NS 1.1 (pg 1 of 1) Paying Attention to Important Points in Chap 1

Introduction

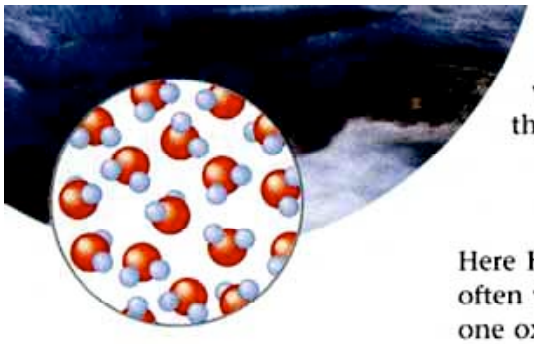
- Read the introduction.
- Consider the seven questions that they ask you to wonder about.

Section 1.1

- You can quickly skim this section.
- Check out the Top Ten Reasons for Taking Chemistry in the margin on page 4.
- Take time to read about helium, the Celebrity Chemical in the box on pg 5.

Section 1.2

- What is Chemistry? Your book indicates chemistry has two components; there is an important third component:
  3. The energy associated with those changes.
- Pay attention to the words that indicate a chemical change: burn, grow, rust, baked, learned, formation of, etc.
  - We will develop an even longer list in class.
- Pay attention to the last two paragraphs on page 7; a discussion of macroscopic and microscopic. At the bottom of page 7 you are told that in order to see plant cells you need a *micro*scope because cells are *micro*scopic − the size of cells would best be measured in *micro*meters. On page 8 the discussion proceeds on to the *sub*microscopic, which we will refer to as "*nano*scopic." The text continues to refer to the *nano*scopic world of molecules as simply *micro*scopic. I have scanned the text and shown it below to show you the four references in which I think the text should have used the term *nano*scopic instead of *micro*scopic.



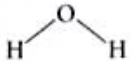
The macroscopic view of water (the mountain stream) and the microscopic view (the individual water molecules).

nanoscopic

scopic world, it flows and splashes over rocks in mountain stream and freezes on ponds in the winter. What is the microscopic nature of water? As you may know already, water is composed of tiny molecules that we can represent as

nano

or



Here H represents a hydrogen atom and O represents an oxygen atom. We often write this molecule as H_2O because it contains two hydrogens (H) and one oxygen (O).

nano

This is the microscopic world of the chemist—a world of molecules and atoms. This is the world we will explore in this book. One of our main goals is to connect the macroscopic world in which you live to the microscopic world that makes it all work. We think you will enjoy the trip!

nano

- Find out the meaning of the metric prefixes *micro*− and *nano*− (look on line or in your text). Think about why Biggs thinks the text should be revised to *nano*scopic instead of *micro*scopic when referring to molecules.

Section 1.3

- Pay close attention to the three steps that most people use to solve any problem.

Section 1.4

- Practice and review the process of observation-hypothesis-experiment by reading David and Susan's mystery. It is important to learn how to ask the right questions.

Section 1.5 – Use NS 1.2 to help summarize this section

- Read this section carefully. Now would be a good time to take notes and memorize some vocabulary.
- Be sure and use the yellow box on pg 12 and Figure 1.1 on pg 12.
- You can skip the purple box on pg 13, but don't miss the end of the section on the top of page 14. Here you should be sure and look to compare and contrast the terms law and theory.

Section 1.6

- You should quickly skim this section.