

Unit 03: The Elements and their Trends

Content Area: **Science**
Course(s): **Chemistry Accelerated**
Time Period: **Marking Period 2**
Length: **3 weeks**
Status: **Published**

Textbook Resources

Glencoe Science Chemistry Concepts and Applications

Chapter 3: Introduction to the Periodic Table

Chapter 8: Periodic Properties of the Elements

Standards

SCI.9-12.HS-PS1-2	Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.
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.

Goals/Objectives

- How does a scientist organize knowledge?
- What is the reasoning for the Periodic Table's arrangement?

Content

- • Atomic radius
- • Electronegativity
- • Groups (families) and periods
- • Importance of valence electrons
- • Periodicity
- • The difference between metals, nonmetals, and metalloids (semi-metals)
- • The evolution of the Periodic Table

Skills

- • Compare the atomic and ionic radius of an element

- • Contrast the properties of metals, nonmetals, and metalloids (semi-metals)
- • Describe various periodic trends
- • Explain how the periodic table reflects the relationship between the properties of elements and their atomic structure
- • Label the groups, periods, and regions of the Periodic Table
- • Recall the scientists and their contributions to the development of the Periodic Table
- • Represent valence electrons as a Lewis Dot model