

Ionic Compounds using Cross-Down

When atoms *gain valence electrons they become negative ions* and when they *lose valence electrons they become positive ions*. These positive and negative ions are attracted to each other and bond together to become ionic compounds." The number of positive charges has to equal the number of negative charges for the compound to form, which takes just the right combination of ions. The chemical formula shows this combination. A subscript is used to show when more than one of each kind of atom is needed to balance the positive and negative charges. A quick way to determine the chemical formula is called the "cross-down." The oxidation number of each ion (a superscript) "crosses down" becomes the subscript of the opposite ion.

Metal	Non metal	Metal Ion Symbol	Nonmetal Ion Symbol	Chemical Formula	Compound Name
Li	O	Li ⁺¹	O ⁻²	Li ₂ O	Lithium Oxide
Na	S				
K	N				
Be	Cl				
Mg	O				
Al	F				
Na	P				
Mg	Br				
Na	O				
Ca	N				