Chapter 9 – Chemical Names and Formulas

Section 9.1 Regular Metals Review

- The _____ metals include Group ___ (except H) and ___ and _____.
- When _____ a compound that starts with a regular metal, _____ the first element and add _____ to the second element (except for polyatomic ions).
- When _____ the formula, remember to _____ charges.

Sample Problem

- Write the name or formula for the following:

  $AlBr_3$

  Sodium sulfate

Practice Problems

- Write the name or formula for the following:

  $LiNO_3$

  $SrCl_2$

  Barium oxide

  Magnesium phosphate

Section 9.2 – Transition Metals Review

- The _____ metals are in Groups _____ and the _____.
- When naming compounds that start with a _____ metal, _____ the first element, add a _____ for the charge, and add –ide to the _____ element (except for polyatomic ions).
- When writing the formula, remember to _____.
- Remember that for the _____ naming system for transition metals, the _____ ending means the _____ charge and the _____ ending means the _____ charge.

Sample Problem

- Write the name or formula for the following:

  Fe_2O_3

  Cupric sulfite

Practice Problem

- Write the name or formula for the following:

  Zinc (II) permanganate

  Cu_2O (old name)

Section 9.3 – Nonmetals Review

- The _____ are located to the right of the _____ line on the periodic table.
- When naming compounds that start with nonmetals, use _____ to indicate the _____ of atoms (except when the first element has ___ atom) and add _____ to the second element.
- When writing the formula do _____ balance charges, use the _____ to find the subscripts.

Sample Problem

- Write the name and formula for the following:

  N_2O

  Diphosphorus pentoxide

Practice Problems

- Write the name and formula for the following.

  CO

  CCl_4

  Nitrogen trihydride

  Phosphorous trichloride

Section 9.4 – Naming and Writing Formulas for Acids and Bases

- An _____ is a compound that produces _____ ions when it dissolves in water.
- The _____ for an acid normally starts with and ____.
- When _____ acids, you should first determine whether or not the acid contains _____.
- If the acid does _____ contain oxygen, then you add the prefix _____ and suffix is _____. Also add _____ at the end.
- Ex: HCl =

Sample Problem

- Write the names of the following acids:

  HF

  HCN

Practice Problem

- Write the names for the following acids:

  HBr

  HI

- When an acid does contain _____, you must determine whether its polyatomic ion ends in _____ or _____.
- If the polyatomic ion ends in _____, then we change the ending to _____. Ex: HNO_3 = NO_3^- = nitr**ate** =
- If the polyatomic ion ends in _____, then we change the ending to _____. Ex: HNO_2 = NO_2^- = nitr**ite** =

Sample Problems

- Write the names of the following acids:

  H_2SO_4

  H_3PO_4

  H_2SO_3

Practice Problems

- Write the names for the following acids.

  H_2CO_3

  H_3PO_3

  $HClO_2$

- When writing the _____ for an acid always start with ____ even if it is not in the _____.
- Remember to _____ the charges.
- The ending _____ means that the polyatomic ion ends in _____.
- The ending _____ means that the polyatomic ion ends in _____.

Sample Problem

- Write the formula for the following acids.

  Hydrosulfuric acid

Hypochorous acid

Acetic acid

Practice Problems

- Write the formula for the following acids.

  Perchloric acid

  Chromic acid

  Oxalic acid

- A _____ is a compound that produces _____ in water.
- When naming a _____, you name it like any other compound that starts with a _____ or transition metal. Ex: NaOH =
- When writing the _____ for a base, remember to _____ charges. Ex: magnesium hydroxide =

Section 9.4 Assessment

1. How are the formulas for acids determined?
2. How are bases named?
3. Give the name of $HMnO_4$.
4. Give the names of these bases.
   a. LiOH

   b. $Pb(OH)_2$

   c. $Al(OH)_3$
5. Identify each compound as an acid or a base.
   a. $Ba(OH)_2$

   b. $HClO_4$

   c. KOH
6. Write the formula for the following compounds.
   a. carbonic acid

   b. sulfurous acid

   c. iron (III) hydroxide