

Inquiry Investigations™
Chemistry - A Closer Look at Matter MODULE - 1287240
Grades: 7-10

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Hawaii Content and Performance Standards
Science
Grade 7

CONTENT STANDARD / COURSE	HI.SC.7.1.	The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.1.1.	<p>Scientific Inquiry: Design and safely conduct a scientific investigation to answer a question or test a hypothesis</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10

		<p>Activity 3: Production of a Salt - Neutralization Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>CONTENT STANDARD / PERFORMANCE INDICATOR</p>	<p>SC.7.1.2.</p>	<p>Scientific Inquiry: Explain the importance of replicable trials</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction
<p>CONTENT STANDARD / PERFORMANCE INDICATOR</p>	<p>SC.7.1.3.</p>	<p>Scientific Knowledge: Explain the need to revise conclusions and explanations based on new scientific evidence</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.7.3.	Life and Environmental Sciences: ORGANISMS AND THE ENVIRONMENT: Understand the unity, diversity, and interrelationships of organisms, including their relationship to cycles of matter and energy in the environment
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.3.1.	<p>Cycles of Matter and Energy: Explain how energy moves through food webs, including the roles of photosynthesis and cellular respiration</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction

CONTENT STANDARD / COURSE	HI.SC.8.1.	The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.8.1.1.	<p>Scientific Inquiry: Determine the link(s) between evidence and the conclusion(s) of an investigation</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>CONTENT STANDARD / PERFORMANCE INDICATOR</p>	<p>SC.8.1.2.</p>	<p>Scientific Inquiry: Communicate the significant components of the experimental design and results of a scientific investigation</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization

		<p>Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.8.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.8.2.2.	<p>Unifying Concepts and Themes: Describe how scale and mathematical models can be used to support and explain scientific data</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents
CONTENT STANDARD / COURSE	HI.SC.8.8.	Physical, Earth, and Space Sciences: EARTH AND SPACE SCIENCE: Understand the Earth and its processes, the solar system, and the universe and its contents
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.8.8.7.	<p>Forces that Shape the Earth: Describe the physical characteristics of oceans</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12
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		<p>Activity 2: Demonstrating Conservation of Mass</p> <ul style="list-style-type: none"> Virtual Laboratory: Titrating an Acid of Unknown Concentration
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Hawaii Content and Performance Standards

Science

Grade 9

CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS. 1.	The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS. 1.2.	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PS.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction

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<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PS.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter

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<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PS.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases

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| | | <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration |
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CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.6.	Physical, Earth and Space Science: NATURE OF MATTER AND ENERGY: Understand the nature of matter and energy, forms of energy (including waves) and energy transformations, and their significance in understanding the structure of the universe
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.4.	<p>Energy and its Transformation: Explain that changes in thermal energy can lead to a phase change of matter</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.7.	<p>Nature of Matter: Explain how elements are arranged in the periodic table and describe trends among elemental properties</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.8.	<p>Nature of Matter: Describe interactions among molecules</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8

		<p>Activity 1: Observing Temperature Change in a Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.9.	<p>Nature of Matter: Describe the factors that affect the rate of chemical reactions</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.10.	<p>Nature of Matter: Explain how atoms bond using valence electrons</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes

PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.11.	<p>Nature of Matter: Describe a variety of chemical reactions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.3.	Life and Environmental Sciences: ORGANISMS AND THE ENVIRONMENT: Understand the unity, diversity, and interrelationships of organisms, including their relationship to cycles of matter and energy in the environment
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.3.2.	<p>Cycles of Matter and Energy: Explain the chemical reactions that occur in photosynthesis and cellular respiration that result in cycling of energy</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction
CONTENT STANDARD / COURSE	HI.SC.ES.	Earth Space Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ES.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ES.2.3.	Science, Technology, and Society: Explain the impact of humans on the Earth system

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ES.2.4.</p>	<p>Science, Technology, and Society: Describe technologies used to collect information about the universe</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a

		<p>Chemical Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.1.	Scientific Investigation - Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.1.2.	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and

		<p>Salts</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PH.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PH.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PH.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1

