

Ionic Formulas & Names

A. Naming:

- a. Cations are called by their element name and followed by ion
 - i. Ca^{2+} calcium ion
- b. Anions are called by their element name with its ending replaced by "ide", followed by ion
 - i. F^- fluoride ion

B. Classical Naming:

- a. Use the names in the periodic table to indicate which charge is being used as a cation
 - i. FeO ferrous oxide
 - ii. Fe_2O_3 ferric oxide

C. International Union of Pure and Applied Chemistry (IUPAC)

- a. Instead of using prefixes or suffixes, we use roman numerals, in brackets at the end of the cation name to represent the charge
 - i. FeO iron (II) oxide
 - ii. Fe_2O_3 iron (III) oxide

D. Naming

- a. CROSS OVER METHOD (name \rightarrow formula)
exchange the numbers as subscripts leaving out the charge sign
 - i. sodium sulfide Na_2S
- b. REVERSE CROSS OVER (formula \rightarrow name)
figure out the ions by giving the subscripts back
 - i. CaCl_2 calcium chloride
 $\text{Ca}^{+2} \text{Cl}^-$

E. Polyatomic Ions

- a. a cluster of atoms that are joined together by covalent bonds and collectively possess a charge
- b. do not change their ending when naming
- c. See the chart handout for a list of common Polyatomic Ions...
Get to know them! They are your friends....

