

WORLD OF CHEMISTRY

Chapter 11

MODERN ATOMIC THEORY

Objectives:

- * To describe Rutherford's model of the atom
- * To explore the nature of electromagnetic radiation
- * To see how atoms emit light
- * To understand how the emission spectrum of hydrogen demonstrates the quantized nature of energy
- * To learn about Bohr's model of the hydrogen atom
- * To understand how the electron's position is represented in the wave mechanical model
- * To learn about the shapes of orbitals designated by s , p , d , and f
- * To review the energy levels and orbitals of the wave mechanical model of the atom
- * To learn about electron spin
- * To learn how the principle energy levels fill with electrons in atoms beyond hydrogen
- * To learn about valence electrons
- * To learn about the electron configurations of atoms with Z greater than 18
- * To understand the general trends in atomic properties in the Periodic Table