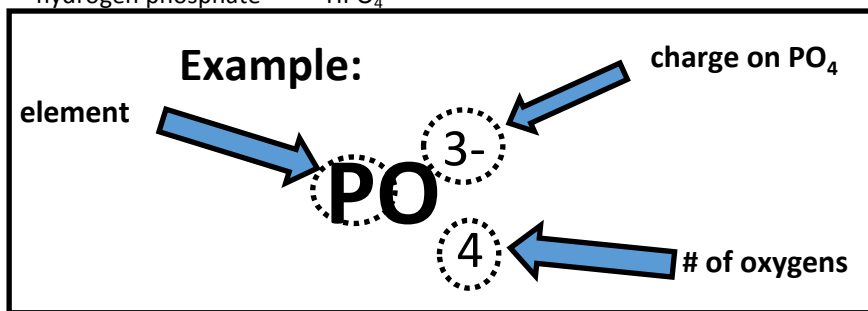


## Pre-AP Chemistry Summer Practice

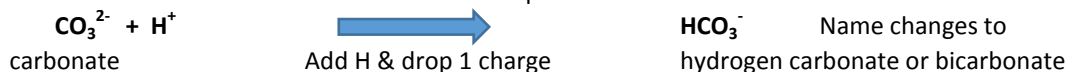
1. Memorize the formula (letter symbol of element w/numbers) and name for each polyatomic ion as described on the Common Polyatomic Ions chart below. Ions are characterized by the charges (+2, -3, etc) (listed in columns for ease of studying): Memorize the charge as part of the formula.

Common Polyatomic Ions					
- = -1 charge		+ = +1 charge			
<u>-1 charge ions</u>		<u>-2 charge ions</u>		<u>-3 charge ions</u>	
<u>NAME</u>	<u>Formula</u>	<u>NAME</u>	<u>Formula</u>	<u>NAME</u>	<u>Formula</u>
nitrate	$\text{NO}_3^-$	sulfate	$\text{SO}_4^{2-}$	phosphate	$\text{PO}_4^{3-}$
nitrite	$\text{NO}_2^-$	sulfite	$\text{SO}_3^{2-}$	arsenate	$\text{AsO}_4^{3-}$
hydroxide	$\text{OH}^-$	carbonate	$\text{CO}_3^{2-}$		
bromate	$\text{BrO}_3^-$	chromate	$\text{CrO}_4^{2-}$		
perchlorate	$\text{ClO}_4^-$	dichromate	$\text{Cr}_2\text{O}_7^{2-}$		
chlorate	$\text{ClO}_3^-$	oxalate	$\text{C}_2\text{O}_4^{2-}$		
chlorite	$\text{ClO}_2^-$	peroxide	$\text{O}_2^{2-}$		
hypochlorite	$\text{ClO}^-$	hydrogen phosphate	$\text{HPO}_4^{2-}$		
cyanide	$\text{CN}^-$				
permanganate	$\text{MnO}_4^-$				
hydrogen sulfate	$\text{HSO}_4^-$				
hydrogen carbonate	$\text{HCO}_3^-$				
acetate (2 forms)	$\text{C}_2\text{H}_3\text{O}_2^-$ $\text{CH}_3\text{COO}^-$				



<u>+1 charge</u>		<u>+2 charge</u>	
ammonium	$\text{NH}_4^+$	dimercury or mercury (I)	$\text{Hg}_2^{2+}$

Note: Other names will be encountered. Here is an example of how the same formula can be written differently.



2. Know the names and symbols for all elements #1-50 as well as symbols for lead, tin, barium, cesium, titanium, plutonium, silver, and gold. Do not worry about atomic numbers or atomic weight (the number above or below the letters denoting the chemical symbol).

3. In addition, know that Pb can have a charge of +2 or +4, Fe (+2, +3), and Cu (+1, +2).

4. Know the following prefixes from the metric system.

Prefix	Defintion	Abbreviation
nano-	$10^{-9}$	n
micro-	$10^{-6}$	$\mu$
milli-	$10^{-3}$	m
centi-	$10^{-2}$	C
kilo-	$10^3$	k
mega-	$10^6$	M

5. Logon to Khan Academy or Google "Khan Academy" and watch the following videos entitled:

- a. "Introduct Figures"
- b. "Rules of Significant Figures"
- c. "Addition and Subtraction with Significant Figures"
- d. "Multiplying and Dividing with Significant Figures"
- e. "Unit Conversion Within the Metric System"