Unit 03: Chapters 4 & 9: Atomic Structure and Chemical Names and Formulas

Content Area: **Science**
Course(s): **Chemistry Honors, Chemistry AH**
Time Period: **Semester 1**
Length: **2 weeks**
Status: **Published**

Standards

HS-PS1-1

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 do so few elements make so many compounds? And why?

Content

The octet rule

Covalent v. Ionic bonds

Molecular v. Ionic substances

Nomenclature

Skills

Describe the transfer or sharing of electrons to form compounds.

Write the formula and names of compounds.

Learning Activities/Instructional Strategies

- Activity: Atoms, Ions, and Isotopes
- Activity: Weighted Atomic Mass

- Chapter 4 & 5 Packet
- Lab: Electron Configurations of Atoms and Ions
- Lab: Flame Test

Assessment of Learning

- chapter test
- discussion
- homework
- lab report

Differentiation

- Alternative Assessments
- Choice of activities
- Choice of books
- Flexible grouping
- Guided reading
- Homework options (describe)
- Independent research and projects
- Leveled rubrics
- Modified materials
- Multi-sensory
- Multiple texts
- Personal agendas
- Pre-teach
- Re-teach
- Stations/Centers

21st Century

21st Century Themes

- Business, Financial, Economic Literacy
- Civic Literacy
- Global Perspectives
- Health Literacy

21st Century Skills

- Communication and Collaboration
- Creativity and Innovation
- Critical Thinking and Problem Solving
- Information Literacy
- Life and Career Skills
- Media Literacy

Interdisciplinary Connections

- Computers
- Engineering
- Math
- Science

Integration of Technology

- Calculators
- Computer Lab/Laptops
- Digital Scales & Meters
- Graphing Calculators
- Internet Resources
- iPads
- SMART Board

TECH.8.1.12.B	Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
TECH.8.1.12.C	Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
TECH.8.1.12.E	Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.
TECH.8.1.12.F	Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
TECH.8.2.12.C	Design: The design process is a systematic approach to solving problems.
TECH.8.2.12.E	Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.