Type I Binary Ionic Compounds

Writing the chemical symbol from the name

Ex. lithium sulfide

Li^+ S^{2-}

Li^+

Li_2S

Writing the name from the chemical formula.

Ex. Ca_3N_2

Ca^{2+} N^{3-}

Ca^{2+} N^{3-}

Ca^{2+}

calcium nitride

Write the chemical formula or name for the following ionic compounds:

a) KI

K^+ I^-

potassium iodide

b) $SrCl_2$

Sr^{2+} Cl^-
Cl^-

strontium chloride

c) calcium nitride

Ca^{2+} N^{3-}
Ca^{2+} N^{3-}
Ca^{2+}

Ca_3N_2

d) aluminum sulfide

Al^{3+} S^{2-}
Al^{3+} S^{2-}
S^{2-}

Al_2S_3

Multi-Valent Metals

- can form more than one type of ion (always positive).
- include transition metals and some representative metals.

Ex. Fe^{3+} and Fe^{2+} Pb^{2+} and Pb^{4+}

In the periodic table the most common ion is usually listed in the key.

In naming multi-valent compounds (from a formula):

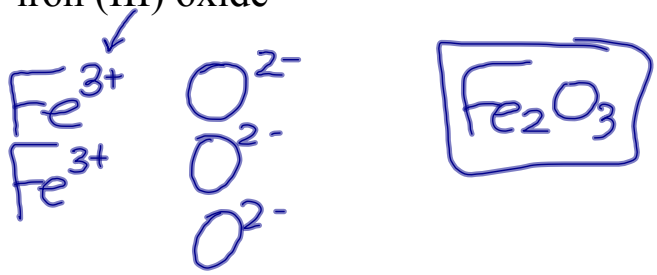
[a] name the two ions

[b] place the charge of the metal ion in roman numerals after the metal ion.

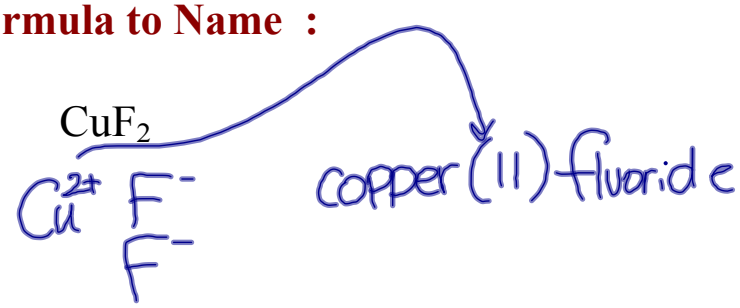
[c] end the anion with an -ide suffix.

Ex. Name to Formula:

iron (III) oxide



Formula to Name :

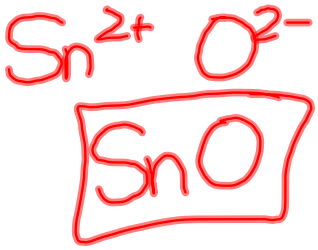


Type II Binary Ionic Compounds

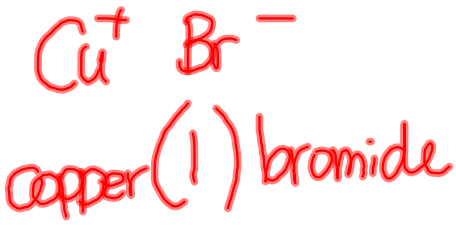
Write the chemical formula (or name) for the following ionic compounds:

