Nc	Nonmetals, Inert Gases, and Semimetals (continued)						
Hydrogen (p. 154)							
17.	7. How many protons and electrons does a hydrogen atom have?						
<b>18.</b> Why can't hydrogen be grouped in a family?							
Sei	<b>nimetals</b> (p. 155)						
19.	What are semimetals?						
20.	. What is the most common semimetal?						
21.	1. What is the most useful property of the semimetals?						
22.	What are semiconductors?						