		<p>Activity 1: Modeling Atoms and Ions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction
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		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.1.10.	<p>Using Mathematics: Use quadratic equations and simple trigonometric, exponential, and logarithmic functions to solve problems</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.3.	Matter and Energy Conservation - Understand the nature of momentum and energy transformations
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.1.	<p>Matter: Measure or determine physical quantities such as density and mass of samples</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.3.	<p>Energy and Momentum: Differentiate between energy and momentum both quantitatively and conceptually, and recognize that both are conserved</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.5.	<p>Energy and Momentum: Use the equations for changes in kinetic energy ($KE = 1/2 mv^2$) and gravitational potential energy ($PE = mgh$) to calculate changes in energy</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.6.	<p>Energy and Momentum: Differentiate between different energy manifestations (e.g., kinetic [$KE = 1/2 mv^2$], gravitational potential [$PE = mgh$], thermal, chemical, nuclear, electromagnetic, or mechanical)</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties

		and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.9.	<p>Conservation Laws: Describe circumstances under which each conservation law (i.e., energy, momentum, mass) may be used</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.5.	Heat and Thermodynamics - Understand the laws of thermodynamics, and their applications
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.5.2.	<p>Heat and Temperature: Differentiate between heat, specific heat, and temperature</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.7.	Electric and Magnetic Phenomena - Understand the nature and applications of electricity and magnetism
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.7.1.	<p>Electrical and Magnetic Fields: Describe the relationships among charged particles, electrical current, electrical potential, electric fields, and magnetic fields</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.8.	Modern Physics - Understand the general concepts related to the theory of special relativity, and the constituent particles that make up atoms
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.8.3.	<p>Quantum physics: Describe the constituent particles that make up matter, and the scale at which quantum effects become important</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Teacher Resource CD: Matter - Physical Properties

		and Changes
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.1.	Scientific Investigation - Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.1.2.	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.CH.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.CH.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5

		<p>Activity 1: Investigating Mixtures</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.CH.1.7.</p>	<p>Scientific knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2

		<p>Activity 4: Chemical Structure of Soaps and Detergents</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.3.	Properties of Matter -Understand different states of matter

PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.1.	<p>Acids and Bases: Explain the properties of acids, bases, and salt solutions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.2.	<p>Acids and Bases: Use the pH scale to characterize acid and base solutions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.4.	<p>Acids and Bases: Explain that buffers stabilize pH in acid-base reactions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.5.	<p>Gases and their Properties: Apply gas laws to relationships between pressure, volume, and temperature of any amount of an ideal gas or any mixture of ideal gases using $PV = nRT$</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law

		<ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.6.	<p>Gases and their Properties: Explain the diffusion of gases using the Kinetic Molecular Theory of Matter</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.4.	Atomic Structure and Bonding - Understand properties of the periodic table, atoms, and bond formation
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.1.	<p>Periodic Table: Explain how columns in the periodic table represent elements with common properties and identify metals, semimetals, nonmetals, and halogens</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.2.	<p>Periodic Table: Identify the essential characteristics of alkali metals, alkaline earth metals, and transition metals, trends in ionization energy, electro negativity, and the relative sizes of ions and atoms</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.3.	<p>Periodic Table: Use the periodic table to determine the number of valence electrons of an element</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.4.	<p>Nature of Matter: Explain that the nucleus of the atom is much smaller than the atom, but contains most of its mass (e.g. protons and neutrons have almost two thousand times more mass than an electron)</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1

		<p>Activity 2: Forming Covalent Bonds</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.6.	<p>Nature of Matter: Explain that atoms combine to form molecules by sharing the outermost electrons to form covalent, or metallic bonds or by transferring electrons to form ionic bonds</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.7.	<p>Nature of Matter: Describe why the chemical bonds between atoms in molecules, such as H₂, CH₄, NH₃, C₂H₄, N₂, Cl₂, and many large biological molecules are covalent</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.8.	<p>Nature of Matter: Explain the movement and properties of atoms and molecules in liquids</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE	SC.CH.4.9.	<p>Nature of Matter: Describe how electronegativity and ionization</p>

