

Springdale Public Schools

Chemistry-Integrated Unit 4



Title of Unit	Periodicity	Grade Level	secondary
Subject	Chemistry-Integrated	Time Frame	4 weeks
Developed By	SPS Science	Date Modified	7/20/2021

Identify Desired Results

Standards Covered in this Unit

(Evidence statements are LINKED from the standard number. Evidence statements assist in clarifying outcomes)

CI-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. [AR Clarification Statement: This PE is fully addressed in this course. Examples of properties that could be predicted from patterns could include reactivity of metals, types of bonds formed, numbers of bonds formed, and reactions with oxygen.] [AR Assessment

Boundary: Assessment is limited to main group elements. Assessment does not include exceptions to periodic trends.]

CI-ESS1-4 Use mathematical or computational representations to predict the motion of orbiting objects in the solar

system. (3.c)** [Clarification Statement: Emphasis is on Newtonian gravitational laws governing orbital motions, which apply to human-made satellites as well as planets and moons.] [Assessment Boundary: Mathematical representations for the gravitational attraction of bodies and Kepler's laws of orbital motions should not deal with more than two bodies, nor involve calculus.]

CI-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.* [AR Clarification

Statement: This PE is fully addressed in this course. Examples of chemical reactions could include the reaction of sodium and chlorine, carbon and oxygen, and carbon and hydrogen.] [Assessment Boundary: Assessment is limited to chemical reactions involving main group elements and combustion reactions.]

CI-PS2-4 Use mathematical representations of Newton's Law of Gravitation and Coulomb's Law to describe and predict the gravitational and electrostatic forces between objects. [Clarification Statement: Emphasis is on both quantitative and conceptual descriptions of gravitational and electric fields.] [Assessment Boundary: Assessment is limited to systems with two objects.]

Learning Outcomes for the Unit

What relevant goals will this unit address? These must come from the standards.

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Key Vocabulary for the Unit

Periodic	Energy level	Chemical property	Physical property	Electrostatic force
Period	Group	Electronegative	Coulomb's Law	Coulombic attraction
Valence				

Enduring Understandings for the Unit (for discussion within science and across content areas)

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Essential Questions for the Unit

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Misunderstandings That Will Be Addressed

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Content Literacy Skills for the Unit (Interpretation of data, experimental design, SEPs, CCs) [minimum list]

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Assessment Evidence

What type(s) of Common Formative Assessment (CFA) will be given?

What type of District Formative Assessment will be given?
TBD

Overview of <u>All</u> Choices of Lessons for Unit This is not a lesson plan!.			
Standard(s) #	Formative Assessment(s) (Indicate which is the CFA)	Main Instructional Strategy	Activity/Activities
	graph analysis	Interactive	Tuva Lab - Elements in the Periodic Table (free)

Common Resources	
Title and Description of Usage	Location
This is an option for a lab notebook that is virtual.	Blank Digital Lab Notebook
This is a lesson plan template that pairs with the Unit plan. It allows for easy information transfer.	Lesson Plan Template

