

# 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

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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

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

## Content

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The octet rule

Covalent v. Ionic bonds

Molecular v. Ionic substances

Nomenclature

## Skills

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Describe the transfer or sharing of electrons to form compounds.

Write the formula and names of compounds.

## Learning Activities/Instructional Strategies

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- 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**

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- chapter test
- discussion
- homework
- lab report

## **Differentiation**

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

## **21st Century**

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### **21st Century Themes**

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

## 21st Century Skills

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

## Interdisciplinary Connections

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- Computers
- Engineering
- Math
- Science

## Integration of Technology

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- 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.

