

Unit 02: The Atom

Content Area: **Science**
Course(s): **Chemistry Accelerated**
Time Period: **Marking Period 1**
Length: **5 weeks**
Status: **Published**

Textbook Resources

Glencoe Science Chemistry Concepts and Applications

Chapter 2: Matter is Made of Atoms

Chapter 7: Completing the Model of the Atom

Standards

SCI.9-12.HS-PS1-1	Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.
SCI.9-12.HS-PS1-8	Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.
SCI.9-12.HS-PS4-4	Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.
SCI.9-12.HS-PS4-3	Evaluate the claims, evidence, and reasoning behind the idea that electromagnetic radiation can be described either by a wave model or a particle model, and that for some situations one model is more useful than the other.
SCI.9-12.HS-PS4-1	Use mathematical representations to support a claim regarding relationships among the frequency, wavelength, and speed of waves traveling in various media.

Goals/Objectives

- How does the history of discovery take us to the future?

Content

- Isotopes and Ions
- Probability and the electron cloud
- The evolution of the atomic model
- The structure of the atom

Skills

- • Calculate the average atomic mass of an element.
- • Compare and contrast models of the atom through time
- • Describe the atom and its parts
- • Determine the electron configuration of an element
- • Determine the mass and charge of an atom
- • Recall the philosophers and scientists who contributed to our understanding of the atom
- • Write nuclear notation