Feb,7,2008
Chem 115

Chemical Nomenclature

Notes:
-For extra math help go to office hours with Dr. Sevian on Thursdays 4:00-5:00, there will be math tutoring (Wheatley, 4th floor, room 174)
-Will need a calculator for lab next week
-FSG's start next week

Reading the Periodic Table
- Names of elements are not on the Periodic Table, you will need to memorize the element and the corresponding symbol for elements 1-36
-Periodic Table is arranged in Periods and Groups
  -Periods go across the Table, these elements have a repeating pattern
  -Groups are vertical, they have something in common, like a family
-You can Pinpoint an element by naming its Period and its Group much like the X and Y axis of a graph
-When memorizing elements 1-36 be careful with similar symbols. For example Cr, Co, C, Cu, and Ca are all very similar but all stand for different elements.

Ions
-An Ion is not neutral; it does not have a balance of protons and electrons, therefore ions are charged
- Nature tends towards stability and a full electron shell is more stable than a partially filled one
- Ions are elements that have lost or gained electrons to have a full outer shell, this means that they have the same number of electrons as a Noble Gas
-do what is easier to have the electron arrangement of a Noble Gas, whether that is to gain electrons or lose them. A good visualization of this is on page 6 of the lecture notes.
-there are positive ions and negative ions
-metal ions are formed when neutral metal atoms lose electrons -- they are positive ions
-nonmental ions are formed when neutral nonmetal atoms gain electrons -- they are negative ions
-You do need to memorize the list of common ions handed out in class, it is also on the Chem. 115 web site and on pages 62 and 64 of the text book
-To name a nonmetal ions change the end to ide, for example oxide, nitride

Molecular Compounds vs. Ionic Compounds
-compounds are two or more different elements that are chemically bonded

Molecular Compounds
-do not contain ions
-molecules held together by covalent bonds
-molecular formula can separate unique molecules

Ionic Compounds

-contain ions
-held together by electrostatic attraction between + and – ions
-Ionic formula is the ratio of ions present in order for the compound to be neutral

You will need to be able to distinguish between Ionic and Molecular compounds, the easiest way to do this is to memorize the common ions and recognize them

- anything with a metal will be ionic
- molecular compounds have only nonmetals in them (except Ammonium)

An overview of chemical nomenclature is on page 14, two boxes surrounded by a dotted line, I highly suggest you read these.

The rest of class was spent on group problems.