Name_____ **Mod** _____

1. Write the formula and the name for the ionic compounds made from these ions: (p. 149-156) (* need a Roman numeral)

a. Na^{+} and NO_3^{-} _____ _____

b. Li^{+} and SO_4^{-2} _____ _____

c. NH_4^{+} and Br^{-} _____ _____

*d. Mn^{+2} and I^{-} _____ _____

e. Mg^{+2} and NO_3^{-} _____ _____

f. Sr^{+2} and CO_3^{-2} _____ _____

g. NH_4^{+} and OH^{-} _____ _____

*h. Cu^{+} and Cl^{-} _____ _____

*i. Fe^{+3} and OH^{-} _____ _____

j. Al^{+3} and CO_3^{-2} _____ _____

k. K^{+} and PO_4^{-3} _____ _____

m. Ba^{+2} and SO_4^{-2} _____ _____

2. Write the **correct formula** for these ionic compounds. You must write the formula for the ions first, then **criss-cross** to get the correct formula for the compound.

a. calcium nitrate _____

b. aluminum hydroxide _____

c. cobalt (III) chloride _____

d. magnesium phosphate _____

e. sodium carbonate _____

e. Copper (II) sulfate _____

f. lithium iodide _____

g. Iron (II) sulfide _____

h. ammonium chloride _____

j. Tin(IV) oxide _____

3. Name these **ionic** compounds. (NO Prefixes, * need Roman numerals)

a. CaI_2 _____

b. MgF_2 _____

c. $LiNO_2$ _____

d. NH_4OH _____

e. $KHCO_3$ _____

f. K_2CrO_4 _____

g. $Ba(NO_3)_2$ _____

*h. Cu_2O _____

*i. $FeSO_3$ _____

*j. $MnCl_2$ _____

1. Write Formulas and Names for compounds made of these pairs of ions. (*= Roman num)

	Formula	Name
a. Ag^{+}, O^{-2}	_____	_____
*b. Co^{+2} , Cl^{-}	_____	_____
c. Al^{+3}, OH^{-}	_____	_____
d. NH_4^{+}, Cl^{-}	_____	_____
e. Ba^{+2}, PO_4^{-3}	_____	_____
*f. Fe^{+3} , Br^{-}	_____	_____
g. Ca^{+2}, SO_4^{-2}	_____	_____

2. Give the formula for these ionic compounds. (Write the IONS, then CRISS–CROSS!!!)

a. Potassium bromide _____
b. Tin(IV) chloride _____
c. Sodium carbonate _____
d. Aluminum sulfate _____
e. Cobalt(II) sulfide _____
f. Iron(III) hydroxide _____
g. sodium nitrate _____
h. calcium nitride _____
i. silver iodide _____
j. potassium permanganate _____

3. Give the formula or name for these *binary molecular* compounds (Don't criss-cross. Use prefixes, mono, di, tri, etc.) (p. 158-159)

a. N_2O _____
b. PCl_3 _____
c. SO_3 _____
d. CCl_4 _____
e. N_2O_5 _____
e. Carbon disulfide _____
f. diphosphorus trioxide _____
g. sulfur hexafluoride _____
h. dichlorine heptoxide _____
i. carbon monoxide _____

4. Give the formula for these acids : (See Handout) Name these compounds as *acids*

a. Hydroiodic acid _____
b. Nitrous acid _____
c. Phosphoric acid _____
d. H_2CO_3 _____
e. $HClO_2$ _____
f. HF _____

g. The palmitate ion is $C_{16}H_{31}O_2^{-}$. What's the formula for palmitic acid? _____

h. The tartrate ion is $C_4H_4O_6^{-2}$. What is the formula for tartaric acid? _____

i. Citric acid is $H_3C_6H_5O_7$. What's the formula for Calcium citrate? _____

Final Worksheet: Formulas and names : Name_____page 3

1. Write formulas and names for compounds composed of these pairs of ions. *Do* Criss-cross, *don't* use prefixes, *do* use Roman numerals for metals with more than one charge.

