

Unit 2: Atomic Theory

Learning Objectives

1. Review the important historical developments of the atomic theory.
 - I can describe the following scientists' contributions to our current model of atomic structure:
 - John Dalton: first modern atomic theory
 - Thomson's cathode ray tube experiment
 - Rutherford's gold foil experiment
 - Bohr's solar system model
2. Describe our current model of atomic structure.
 - I can state the charge and relative mass of protons, electrons, and neutrons.
 - I can use isotope notation to identify the number of protons, electrons, and neutrons in an atom or ion.
 - I can define and recognize isotopes.
 - Given the number of protons and electrons I can determine the charge on any ion.
3. Describe what the average atomic mass of an element is.
 - I can calculate the average atomic mass of an element, when you're given the percent abundance.
 - I can describe how the average mass is different from the mass number of an atom.
4. Understand the current models of electron structure within atoms.
 - I can draw Bohr diagrams of any element in the first three rows of the periodic table.
 - I can draw Lewis structures of any element in columns 1-2 or 13-18 of the periodic table.
 - I can identify the number of valence electrons for any element in columns 1-2 or 13-18.
5. Explain what is going on with the electrons when atoms give off light.
 - I can describe the difference between an atom's ground state and excited state.
 - I can identify whether electrons need to absorb or give off energy to transition to different energy levels.