LEVEL EXPECTATION		<p>energy relate to bond formation</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.10.	<p>Nature of Matter: Identify and explain physical properties of substances (e.g. melting points, boiling points, and volatility) based on the strength of molecular attractions</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.5.	Chemical Reactions - Understand the nature of chemical interactions and solutions
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.1.	<p>Molar Definition: Explain how the quantity of one mole is set (e.g. defining one mole of carbon 12 atoms to have a mass of exactly 12 grams) and describe its properties (e.g. one mole is 6.02×10^{23} particles (atoms or molecules))</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.2.	<p>Molar Conversion: Calculate the number of moles needed to produce a given gas, volume, mass, and/or number of moles of a product given a chemical equation</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.3.	<p>Molar Conversion: Determine the molar mass of a molecule from its chemical formula and a table of atomic masses and convert the mass of a molecular substance to moles, number of particles, or volume of gas at a standard temperature and pressure</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.4.	<p>Conservation of Matter and Stoichiometry: Write balanced equations to describe chemical reactions</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a

		<p>Chemical Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.5.	<p>Conservation of Matter and Stoichiometry: Determine the masses of reactants and products in a chemical reaction from the mass of one of the reactants or products and the relevant atomic masses</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.6.	<p>Conservation of Matter and Stoichiometry: Balance reactions that involve oxidation and reduction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.7.	<p>Conservation of Matter and Stoichiometry: Use laboratory investigations to demonstrate the principle of conservation of mass</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.8.	<p>Solutions: Distinguish between pure substances and mixtures based on physical properties (e.g. boiling point, melting point, and density)</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry

CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.6.	Chemical Thermodynamics - Understand and apply the laws of thermodynamics
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.6.1.	<p>Energy and its Transformation: Explain that chemical processes either absorb (endothermic) or release (exothermic) thermal energy</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Teacher Resource CD: Matter - Chemical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.7.	Chemical Reaction Rates - Understand the nature of how reaction rates are affected
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.7.1.	<p>Chemical Changes: Describe how reaction rates are quantitatively affected by changes of concentration and qualitatively affected by changes of temperature and surface area.</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.7.2.	<p>Chemical Changes: Describe how a catalyst increases reaction rates</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.ENV.	Environmental Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ENV.4.	Life Science - Understand the interconnections of living systems.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.4.3.	<p>Systems and Connections: Explain how ecosystems respond to human activities</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
CONTENT STANDARD / COURSE	HI.SC.ENV.	Environmental Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ENV.5.	Interdependence of The Environment and Human Societies - Understand the interdependence between environmental systems and human societies.

PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.5.2.	<p>Human Impact: Assess the effect of human actions on an environmental system</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.4.	Ecological Systems - Understand the locations and characteristics of marine ecosystems.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.4.5.	<p>Influence of Water: Explain how chemical factors (e.g., pH, salinity, dissolved O₂, nutrients) affect the distribution of life in the ocean</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.6.	Interdependence of Humans and the Ocean - Understand the interdependence of humans and the ocean.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.6.4.	Human Impact Explain how human activities and development lead to marine pollution (e.g., point sources, non-point sources) <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification

**Hawaii Content and Performance Standards
Science
Grade 10**

CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.1.	The Scientific Process: SCIENTIFIC INVESTIGATION: Discover, invent, and investigate using the skills necessary to engage in the scientific process

<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PS.1.2.</p>	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction
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		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PS.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PS.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law

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<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PS.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.6.	Physical, Earth and Space Science: NATURE OF MATTER AND ENERGY: Understand the nature of matter and energy, forms of energy (including waves) and energy transformations, and their significance in understanding the structure of the universe
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.4.	<p>Energy and its Transformation: Explain that changes in thermal energy can lead to a phase change of matter</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Teacher Resource CD: Matter - Physical Properties

		and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.7.	<p>Nature of Matter: Explain how elements are arranged in the periodic table and describe trends among elemental properties</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.8.	<p>Nature of Matter: Describe interactions among molecules</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9

