Naming Chemical Compounds
(Ionic and Covalent)

The following are a good mix of naming and formula writing problems to help you get some practice. I will expect that you know how to name both ionic and covalent compounds in your work.

Name the following chemical compounds:

1) $NaBr$ _____

3) P_2O_5 _____

4) $Ti(SO_4)_2$ _____

5) $FePO_4$ _____

6) K_3N _____

7) SO_2 _____

8) $CuOH$ _____

9) $Zn(NO_2)_2$ _____

10) V_2S_3 _____

Write the formulas for the following chemical compounds:

11) silicon dioxide _____

12) nickel (III) sulfide _____

13) manganese (II) phosphate _____

15) diboron tetrabromide _____

16) magnesium sulfate heptahydrate _____

17) potassium carbonate _____

18) ammonium oxide _____

19) tin (IV) selenide _____

20) carbon tetrachloride _____

Covalent Compounds Worksheet

1) Name the following covalent compounds:

   a) SiF_4 _____

   b) N_2S_3 _____

   c) HBr _____

   d) Br_2 _____

2) Write the formulas for the following covalent compounds:

   a) diboron hexahydride _____

   b) nitrogen tribromide _____

   c) sulfur hexachloride _____

   d) diphosphorus pentoxide _____

3) List three differences between ionic and covalent compounds:

   1. _____

   2. _____

   3. _____

4) Explain why ionic compounds are formed when a metal bonds with a nonmetal but covalent compounds are formed when two nonmetals bond.

5) What are the chemical formulas of the following molecules?

   a) carbon disulfide _____

   b) boron trifluoride _____

   c) carbon tetrafluoride _____

Naming Covalent Compounds Worksheet

Write the formulas for the following covalent compounds:

1) antimony tribromide _____

2) hexaboron silicide _____

3) chlorine dioxide _____

4) hydrogen iodide _____

5) iodine pentafluoride _____

6) dinitrogen trioxide _____

7) ammonia _____

8) phosphorus triiodide _____

Write the names for the following covalent compounds:

9) P_4S_5 _____

10) O_2 _____

11) SeF_6 _____

12) Si_2Br_6 _____

13) SCl_4 _____

14) CH_4 _____

15) B_2Si _____

16) NF_3 _____

Compound Naming Race

Be the first team in the room to correctly get all the names on this sheet right. When you have finished the first ten problems, bring them up to the teacher to be checked.

copper (II) acetate _____

sodium hydroxide _____

lithium oxide _____

cobalt (III) carbonate _____

aluminum sulfide _____

ammonium cyanide _____

iron (III) phosphide _____

vanadium (V) phosphate _____

sodium permanganate _____

manganese (III) fluoride _____

lithium arsenide _____

chromium (VI) sulfate _____

calcium bromide _____

ammonium sulfate _____

copper (II) oxide _____

platinum (IV) phosphate _____

aluminum carbonate _____

silver nitrate _____

magnesium acetate _____

nickel (III) cyanide _____

beryllium nitrate _____

nickel (III) sulfite _____

potassium oxide _____

silver bromide _____

zinc phosphate _____

copper (II) bicarbonate _____

nickel (II) selenide _____

manganese (IV) carbonate _____

lead (IV) nitride _____

tin (II) hydroxide _____

vanadium (IV) phosphate _____

silver sulfate _____

cobalt (III) sulfide _____

iron (II) sulfite _____

copper (II) nitrite _____

nickel (II) hydroxide _____

zinc nitride _____

manganese (VII) nitrate _____

gallium sulfate _____

sodium nitrate _____

Chemical Formula Writing Worksheet

Write chemical formulas for the compounds in each box. The names are found by finding the intersection between the cations and anions. Example: The first box is the intersection between the "zinc" cation and the "chloride" anion, so you should write "$ZnCl_2$", as shown.

	zinc	*iron (II)*	*iron (III)*	*gallium*	*silver*	*lead (IV)*
chloride	$ZnCl_2$					
nitrate						
oxide						
nitride						
sulfate						

Write the formulas for the following compounds:

1) copper (II) chloride _____

2) lithium acetate _____

3) vanadium (III) selenide _____

4) manganese (IV) nitride _____

5) beryllium oxide _____

6) sodium sulfate _____

7) aluminum arsenide _____

8) potassium permanganate _____

9) chromium (VI) cyanide _____

10) tin (II) sulfite _____

11) vanadium (V) fluoride _____

12) ammonium nitrate _____