Binary Ionic Compounds:

-- only 2 elements in the compound

-- can have more than 2 atoms

ex: Li_3N, $CaCl_2$, MgS

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Polyatomic Ions:

many

-- Ions that contain more than 1 element

Common Polyatomic Ions			
$C_2H_3O_2^-$	acetate	OH^-	hydroxide
NH_4^+	ammonium	ClO^-	hypochlorite
CO_3^{2-}	carbonate	NO_3^-	nitrate
ClO_3^-	chlorate	NO_2^-	nitrite
ClO_2^-	chlorite	$C_2O_4^{2-}$	oxalate
CrO_4^{2-}	chromate	ClO_4^-	perchlorate
CN^-	cyanide	MnO_4^-	permanganate
$Cr_2O_7^{2-}$	dichromate	PO_4^{3-}	phosphate
HCO_3^-	bicarbonate	SO_4^{2-}	sulfate
HSO_4^-	bisulfate	SO_3^{2-}	sulfite
HSO_3^-	bisulfate		

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Naming with Polyatomic Ions:

1. Write the whole name of the cation
2. Write the whole name of the polyatomic ion
3. DO NOT CHANGE EITHER OF THE NAMES

EX: NaOH

sodium hydroxide

CuOH

copper (I) hydroxide

NH_4Cl

ammonium chloride

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PRACTICE:

1. $CaCO_3$ Calcium Carbonate
2. NH_4Cl Ammonium chloride
3. $Ca(NO_3)_2$ Calcium nitrate
4. $Mg_3(PO_4)_2$ ~~magnesium dihydrogen phosphate~~ magnesium phosphate

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Writing Compounds with Polyatomic Ions

1. Determine the charge of both ions
2. Balance the charges
3. If you need more than 1 polyatomic ion, use parenthesis
4. **DO NOT CHANGE THE SUBSCRIPTS FOR POLYAOMTIC IONS!**

EX: aluminum sulfate

$Al_2(SO_4)_3$

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PRACTICE:

1. sodium carbonate Na_2CO_3
2. barium hydroxide $Ba(OH)_2$
3. lithium phosphite Li_3PO_3
4. magnesium sulfite $MgSO_3$

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