**Chemistry**

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| **Objectives** | | |
| * Write the names of binary compounds. * Write the names of compounds containing polyatomic ions. * Know the appropriate use of Roman Numerals in chemical names. * Be familiar with the older system of naming chemicals using prefixes and suffixes. |  |  |

**Naming Binary Compounds:**

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|  | **While chemical nomenclature can be quite complicated, this simplification covers what you need to know.**  **First -** write the name of the positive element.  **Then -** write the name of the negative element with an **-ide** ending.  **Examples:**   * NaCl - sodium chloride * CaI2 - calcium iodide * Li4C - lithium carbide |

**Naming compounds containing polyatomic ions:**

**First** - write the name of the positive element.  
**Then** - write the name of the polyatomic ion without changing its name.

* The only "positive" polyatomic ion used in this class is ammonium, NH4+.

**Examples:**

* + MgSO4 - magnesium sulfate
  + CaCO3 - calcium carbonate
  + NaOH - sodium hydroxide
  + NH4NO3 - ammonium nitrate

**http://www.howe.k12.ok.us/~jimaskew/asterix.gifNames containing Roman Numerals in parenthesis:**

If the positive element has more than one possible oxidation number, or if it is out of character, its oxidation is shown as a Roman numeral in parenthesis after its name. A good rule of thumb, **"most metals located in the *p*, *d*, and *f* sublevels can have more than one oxidation number"**.

Silver is one *d* sublevel metal that always has an oxidation number of +1. Aluminum is one *p* sublevel metal that always has an oxidation number of +3. Roman numerals will never be used in their compound names.

**Examples:**

* PbO2 - lead (IV) oxide
* NF3 - nitrogen (III) fluoride
* CuCl - copper (I) chloride

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| |  | | --- | | Write the correct name for each of these compounds:   1. Fe(OH)2 2. (NH4)3PO4 3. AlPO4 4. Cu(C2H3O2)2 5. CaCO3 6. NH4OH 7. Si(SO4)2 8. Ag3PO4 9. Hg(ClO3)2 10. K2SO3 | |

* **Prefixes on the negative part indicating the number of parts, such as:** 
  + carbon dioxide - two oxygen atoms
  + carbon monoxide - one oxygen atom
* **Suffixes on the positive part indicating relative oxidation number, such as:** 
  + ferric nitrate - high oxidation number, +3
  + ferrous nitrate - low oxidation number, +2

**Research Links:**

* [**Chemical Nomenclature**](http://dbhs.wvusd.k12.ca.us/Nomenclature/Nomenclature.html) **- Diamond Bar High School ChemTeam**

**http://www.howe.k12.ok.us/~jimaskew/lineblak.gif**