Honors Chemistry – Topic I Outline

Chemistry - What is it all about?

Textbook Pages

I. The Science of Chemistry Pgs 1-5

A. **What is Chemistry?** – Section 1.2: pgs. 4 and 5
B. **What Do Chemists Do?** – Section 1.1: pgs. 1-4
C. **Careers** – Section 1.1:pgs. 1-5

II. Scientific Method Pgs 5-11

A. **Hypotheses and Models** – Section 1.4: pgs. 7,8
B. **Laws and Theories** – Section 1.4: pgs. 8 and 9

III. Systems of Measurement – Pgs 15-22; pgs 33-42

A. **Why A System - System Comparisons** – Section 2.2: pgs. 18,19
B. **SI System - Common Units Used in Course**
   1. **Prefixes** – pg.19
   2. **Basic units - mass, temp, time, length, amount of substance** – pg. 18, Section 2.3: pgs 19-22
   3. **Derived units - volume, density, speed, force, energy, pressure** – pgs. 22,23 and website (http://physics.nist.gov/cuu/Units/units.html)
   4. **Temperature conversions (^{o}C and Kelvin)** – Section 2.7 – pgs. 33-41
   5. **Density (specific gravity)** – Section 2.8 pgs. 41-44

C. **Scientific Notation** – Section 2.1: pgs.15-18
   1. **Interpretation and uses**
   2. **Rules for calculations**

IV. Measurements and Calculations Pgs 22-33

A. Accuracy v. Precision
   1. Uncertainties
   2. Deviations

B. Significant Figures – Section 2.4: pgs. 22 and 23, Section 2.5: pgs.23-28
   1. Identifying/recording – pgs. 23 and 24
   2. Rules for calculations – pgs. 24-27/28

C. Problem Solving – Section 2.6: pgs. 28-33
   1. Dimensional Analysis
   2. Graphing
   3. Conversions