

Springdale Public Schools

Chemistry-Integrated Unit 9



Title of Unit	Thermodynamics & Kinetics	Grade Level	secondary
Subject	Chemistry-Integrated	Time Frame	3 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-PS1-4 Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy. [Clarification Statement: Emphasis is on the idea that a chemical reaction is a system that affects the energy change. Examples of models could include molecular-level drawings and diagrams of reactions, graphs showing the relative energies of reactants and products, and representations showing energy is conserved.] [Assessment Boundary: Assessment does not include calculating the total bond energy changes during a chemical reaction from the bond energies of reactants and products.]

CI-PS1-5 Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs. [Clarification Statement: Emphasis is on Student Reasoning that focuses on the number and energy of collisions between molecules.] [Assessment Boundary: Assessment is limited to simple reactions in which there are only two reactants; evidence from temperature, concentration, and rate data; and qualitative relationships between rate and temperature.]

CI-PS1-6 Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.* [Clarification Statement: Emphasis is on the application of Le Chatelier's Principle and on refining designs of chemical reaction systems, including descriptions of the connection between changes made at the macroscopic level and what happens at the molecular level. Examples of designs could include different ways to increase product formation including adding reactants or removing products.] [Assessment Boundary: Assessment is limited to specifying the change in only one variable at a time. Assessment does not include calculating equilibrium constants and concentrations.]

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

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
HS-PS1-1			
HS-PS1-7			

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