

## Skills Worksheet

**Directed Reading A**

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**Section: Chemical Formulas and Equations****CHEMICAL FORMULAS**

- \_\_\_\_\_ 1. About how many elements make up all known substances?  
a. 100    c. 60  
b. 80    d. 50
- \_\_\_\_\_ 2. The subscript in the chemical formula H<sub>2</sub>O tells you there are two  
a. atoms of hydrogen in the molecule.  
b. electrons on the hydrogen atom in the molecule.  
c. elements in the molecule.  
d. atoms of oxygen in the molecule.
- \_\_\_\_\_ 3. What is the chemical formula for oxygen?  
a. O<sub>2</sub>    c. H<sub>2</sub>O  
b. C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>    d. Ca(NO<sub>3</sub>)<sub>2</sub>
- \_\_\_\_\_ 4. What is the chemical formula for water?  
a. O<sub>2</sub>    c. H<sub>2</sub>O  
b. C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>    d. Ca(NO<sub>3</sub>)<sub>2</sub>
- \_\_\_\_\_ 5. What is the chemical formula for glucose?  
a. O<sub>2</sub>    c. H<sub>2</sub>O  
b. C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>    d. Ca(NO<sub>3</sub>)<sub>2</sub>
6. A combination of chemical symbols and numbers that represent a substance is called a(n) \_\_\_\_\_.
7. What does a chemical formula show?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
8. Covalent compounds are usually composed of two \_\_\_\_\_.
9. The formula for dinitrogen monoxide is \_\_\_\_\_.
10. The formula for carbon dioxide is \_\_\_\_\_.
11. Ionic compounds are composed of a(n) \_\_\_\_\_ and a(n) \_\_\_\_\_.
12. The overall charge of an ionic compound is \_\_\_\_\_.

Directed Reading A *continued*

Write the formula for each of the following ionic compounds.

13. sodium chloride \_\_\_\_\_

14. magnesium chloride \_\_\_\_\_

**CHEMICAL EQUATIONS**

15. What do musical notations and chemical equations have in common?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

16. When chemical symbols and formulas are used as a shortcut to describe a chemical reaction, it is called a(n) \_\_\_\_\_.

17. A substance that forms in a chemical reaction is called a(n)

\_\_\_\_\_.

18. A substance or molecule that participates in a chemical reaction is called a(n)

\_\_\_\_\_.

19. When carbon reacts with oxygen to form carbon dioxide, carbon dioxide is the

\_\_\_\_\_.

20. What will happen if the wrong chemical symbol or formula is used in a chemical equation?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

21. In a chemical reaction, \_\_\_\_\_ are never gained or lost.

22. Antoine Lavoisier's work led to the \_\_\_\_\_.

23. The number placed in front of a chemical symbol or formula is called a(n)

\_\_\_\_\_.

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**Directed Reading A** *continued*

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24. Chemical equations must be balanced. Why?

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25. How many oxygen atoms are contained in the formula  $2\text{CO}_2$ ?

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