

# POLYATOMIC IONS

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Polyatomic Ion: A group of atoms that act as a unit & has a charge

# POLYATOMIC IONS

The importance of spelling...



# POLYATOMIC IONS

BACK OF PT

## Polyatomic Cations:

Ammonium  $\text{NH}_4^+$

Hydronium  $\text{H}_3\text{O}^+$

## Polyatomic Anions:

Acetate  $\text{C}_2\text{H}_3\text{O}_2^-$

Acetate  $\text{CH}_3\text{COO}^-$

Bicarbonate  $\text{HCO}_3^-$

Bromate  $\text{BrO}_3^-$

Carbonate  $\text{CO}_3^{2-}$

Chlorate  $\text{ClO}_3^-$

Chlorite  $\text{ClO}_2^-$

Chromate  $\text{CrO}_4^{2-}$

Cyanide  $\text{CN}^-$

Dichromate  $\text{Cr}_2\text{O}_7^{2-}$

Hydroxide  $\text{OH}^-$

Hypochlorite  $\text{ClO}^-$

Nitrate  $\text{NO}_3^-$

Nitrite  $\text{NO}_2^-$

Oxalate  $\text{C}_2\text{O}_4^{2-}$

Perchlorate  $\text{ClO}_4^-$

Permanganate  $\text{MnO}_4^-$

Peroxide  $\text{O}_2^{2-}$

Phosphate  $\text{PO}_4^{3-}$

Sulfate  $\text{SO}_4^{2-}$

Sulfite  $\text{SO}_3^{2-}$

# POLYATOMIC IONS

Naming Rules: everything stays the same except...

- Polyatomic Ion

Name stays exactly the same

- Example:  $\text{Na}_2\text{Cr}_2\text{O}_7$  Sodium dichromate

# POLYATOMIC IONS

a.  $\text{KNO}_3$  Potassium nitrate

b.  $\text{NH}_4\text{OH}$  Ammonium hydroxide

c.  $\text{Mg}(\text{C}_2\text{H}_3\text{O}_2)_2$  Magnesium acetate

d.  $(\text{NH}_4)_2\text{S}$  Ammonium sulfide

e.  $\text{NaHCO}_3$  Sodium bicarbonate

f.  $\text{CuSO}_4$  Copper II sulfate

# POLYATOMIC IONS

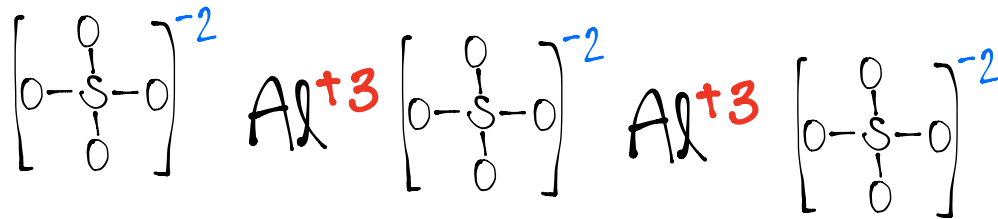


Formula Rules:

- Use the cross over method
- If you need to put a subscript on the polyatomic ion, first put the polyatomic ion in (paranthesis)
- Ex: Aluminum Sulfate  $\overset{+3}{\text{Al}}_2(\overset{-2}{\text{SO}_4})_3$

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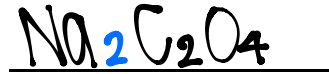
<sup>+3</sup>Aluminum <sup>-2</sup>Sulfate  $Al_2(SO_4)_3$





# POLYATOMIC IONS

a. Sodium Oxalate



b. Lead II Nitrite



c. Ammonium Nitride



d. Potassium Permanganate



e. Calcium Phosphate



f. Titanium III Hydroxide

