Name _____ Class _____ Date _____



# Section 6.3 Naming Compounds and Writing Formulas

**(pages 170–175)**

*This section explains how to name and write formulas for ionic and molecular compounds.*

## Reading Strategy (page 170)

**Predicting** Before you read, predict the meaning of the term *polyatomic ion*, and write your prediction in the table. After you read, if your prediction was incorrect, revise your definition. For more information on this Reading Strategy, see the **Reading and Study Skills** in the **Skills and Reference Handbook** at the end of your textbook.

| Vocabulary Term | Before You Read | After You Read |
|---|---|---|
| Polyatomic ion | | |

## Describing Ionic Compounds (pages 171–173)

**1.** Is the following sentence true or false? The name of an ionic compound must distinguish the compound from other ionic compounds containing the same elements. _____

**2.** What information is provided by the formula for an ionic compound? _____

_____

**3.** Circle the letter of the word that describes a compound made from only two elements.

a. ionic b. binary

c. diatomic d. polar

**4.** Is the following sentence true or false? Names of anions are formed by placing the suffix *-ide* after part of the name of the nonmetal. _____

**5.** When a metal forms more than one ion, the name of the ion contains a Roman numeral to indicate the _____ on the ion.

**6.** What is a polyatomic ion? _____

_____

**7.** Is the following sentence true or false? Because all compounds are neutral, the total charges on the cations and anions in the formula of an ionic compound must add up to zero. _____

**8.** Circle the letter of the correct answer. The formula for sodium sulfide is $Na_2S$. The sodium ion has a charge of 1+. What must the charge on the sulfide ion be?

a. 1+ b. 0

c. 1− d. 2−

**Some Polyatomic Ions**

| Name | Formula | Name | Formula |
|---|---|---|---|
| Ammonium | $NH_4^+$ | Acetate | $C_2H_3O_2^-$ |
| Hydroxide | $OH^-$ | Peroxide | $O_2^{2-}$ |
| Nitrate | $NO_3^-$ | Permanganate | $MnO_4^-$ |
| Sulfate | $SO_4^{2-}$ | Hydrogen sulfate | $HSO_4^-$ |
| Carbonate | $CO_3^{2-}$ | Hydrogen carbonate | $HCO_3^-$ |
| Phosphate | $PO_4^{3-}$ | Hydrogen phosphate | $HPO_4^{2-}$ |

**9.** Circle the letter that identifies the number of ammonium ions needed to form a compound with one phosphate ion.

a. one b. two

c. three d. four

## Describing Molecular Compounds (pages 174–175)

**10.** What information is provided by the name and formula of a molecular compound? _____

_____

_____

**11.** Describe the general rule for naming molecular compounds. _____

_____

_____

**12.** Is the following sentence true or false? The formula for a molecular compound is written with the symbols for the elements in the same order as the elements appear in the name of the compound.

_____

**13.** Circle the letter that identifies the method of naming the number of atoms in molecular compounds.

a. prefix b. suffix

c. number d. symbol

**14.** In the formula of a molecular compound, the number of atoms of an element in the molecule is represented by a(n) _____.