

WORKSHOP 3**Nomenclature**

Name _____

A. Write the correct formula for each of the following compounds. Remember the different ways compounds are named depending upon whether they are ionic or covalent.

Diphosphorus pentoxide	_____	Sodium chloride	_____
Nitrogen dioxide	_____	Magnesium chloride	_____
Dichlorine heptoxide	_____	Aluminum chloride	_____
Tetraphosphorus trisulfide	_____	Potassium sulfate	_____
Carbon monoxide	_____	Ammonium sulfate	_____
Ferric carbonate	_____	Ferrous carbonate	_____
Phosphoric acid	_____	Barium phosphate	_____
Tungsten(V)phosphide	_____	Lead(IV)oxalate	_____
Sodium selenate	_____	Cupric cyanide	_____
potassium hydroxide	_____	Ammonia	_____

B. Write the common name for each of the following compounds. Again note that covalent compounds are named one way and ionic compounds another way.

N_2O_4	_____	N_2O	_____
PCl_3	_____	PbF_4	_____
CCl_4	_____	$KHSO_3$	_____
Cu_2SO_4	_____	PbO	_____
$Co(ClO_3)_3$	_____	NH_4OH	_____
$FeSO_4$	_____	$CoSO_3$	_____
$Fe(C_2H_3O_2)_3$	_____	$Cu(NO_3)_2$	_____

C. Give the systematic (IUPAC) name for the following compounds:

AlCl_3 _____

SO_3 _____

$\text{As}_2(\text{SO}_4)_3$ _____

LiBrO_3 _____

$\text{Fe}(\text{SCN})_3$ _____

KIO_3 _____

$\text{Ca}(\text{IO}_4)_2$ _____

AgNO_3 _____

$\text{Ba}_3(\text{PO}_4)_2$ _____

KMnO_4 _____

LiBr _____

CoCrO_4 _____

WN_2 _____

$\text{Sn}(\text{NO}_3)_4$ _____

XeF_6 _____

NH_4Cl _____

PCl_5 _____

CuCN _____

NaClO_2 _____

$\text{NH}_4\text{C}_2\text{H}_3\text{O}_2$ _____

SeCl_2 _____

$\text{Mg}(\text{NO}_2)_2$ _____

NaHCO_3 _____

CaO _____

K_2S _____

$\text{Sr}(\text{OH})_2$ _____

ThCr_2O_7 _____

TiH_2 _____

SF_6 _____

$\text{Cs}_2\text{C}_2\text{O}_4$ _____

D. Name the following acids then write the formula and name for the corresponding sodium salt.

	acid	formula of salt	name of sodium salt
HBr	_____	_____	_____
HBrO	_____	_____	_____
HBrO ₂	_____	_____	_____
HBrO ₃	_____	_____	_____
HBrO ₄	_____	_____	_____
H ₂ S	_____	_____	_____
H ₂ SO ₃	_____	_____	_____
H ₂ SO ₄	_____	_____	_____
HCN	_____	_____	_____
H ₂ CO ₃	_____	_____	_____

E. Write chemical equations for each of the following reactions.

(1) Solid silver oxide decomposes at high temperatures to form metallic silver and oxygen.
The equation for this reaction is:

(2) A few milliliters of a solution of cupric nitrate is placed in a large test tube. Dilute sodium hydroxide is added drop by drop until a precipitate forms. The precipitate is cupric hydroxide. Sodium nitrate is also formed. Write an equation for the reaction:

(3) A small piece of zinc metal is dissolved in dilute hydrochloric acid. The gas evolved is hydrogen. The zinc dissolves in the acid to form soluble zinc chloride. The equation for this reaction is:

(4) An aqueous solution of soluble iron (III) chloride is mixed with aqueous sodium hydroxide to produce insoluble iron (III) hydroxide and a sodium chloride solution.

(5) Aqueous silver nitrate reacts with aqueous aluminum chloride to produce the insoluble salt silver chloride and soluble aluminum nitrate.