Name _____ Date _____

Polyatomic Ionic Compounds

- Polyatomic ions contain a group of positively or negatively charged atoms.
    - The prefix poly means many, so polyatomic means many atoms.
- Even though the group contains a charge and can form an ionic bond, the atoms within the group are joined together by covalent bonds.
    - Notice that all the elements involved are non-metals.
- When writing formulas, keep the polyatomic ion group in parenthesis and treat it as one binary compound.
- Any subscript within the parentheses cannot be changed.

Rules for Writing Formulas for Polyatomic Ionic Compounds

- Write the symbol and positive oxidation numbered element or group first
    - Ammonium Sulfate

- Write the symbol of the element or group that has the negative oxidation number or charge
    - Ammonium Sulfate

- Write oxidation numbers of each element or group, minus the charge, as the subscript for the other element. (Criss Cross)
    - Ammonium Sulfate

- Remember that we don't write 1's as subscripts and if there is only one of that polyatomic group, the parentheses are often dropped.
- When the subscripts are equal, that means there is still a 1:1 ratio, so the subscripts are often dropped.

Naming Polyatomic Ionic Compounds

- Write the name of the positive ion or polyatomic group
    - K_2SO_4

- Write the name of the negative ion or polyatomic group
    - K_2SO_4

- Place the names together
    - K_2SO_4

- Just use the chart for the names each time.