

## Chapter 1: An Introduction

These Notes are to SUPPLEMENT the Text, They do NOT Replace reading the Text Material. Additional material that is in the Text will be on your tests! To get the most information, READ THE CHAPTER prior to the Lecture, bring in these lecture notes and make comments on these notes. These notes alone are NOT enough to pass any test!

The author is providing these notes as an addition to the students reading the text book and listening to the lecture. Although the author tries to keep errors to a minimum, the student is responsible for correcting any errors in these notes.

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Read Chapter 5, start memorizing the following tables:

You have 5 weeks to memorize this data – Start NOW!

Page	Table	
118	5.2	Common Type II Cations
122	5.3	Prefixes Used to Indicate Numbers in Chemical Names
127	5.4	Names of Common Polyatomic Ions **
131	5.5	Names of Acids that Do Not Contain Oxygen
131	5.6	Names of Acids that Do Contain Oxygen

**See Fireworks Display**      Colors through Chemistry

**Lead Pencil**                      Carbon - diamond, charcoal, graphite

**Dinosaurs disappeared**      High level of Iridium. Meteorites have high Iridium.

**Chlorofluorocarbons**      Freon-12  $\text{CCl}_2\text{F}_2$  destroys Ozone in the upper atmosphere. Well study the Chemistry behind Global Warming in a later chapter.

**What is Chemistry**              Science that deals with the materials of the universe and the changes that these materials undergo

**Central Science**                  Involves chemical changes - wood burning, steel rust

### Scientific Approach / Scientific Method

1. Observation      Recognize the problem and state it clearly
2. Hypothesis      Propose possible solutions - Formulate a Hypothesis
3. Experiment      Decide which solutions are best, search memory for pertinent info.

**Example** of a couple became quite ill. They had flu like symptoms, nausea and muscle pain. The Doctor ordered rest and fluids. They drank a lot of orange juice and coffee from a favorite mug. It was part of a recently purchase pottery set. While reading book, they found that it could be Lead Poisoning. See p 6-7 for a complete description of the problem and use of the Scientific Approach.

## **Scientific Method**

1. State the problem and collect data [ Make Observations]
2. Formulate Hypothesis
3. Perform Experiments

## **Measurement**      Quantitative Observation vs a Qualitative one

The package is on top of the table on the desk at the end of my office

Vs

The package is over there!

**Model / Theory**      A set of hypothesis that agrees with our various observations. Our attempt to explain why it happens

**Natural Law**      Observe Nature - Summary of observed behavior

**Law**      Tells what happens - explanation of behavior

**Learning Chemistry** You must know the language and vocabulary