a) iron (II) chloride

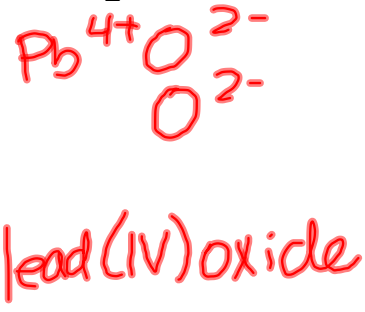
b) tin (II) oxide



c) CuBr



d) PbO_2



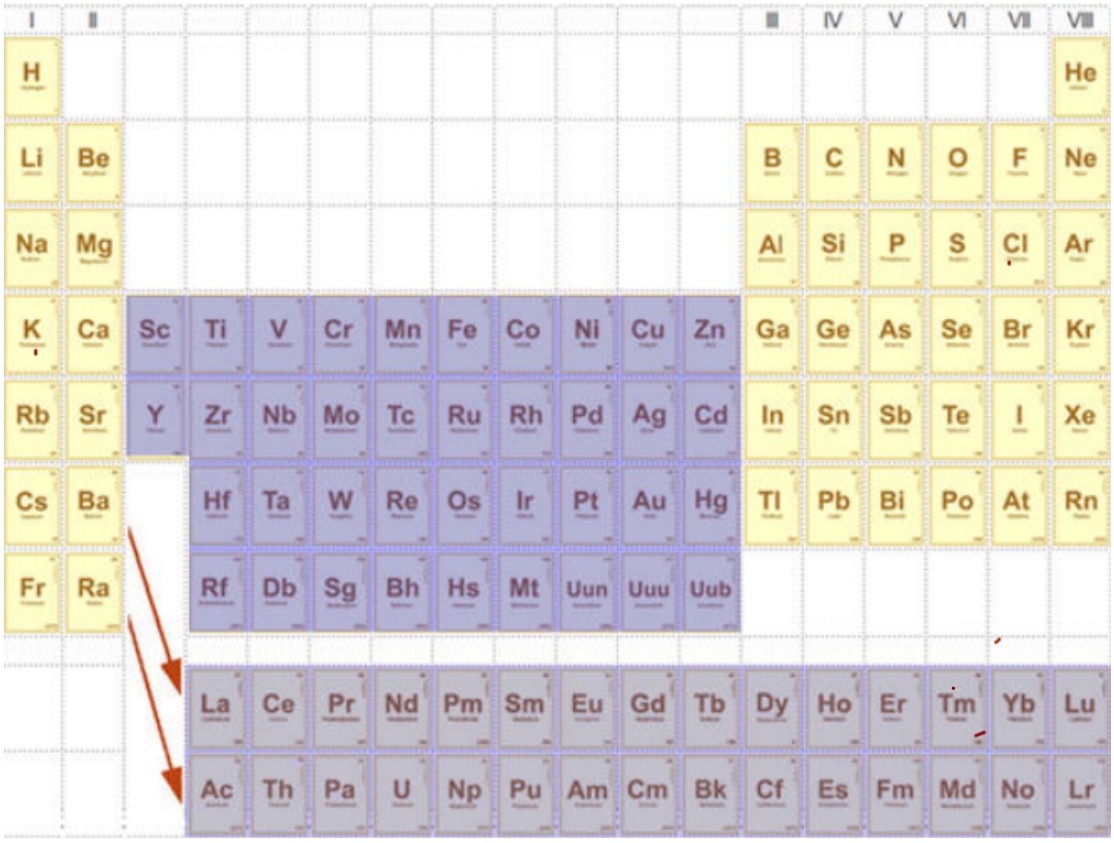
Binary Ionic Compounds Type II

Worksheet

Cu^{2+} Br^- Br^-

$Cu_{(s)} + Br_{2(l)} \longrightarrow CuBr_{2(s)}$

copper (II) bromide


I II III IV V VI VII VIII
H He
Li Be B C N O F Ne
Na Mg Al Si P S Cl Ar
K Ca Sc Ti V Cr Mn Fe Co Ni Cu Zn Ga Ge As Se Br Kr
Rb Sr Y Zr Nb Mo Tc Ru Rh Pd Ag Cd In Sn Sb Te I Xe
Cs Ba Hf Ta W Re Os Ir Pt Au Hg Tl Pb Bi Po At Rn
Fr Ra Rf Db Sg Bh Hs Mt Uun Uuu Uub
La Ce Pr Nd Pm Sm Eu Gd Tb Dy Ho Er Tm Yb Lu
Ac Th Pa U Np Pu Am Cm Bk Cf Es Fm Md No Lr