Explore

Summary Chart of Naming Compounds

Ionic Compounds

2 Elements: Metal + Nonmetal

Name metal first, then change the nonmetal ending to "-**ide**."

NaCl = Sodium chlori**de**

For elements with multiple charges (transition metals), use Roman numeral.

FeO = Iron **(II)** chloride
Fe_2O_3 = Iron **(III)** chloride

More than 2 elements: cation + anion

Name metal first (or the cation), then the nonmetal (or anion).
KNO_3 = Potassium nitrate
NaOH = Sodium hydroxide

See polyatomic ion chart. Most are anions, except for NH_4^+. If ammonium is used, then the anion ends in "***-ide***."
NH_4Cl = ammonium chloride

Polyatomic Ions

Acetate $C_2H_3O_2^-$
Ammonium NH_4^+
Carbonate CO_3^{2-}
Chlorate ClO_3^-
Chlorite ClO_2^-
Chromate CrO_4^{2-}
Cyanide CN^-
Dichromate $Cr_2O_7^{2-}$
Hydrogen carbonate HCO_3^-
Hydroxide OH^-
Hypochlorite $HClO^-$
Nitrate NO_3^-
Nitrite NO_2^-
Perchlorate ClO_4^-
Permanganate MnO_4^-
Phosphate PO_4^{3-}
Sulfate SO_4^{2-}
Sulfite SO_3^{2-}

Naming Acids

H + non-oxyacid (anion)

Use the prefix ***hydro***- and change the anion ending to ***" –ic."***

HCl = Hydrochlor**ic** acid

H + oxyacid (anion)

Change the ending of the oxyacid (anion). If it is "***–ate***,*" the ending* becomes "***-ic***." If it is *"****-ite***," the ending becomes "***-ous***."

H_2SO_4 = Sulfur**ic** acid
H_2SO_3 = Sulfur**ous** acid

Covalent Compounds

2 Elements: Nonmetal + Nonmetal

Use a prefix for each element in the compound (count the atoms in the formula). Name the first element, and change the second element ending to ***"-ide."*** N_2O_5 = **Di**nitrogen **pent**ox**ide**

Prefixes

1 *mono-*
2 *di-*
3 *tri-*
4 *tetra-*
5 *penta-*
6 *hexa-*
7 *hepta-*
8 *octa-*
9 *nona-*
10 *deca-*