a. Li^{+}, S^{-2} _____ _____

b. Ca^{+2} , N^{-3} _____ _____

c. Al^{+3}, NO_3^{-} _____ _____

d. Co^{+2}, PO_4^{-3} _____ _____

e. Pb^{+2}, Cl^{-} _____ _____

f. Mn^{+3}, OH^{-} _____ _____

2. List the type (**Ionic** or **Molecular**) and give the *formula* for each compound. (p. 161-163)
Ionic (Start with metal or ammonium, have no prefixes in name): Write Ions, then criss-cross
May be:**Binary ionic** (2 elements: metal + non-metal) or Contain a **Polyatomic ion**
Binary **Molecular** (have prefixes , 2 non-metals, end in -ide). Don't criss-cross.

	Type (Ionic or molecular)	Formula
a. Nitrogen dioxide	_____	_____
b. Tin(II) hydroxide	_____	_____
c. Sodium phosphate	_____	_____
d. Potassium carbonate	_____	_____
e. Chromium(III) fluoride	_____	_____
f. Disulfur trioxide	_____	_____
g. Iron(III) oxide	_____	_____
h. Calcium acetate	_____	_____

3. List the Type (**Ionic** or **Molecular**) and Name for each compound. (p. 161-163):
Ionic : (Start with a Metal or NH_4^{+}): Don't use prefixes, Use a Roman numeral for *metals* with more than 1 charge.
May be: **Binary Ionic** (2 elements, metal + non-metal): Always end in -ide.
or Contain a **Polyatomic Ion** (3 or more elements): End in -ate, -ite or -ide.
Binary **Molecular** (2 non-metals): Must use prefixes, always end in -ide.

	Type (Ionic or Molecular)	Name
a. $Fe(OH)_3$	_____	_____
b. CBr_4	_____	_____
c. $AlCl_3$	_____	_____
d. NiO	_____	_____
e. NH_4NO_3	_____	_____
f. N_2O	_____	_____
g. PBr_5	_____	_____
h. AgCN	_____	_____

Final Worksheet: Side 2 :Formulas and names **page 4**

1. Write formulas and names for compounds composed of these pairs of ions.

a. Sn^{+4}, O^{-2} _____ _____

b. Ni^{+2}, SO_3^{-2} _____ _____

c. Co^{+2} , NO_3^{-} _____ _____

2. Name these acids: What is the formula of these acids?

a. HI _____ c. Sulfurous acid _____

b. HNO_2 _____ d. Hydrosulfuric acid _____

e. Formic acid is $HCHO_2$. What is the name of $NaCHO_2$? _____

f. The oxalate ion is $C_2O_4^{-2}$. What is the formula for oxalic acid? _____

g. Sorbic acid is $HC_6H_7O_2$. What is the formula for magnesium sorbate? _____

3. State if these compounds are Ionic or Molecular. Then write their formula. (directions other side)

	Type (Ionic or molecular)	Formula
a. Carbon tetrafluoride	_____	_____
b. Barium phosphate	_____	_____
c. Rubidium sulfate	_____	_____
d. Copper(II) chloride	_____	_____
e. Phosphorus pentafluoride	_____	_____
f. Zinc cyanide	_____	_____
g. Lead(IV) bromide	_____	_____
h. Calcium phosphide	_____	_____
i. Potassium chromate	_____	_____

4. State if these compounds are Ionic or Molecular. Then name them. (Directions on other side)

	Type	Name
a. $Co(NO_3)_3$	_____	_____
b. PBr_3	_____	_____
c. BaF_2	_____	_____
d. Cl_2O	_____	_____
e. NH_4OH	_____	_____
f. SnO	_____	_____
g. N_2O_5	_____	_____
h. K_2CO_3	_____	_____
i. $Mg(CN)_2$	_____	_____
j. $Ni_2(SO_3)_3$	_____	_____