

During Class Invention

Name(s) with Lab section in Group

Nomenclature Part I.

\_\_\_\_\_

\_\_\_\_\_

1. If we tell you that:

- ◆ **NaCl** is called **Sodium Chloride**
- ◆ **BaBr<sub>2</sub>** is called **Barium Bromide**
- ◆ **K<sub>2</sub>SO<sub>4</sub>** is called **Potassium Sulfate**

Name the following ionic compounds:

- |   |   |
|---|---|
| ○ <b>PCl<sub>5</sub></b> <b>phosphorus pentachloride</b>                      | ○ <b>AgCH<sub>3</sub>CO<sub>2</sub></b> <b>silver acetate</b>           |
| <b>(not ionic)</b>  | ○ <b>P<sub>2</sub>S<sub>3</sub></b> <b>diphosphorus trisulfide (not</b> |
| ○ <b>(NH<sub>4</sub>)<sub>2</sub>CO<sub>3</sub></b> <b>ammonium carbonate</b> | <b>ionic)</b>   |
| ○ <b>SiCl<sub>4</sub></b> <b>silicon tetrachloride (not</b>                   | ○ <b>KH<sub>2</sub>PO<sub>4</sub></b> <b>potassium dihydrogen</b>       |
| <b>ionic)</b>   | <b>phosphate</b>  |

Write a rule for naming anions and cations.

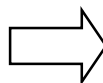
**Use the normal name for the metallic element (cation) and use a stem with a specific ending that corresponds to the correct anion.**

2. If we tell you that:

- ◆ **ClO<sub>4</sub><sup>-</sup>** is called **perchlorate ion**
- ◆ **ClO<sub>3</sub><sup>-</sup>** is called **chlorate ion**
- ◆ **ClO<sub>2</sub><sup>-</sup>** is called **chlorite ion**
- ◆ **ClO<sup>-</sup>** is called **hypochlorite ion**

What would you call the following ions?

- $\text{NO}_3^-$  is called Nitrate
- $\text{NO}_2^-$  is called **nitrite**
  
- $\text{SO}_3^{2-}$  is called Sulfite
- $\text{SO}_4^{2-}$  is called **sulfate**
  
- $\text{BrO}_3^-$  is called Bromate
- $\text{BrO}^-$  is called **hypobromite**



**What is the rule?** (Hint: look at # of Oxygen)

Per \_ ate

\_ ate

\_ ite

Hypo \_ ite

3. Complete the following table with the name and formula of the compounds.

	$\text{Cl}^-$	$\text{O}^{2-}$	$\text{NO}_3^-$	$\text{PO}_4^-$
$\text{Na}^+$	<b>NaCl</b> <b>Sodium chloride</b>	<b>Na<sub>2</sub>O</b> <b>Sodium oxide</b>	<b>NaNO<sub>3</sub></b> <b>Sodium nitrate</b>	<b>Na<sub>3</sub>PO<sub>4</sub></b> <b>Sodium phosphate</b>
$\text{Fe}^{2+}$	<b>FeCl<sub>2</sub></b> <b>Iron(II) chloride</b>	<b>FeO</b> <b>Iron(II) oxide</b>	<b>Fe(NO<sub>3</sub>)<sub>2</sub></b> <b>Iron(II) nitrate</b>	<b>Fe<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub></b> <b>Iron(II) phosphate</b>
$\text{Fe}^{3+}$	<b>FeCl<sub>3</sub></b> <b>Iron(III) chloride</b>	<b>Fe<sub>2</sub>O<sub>3</sub></b> <b>Iron(III) oxide</b>	<b>Fe(NO<sub>3</sub>)<sub>3</sub></b> <b>Iron(III) nitrate</b>	<b>FePO<sub>4</sub></b> <b>Iron(III) phosphate</b>
$\text{Al}^{3+}$	<b>AlCl<sub>3</sub></b> <b>aluminum chloride</b>	<b>Al<sub>2</sub>O<sub>3</sub></b> <b>aluminum oxide</b>	<b>Al(NO<sub>3</sub>)<sub>3</sub></b> <b>aluminum nitrate</b>	<b>AlPO<sub>4</sub></b> <b>aluminum phosphate</b>

4. Give the formula for:

- Barium oxide      **BaO**              Cobalt(II) chloride      **CoCl<sub>2</sub>**
- Aluminum chloride      **AlCl<sub>3</sub>**
- Magnesium phosphate      **Mg<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>**
- Chromium(II) oxide      **CrO**