

Chapter #8 Ionic Compounds: Names & Formulas

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Monovalent: Naming Monovalent Compounds

Each different compound has its own name which tells us what elements are in the compound

Monovalent elements have only one charge
ex Li^{+1} , Ca^{+2} , Al^{+3}

Naming

1. Write the name of the metal first
2. Write the name of the non-metal element second and change its ending to "ide"

Ex #1

(a) Magnesium + Oxygen \rightarrow Magnesium oxide

(b) Chlorine + Calcium \rightarrow Calcium Chloride

(c) ZnO \rightarrow Zinc oxide

(d) Al_2S_3 \rightarrow Aluminum sulphide

some tricky endings

Hydrogen \rightarrow hydride

oxygen \rightarrow oxide
phosphorus \rightarrow phosphide
nitrogen \rightarrow nitride

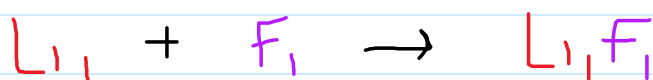
Formulas.

To write the chemical formula of a compound, do the following steps

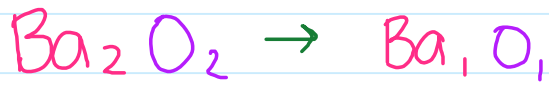
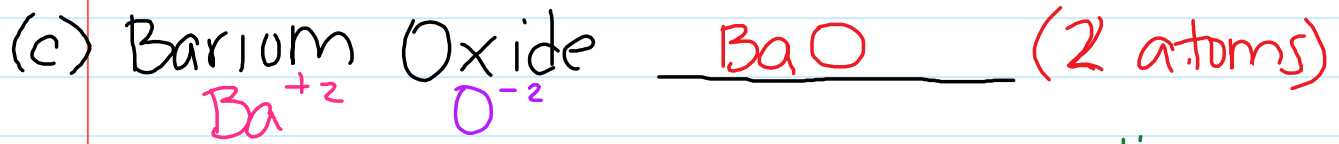
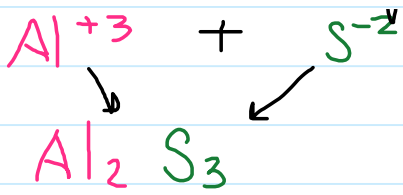
- 1 Write the metal and non-metal elements in their ion form
- 2 Re-write the elements without ion charges and **criss-cross** the numbers (omit the + and - signs)
 - * the numbers are written as subscripts
 - * if there is a common factor, reduce
 - * the number 1 is never written *

Ex #2

(a) Lithium Fluoride LiF (2 atoms)
(metal) (non-metal)



(b) Aluminum Sulphide Al₂S₃ (5 atoms)
 $\text{Al}^{+3} + \text{S}^{-2}$



reduce !!!

fractions

$$\frac{4}{2} \xrightarrow{-2} \frac{2}{1} \quad \frac{2}{2} \xrightarrow{-2} \frac{1}{1}$$

$$\frac{3}{6} \xrightarrow{-3} \frac{1}{2}$$