# Names and Formulas for Chemical Compounds:

## *Basic Rules for ALL Ionic Compounds:*

| |
|---|
| Must have cation (+) and an anion (-) |
| Cation always is written 1st in name or formula |
| Sum of charges of ions must equal 0 |

2 parts

## *Simple Binary Ionic Compounds:*

| Rules: | |
|---|---|
| 1) Name metal/cation with its normal name<br>2) Name nonmetal/anion and change the end to "-ide" | NaCl = Sodium chloride<br>$MgF_2$ = Magnesium fluoride<br>Aluminum bromide = $Al^{+3}$ $Br^{-1}$ = $AlBr_3$<br>Potassium chloride = $K^{+1}$ $Cl^{-1}$ = KCl |

## *Binary Ionic Compounds with Polyatomic Ions:*

Polyatomic Ion - set of atoms that work + stay together and have an overall charge ($NO_3^{-1}$, $SO_4^{-2}$, $OH^{-1}$)

| Rules: | |
|---|---|
| 1) Name metal/cation<br>2) Name polyatomic ion + DO NOT Δ ending!<br>* Formula: If you need more than 1 of that ion, use Parentheses | $NaNO_3$ = Sodium nitrate<br>$Ca(OH)_2$ = Calcium hydroxide<br>Aluminum phosphate = $Al^{+3}$ $PO_4^{-3}$ = $AlPO_4$<br>Potassium sulfate = $K^{+1}$ $SO_4^{2-}$ = $K_2SO_4$ |

## *Covalent Compounds:*

| Rules: | |
|---|---|
| | $CO_2$ = |
| | $H_2O$ = |
| | Sulfur difluoride = |
| | Dinitrogen pentoxide = |