

**WS 6.2 Ionic and Covalent Formula Writing**

Name: \_\_\_\_\_ p. \_\_\_\_\_

**1. Ionic** compounds.

Examples:  $\text{MgCl}_2$ ,  $\text{NaNO}_3$ ,  $\text{Ag}_2\text{S}$ ,  $\text{Fe}(\text{NO}_3)_3$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{K}_2\text{SO}_4$ ,  $\text{Li}_2\text{CO}_3$ ,  $\text{AlPO}_4$ ,  $\text{Cu}_2\text{SO}_4$ ,  $\text{NH}_4\text{Cl}$

a. Ionic compounds typically contain \_\_\_\_\_.

*both metals and nonmetals*

*only metals*

*only nonmetals*

b. Explain how ionic compounds form from elements. What is happening with the electrons?

**2. Covalent** compounds (aka “molecular compounds”).

Examples:  $\text{CO}_2$ ,  $\text{CO}$ ,  $\text{H}_2\text{O}$ ,  $\text{CCl}_4$ ,  $\text{C}_8\text{H}_{18}$ ,  $\text{SO}_3$ ,  $\text{SO}_2$ ,  $\text{OF}_2$ ,  $\text{PCl}_5$ ,  $\text{NI}_3$ ,  $\text{C}_6\text{H}_{12}\text{O}_6$ ,  $\text{NO}$ ,  $\text{NO}_2$ ,  $\text{N}_2\text{O}$ ,  $\text{N}_2\text{O}_3$ ,  $\text{N}_2\text{O}_4$ ,  $\text{N}_2\text{O}_5$

a. Covalent compounds typically contain \_\_\_\_\_.

*both metals and nonmetals*

*only metals*

*only nonmetals*

b. Explain how covalent compounds form from elements. What is happening with the electrons?

**Prefixes!**

1 = mono

6 = hexa

2 = di

7 = hepta

3 = tri

8 = octa

4 = tetra

9 = nona

5 = penta

10 = deca

3. Fill in the missing name or formula for these covalent compounds:

$\text{NO}_2$  \_\_\_\_\_

carbon tetraiodide \_\_\_\_\_

$\text{NO}$  \_\_\_\_\_

$\text{CBr}_2\text{I}_2$  \_\_\_\_\_

$\text{P}_2\text{O}_5$  \_\_\_\_\_

4. Fill in the missing name or formula for these ionic compounds:

$\text{BaCl}_2$  \_\_\_\_\_

$\text{Al}_2\text{S}_3$  \_\_\_\_\_

$\text{PbO}$  \_\_\_\_\_

$\text{Fe}_2\text{S}_3$  \_\_\_\_\_

ammonium sulfate \_\_\_\_\_

Tin (IV) carbonate \_\_\_\_\_

5. For each compound below, classify it as ionic or covalent, and then fill in the missing name or formula.

$\text{NCl}_3$  \_\_\_\_\_

$\text{SF}_6$  \_\_\_\_\_

$\text{AlCl}_3$  \_\_\_\_\_

gold (III) sulfide \_\_\_\_\_

$\text{CO}$  \_\_\_\_\_

$\text{XeF}_4$  \_\_\_\_\_

$\text{CO}_2$  \_\_\_\_\_

$\text{Li}_2\text{O}$  \_\_\_\_\_

$\text{NiBr}_2$  \_\_\_\_\_

$\text{N}_2\text{O}_4$  \_\_\_\_\_

$\text{SO}_2$  \_\_\_\_\_

sulfur trioxide \_\_\_\_\_

$\text{NI}_3$  \_\_\_\_\_

Iron (III) phosphide \_\_\_\_\_

$\text{B}_2\text{O}_3$  \_\_\_\_\_

Calcium phosphate \_\_\_\_\_

potassium peroxide \_\_\_\_\_

$\text{Si}_3\text{N}_4$  \_\_\_\_\_

$\text{PCl}_5$  \_\_\_\_\_

$\text{Pb}_3\text{N}_4$  \_\_\_\_\_

Calcium hydride \_\_\_\_\_

disulfur decafluoride \_\_\_\_\_

disilicon hexahydride \_\_\_\_\_

silver sulfate \_\_\_\_\_