

IONIC BONDING



Ionic Bond

Bond between 2 ions (metal + nonmetal)

“Opposites attract”: + and – cancel out!

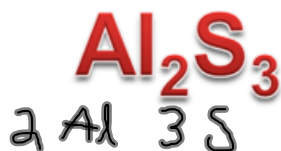
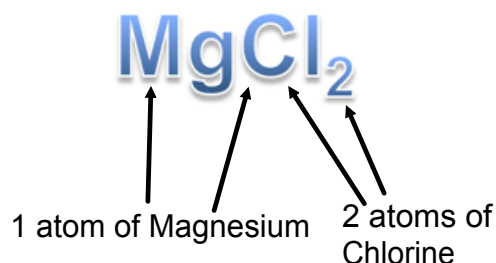
Ionic compounds are NEUTRAL!



Counting Atoms

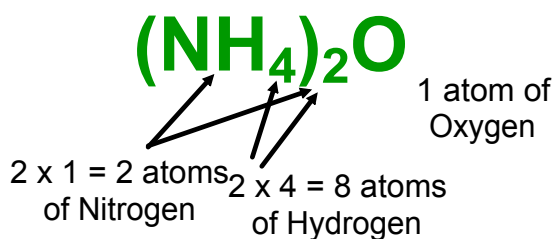
The subscript tells you the number of the atom it is beside

No number written = 1 atom



When parenthesis, distribute
the number outside

multiply



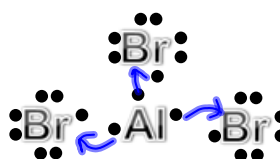
Writing Formula Units

Ionic compounds are neutral – charges of ions must cancel out

Example: Sodium chloride



Example: Aluminum bromide

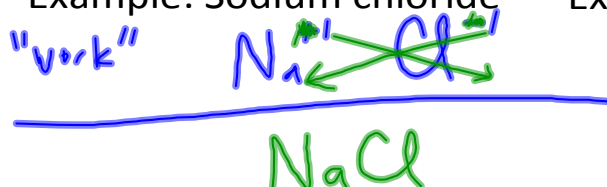


Writing Formula Units

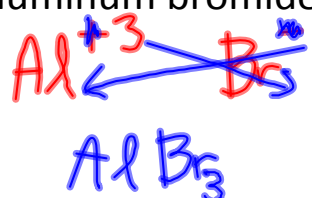
Ionic compounds are neutral – charges of ions must cancel out

Crisscross Method:

Example: Sodium chloride



Example: Aluminum bromide



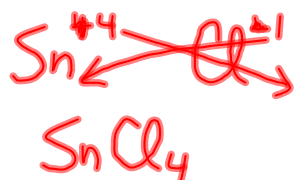
*When the charge is the same magnitude, it is not written

Writing Formula Units

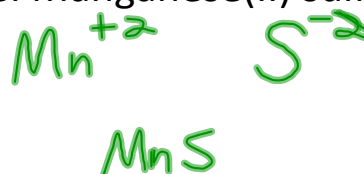
Ionic compounds are neutral – charges of ions must cancel out

Crisscross Method...with Transition Metals:

Example: Tin(IV) chloride



Example: Manganese(II) sulfide



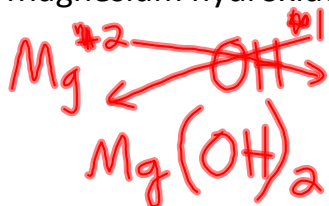
Writing Formula Units

Ionic compounds are neutral – charges of ions must cancel out

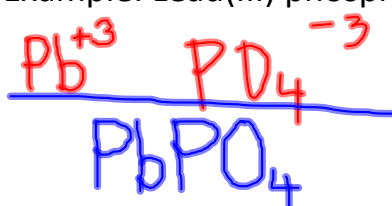
Crisscross Method...with Polyatomic Ions:

Polyatomic ion = group of elements with a charge (more than 1 capital letter)

Example: Magnesium hydroxide



Example: Lead(III) phosphate



*Parentheses go around polyatomics if they take a subscript

Naming Ionic Compounds

Positive ion first, negative ion second...

Positive ion: element/ion name (roman numeral if T.M.)

Negative ion: change element name ending to "ide,"
or write polyatomic ion name

KBr

FeCl₃

Al(OH)₃

CuSO₄

Potassium
bromide

Iron(III)
chloride

Aluminum
hydroxide

Copper(II)
sulfate

Check for polyatomics and transitions