

Chapter 5 Continued:

1. Define and provide an example for the following terms:

Term	Definition	Example
Polyatomic ions	Occur when a group of atoms come together, and that group has a charge. Ions made up of many atoms More than 2 elements in an ionic compound.	sulfate
Acids	Molecular compounds that produce H <sup>+</sup> ions when dissolved in water. Always has H and 1 or more nonmetals.	HCl
Binary Acids	Contain only Hydrogen and a nonmetal	HBr
Oxyacids	Contain H and a polyatomic ion.	H <sub>3</sub> PO <sub>4</sub>
Formula Mass	The average mass of the molecules or formula units that compose a compound.	Fe(NO <sub>3</sub> ) <sub>3</sub> = 241.9 amu

2. Molecular Compound Nomenclature problems:

a. CO<sub>2</sub>

i. Carbon dioxide

- b.  $\text{NCl}_3$ 
  - i. Nitrogen trichloride

- c. Silicon dioxide
  - i.  $\text{SiO}_2$

- d.  $\text{SeBr}_2$ 
  - i. Selenium Dibromide

- e. Silicon tetraiodide
  - i.  $\text{SiI}_4$

- 3. What are the rules for naming acids:
  - a. Look at reference chart!!!!

4. What are the rules for naming polyatomic compounds?
- Name the cation first, then the name of the polyatomic ion.

5. Acid naming problems:

- HBrO<sub>4</sub>
  - BrO<sub>4</sub><sup>-</sup>= perbromate
  - Perbromic acid

- HI
  - Hydroiodic acid

- HIO<sub>4</sub>
  - IO<sub>4</sub><sup>-</sup>= periodate
  - Periodic acid

- d. Hydrobromic acid
  - i. HBr

- e. Arsenous acid
  - i. HAsO<sub>3</sub>

- 6. Solve the formula mass for KIO<sub>4</sub>
  - a. K = 39.098 = 39.3098
  - b. I = 126.90 = 126.90
  - c. O = 16.00 X 4 = 64.00
  - d. Formula mass = 230.21 amu