

# Unit 05: Chapter 6: The Periodic Table

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

## Standards

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PS1-1

PS1-2

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

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How does a scientist organize knowledge?

What is the reasoning for the Periodic Table's arrangement?

## Content

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The evolution of the Periodic Table

Periodicity

Groups (families) and periods

Importance of valence electrons

The difference between metals, nonmetals, and metalloids (semi-metals)

Periodic Trends: Atomic radius, Electronegativity, Ionization Energy

## Skills

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Recall the scientists and their contributions to the development of the Periodic Table

Contrast the properties of metals, nonmetals, and metalloids (semi-metals)

Label the groups, periods, and regions of the Periodic Table

Compare the atomic and ionic radius of an element

Describe various periodic trends

Explain how the periodic table reflects the relationship between the properties of elements and their atomic structure

Represent valence electrons as a Lewis Dot model

## **Learning Activities/Instructional Strategies**

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- Activity: Alien Periodic Table
- Chapter 6 & 7 Packet
- POGIL Periodic Trends

## **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.