

## Class Introduction and Orientation

- ## August 11-12

Chemistry Pre-Test (Scientific Reasoning Assessment)

1. Safety Scenario
2. Article in Lab Safety
3. Becoming Familiar with Lab Equipment
4. Laboratory Safety and Contract
5. First Assignment

Define chemistry.  
List advantages and disadvantages of chemicals to our lives.  
Distinguish between pure and applied science.

## Measuring Systems

### Metric System

### Dimensional Analysis

## The Scientific Method

### Lab: Scientific Method

**Sept 6-9**

## Matter And Movement

## The Atom, Molecule, and Ions

### Electron Arrangement

\*\*\*\*Quarter Quiz\*\*\*\*

## The Periodic Table Families

\*\*\*No School Sept 27-30\*\*\*

The Periodic Table  
Groups, Atomic #, Mass #

## Electronic Structure and The Periodic Table

## Mass Relations In Chemistry Measurements & The Mole Avogadro's #

## The indicators of a Chemical Reaction

### Reactions in Aqueous Solutions

#### Lab: Reaction or Not

## Types of Reactions

### Lab: Reactions What?

pH Scale  
Reactions in Aqueous Solutions  
Precipitate, Oxidation-Reduction  
Water  
**Perspective Lab: Life without Water**  
**Lab: Rust**

Gases, Noble Gases, Helium 3  
Chemical Equations & Reaction Rates

**\*\*\*Nov 21-25 Thanks Giving Break\*\*\***

The ideal Gas Law  
Stoichiometry of Gases  
**Lab: Ideal Gas Law Exercises**

Stoichiometry & Heat Transfer  
Gas Mixtures, Partial Pressure, Mole Fractions  
**Perspective Lab: Green House Effect Global Warming**

\*\*\*\*1. Pre Test Midterm\*\*\*\*  
\*\*\*\*2. Midterm\*\*\*\*

**\*\*\*Dec 19 - Jan 6 Winter Break\*\*\***

## SECOND SEMESTER

Light, photons and Energy  
The Hydrogen Atom  
Electron Configuration

- Covalent Bonding
- Lewis Dot, the Octet Rule
- Covalent vrs Ionic Bonding
- The Polarity of Molecules

**Jan 24-27**

Solutions  
Types of solutions

**Jan 31 - Feb 3**

Concentrations  
Solubility  
Colligative Properties.  
**Perspective Lab: Oceans**

**Feb 7-10**

Rate of Reactions  
Concentration, Rate, and Time  
Activation

**\*\*\*\*Quarter Quiz\*\*\*\***

**Feb 14-17 Grades Go In**

Reaction and Temperature,  
Catalysts  
**Perspective Lab: Ozone**

**\*\*\*Feb 21-24 Presidents Week\*\*\***

**Feb 28-Mar 3**

Equilibrium  
 $N_2O_2$  Equilibrium System  
Equilibrium Constant and K

**Mar 7-10**

Acids and Bases  
Bronsted-Lowry Model  
Water Dissociation Constant  
Ionic Bonding  
Salts  
**Lab: phenolphthalein**

**Mar 14-17**

Ionic & Covalent Substances  
Lab: Define an atom and give the name of the scientist  
who first named the atom.

**Mar 21-24**

Summarize Dalton's atomic theory.  
Distinguish between protons, electrons, and neutrons in  
terms of their symbols, relative masses, charges, and  
scientific discoverer.  
**Lab: Complete the Table of Elements**

**Mar 28-31**

Complex Ions  
Naming Complex Ions

**April 4 - 6 --No School on the 7th**

**\*\*\*April 10 -14 Easter Break\*\*\***

**April 18-21**

Electro Chemistry  
Standard Voltages  
Electrolytic Cells  
Commercial Cells  
**Lab: Make a Battery**

**April 25-28**

Nuclear Reactions  
Stability and Radio Activity  
Fusion verses Fission  
**Perspective Lab: China's Fusion Reactors**

**May 2-5**

The Diamond Battery  
Carbon Dating

**May 9-12**

The Chemistry of Metals  
Metallurgy  
Alkali and Alkali Earth Metal Reactions  
**Lab: Ghost Busters Building**  
**Perspective Lab: Metals in Nutrition**

**May 16-19**

The Chemistry of Non Metals  
The Elements  
Hydrogen Compounds of Nonmetals  
Oxygen Compounds of Nonmetals

**May 23-26**

Review

**May 30- June 2 -- Grades Go In**

**\*\*\*\*\*Final Pre Test\*\*\*\*\***

**\*\*\*\*\*Final\*\*\*\*\***