		<p>Activity 2: An Endothermic Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.9.	<p>Nature of Matter: Describe the factors that affect the rate of chemical reactions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.10.	<p>Nature of Matter: Explain how atoms bond using valence electrons</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.11.	<p>Nature of Matter: Describe a variety of chemical reactions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization

		<p>Reaction</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.3.	Life and Environmental Sciences: ORGANISMS AND THE ENVIRONMENT: Understand the unity, diversity, and interrelationships of organisms, including their relationship to cycles of matter and energy in the environment
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.3.2.	<p>Cycles of Matter and Energy: Explain the chemical reactions that occur in photosynthesis and cellular respiration that result in cycling of energy</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction
CONTENT STANDARD / COURSE	HI.SC.ES.	Earth Space Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ES.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ES.2.3.	<p>Science, Technology, and Society: Explain the impact of humans on the Earth system</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ES.2.4.	<p>Science, Technology, and Society: Describe technologies used to collect information about the universe</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2

		<p>Activity 1: Molecular Structure of Acids and Bases</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown
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		Concentration
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.1.	Scientific Investigation - Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.1.2.	<p>Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PH.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts

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<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PH.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5

		<p>Activity 1: Investigating Mixtures</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PH.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2

		<p>Activity 4: Chemical Structure of Soaps and Detergents</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.PH.1.10.</p>	<p>Using Mathematics: Use quadratic equations and simple trigonometric, exponential, and logarithmic functions to solve problems</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.3.	Matter and Energy Conservation - Understand the nature of momentum and energy transformations
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.1.	<p>Matter: Measure or determine physical quantities such as density and mass of samples</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.3.	<p>Energy and Momentum: Differentiate between energy and momentum both quantitatively and conceptually, and recognize that both are conserved</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.5.	<p>Energy and Momentum: Use the equations for changes in kinetic energy ($KE = 1/2 mv^2$) and gravitational potential energy ($PE = mgh$) to calculate changes in energy</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.6.	<p>Energy and Momentum: Differentiate between different energy manifestations (e.g., kinetic [$KE = 1/2 mv^2$], gravitational potential [$PE = mgh$], thermal, chemical, nuclear, electromagnetic, or mechanical)</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.3.9.	<p>Conservation Laws: Describe circumstances under which each conservation law (i.e., energy, momentum, mass) may be used</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics

CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.5.	Heat and Thermodynamics - Understand the laws of thermodynamics, and their applications
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.5.2.	Heat and Temperature: Differentiate between heat, specific heat, and temperature <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.8.	Modern Physics - Understand the general concepts related to the theory of special relativity, and the constituent particles that make up atoms
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.8.3.	Quantum physics: Describe the constituent particles that make up matter, and the scale at which quantum effects become important <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.1.	Scientific Investigation - Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.1.2.	Scientific Inquiry: Design and safely implement an experiment, including the appropriate use of tools and techniques to organize, analyze, and validate data <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.CH.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds

		<ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12
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		<p>Activity 2: Demonstrating Conservation of Mass</p> <ul style="list-style-type: none"> Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.CH.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8

		<p>Activity 3: Observing Gas Production During a Chemical Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.CH.1.7.</p>	<p>Scientific knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table • Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water • Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10

		<p>Activity 3: Production of a Salt - Neutralization Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.3.	Properties of Matter -Understand different states of matter
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.1.	<p>Acids and Bases: Explain the properties of acids, bases, and salt solutions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal • Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Teacher Resource CD: Matter - Chemical Properties and Changes • Virtual Laboratory: Titrating an Acid of Unknown Concentration

PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.2.	<p>Acids and Bases: Use the pH scale to characterize acid and base solutions</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.4.	<p>Acids and Bases: Explain that buffers stabilize pH in acid-base reactions</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.5.	<p>Gases and their Properties: Apply gas laws to relationships between pressure, volume, and temperature of any amount of an ideal gas or any mixture of ideal gases using $PV = nRT$</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.3.6.	<p>Gases and their Properties: Explain the diffusion of gases using the Kinetic Molecular Theory of Matter</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.4.	Atomic Structure and Bonding - Understand properties of the periodic table, atoms, and bond formation
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.1.	<p>Periodic Table: Explain how columns in the periodic table represent elements with common properties and identify metals, semimetals, nonmetals, and halogens</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table Teacher Resource CD: Matter - Physical Properties and Changes

PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.2.	<p>Periodic Table: Identify the essential characteristics of alkali metals, alkaline earth metals, and transition metals, trends in ionization energy, electro negativity, and the relative sizes of ions and atoms</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.3.	<p>Periodic Table: Use the periodic table to determine the number of valence electrons of an element</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.4.	<p>Nature of Matter: Explain that the nucleus of the atom is much smaller than the atom, but contains most of its mass (e.g. protons and neutrons have almost two thousand times more mass than an electron)</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.6.	<p>Nature of Matter: Explain that atoms combine to form molecules by sharing the outermost electrons to form covalent, or metallic bonds or by transferring electrons to form ionic bonds</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties

		and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.7.	<p>Nature of Matter: Describe why the chemical bonds between atoms in molecules, such as H₂, CH₄, NH₃, C₂H₄, N₂, Cl₂, and many large biological molecules are covalent</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds • Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents • Teacher Resource CD: Matter - Chemical Properties and Changes • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.8.	<p>Nature of Matter: Explain the movement and properties of atoms and molecules in liquids</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Teacher Resource CD: Matter - Physical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.9.	<p>Nature of Matter: Describe how electronegativity and ionization energy relate to bond formation</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.4.10.	<p>Nature of Matter: Identify and explain physical properties of substances (e.g. melting points, boiling points, and volatility) based on the strength of molecular attractions</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.5.	Chemical Reactions - Understand the nature of chemical interactions and solutions
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.1.	<p>Molar Definition: Explain how the quantity of one mole is set (e.g. defining one mole of carbon 12 atoms to have a mass of exactly 12 grams) and describe its properties (e.g. one mole is 6.02×10^{23} particles (atoms or molecules))</p> <ul style="list-style-type: none"> • Teacher Resource CD: Matter - Chemical

		Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.2.	<p>Molar Conversion: Calculate the number of moles needed to produce a given gas, volume, mass, and/or number of moles of a product given a chemical equation</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.3.	<p>Molar Conversion: Determine the molar mass of a molecule from its chemical formula and a table of atomic masses and convert the mass of a molecular substance to moles, number of particles, or volume of gas at a standard temperature and pressure</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.4.	<p>Conservation of Matter and Stoichiometry: Write balanced equations to describe chemical reactions</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 4: Observing a Biochemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.5.	<p>Conservation of Matter and Stoichiometry: Determine the masses of reactants and products in a chemical reaction from the mass of one of the reactants or products and the relevant atomic masses</p> <ul style="list-style-type: none"> Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE	SC.CH.5.6.	Conservation of Matter and Stoichiometry: Balance reactions that

LEVEL EXPECTATION		involve oxidation and reduction <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.7.	Conservation of Matter and Stoichiometry: Use laboratory investigations to demonstrate the principle of conservation of mass <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.5.8.	Solutions: Distinguish between pure substances and mixtures based on physical properties (e.g. boiling point, melting point, and density) <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.6.	Chemical Thermodynamics - Understand and apply the laws of thermodynamics
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.6.1.	Energy and its Transformation: Explain that chemical processes either absorb (endothermic) or release (exothermic) thermal energy <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction Teacher Resource CD: Matter - Chemical Properties and Changes Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.7.	Chemical Reaction Rates - Understand the nature of how reaction rates are affected
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.7.1.	Chemical Changes: Describe how reaction rates are quantitatively affected by changes of concentration and qualitatively affected by changes of temperature and surface area.

		<ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.7.2.	<p>Chemical Changes: Describe how a catalyst increases reaction rates</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Teacher Resource CD: Matter - Chemical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.ENV.	Environmental Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ENV.4.	Life Science - Understand the interconnections of living systems.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.4.3.	<p>Systems and Connections: Explain how ecosystems respond to human activities</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification
CONTENT STANDARD / COURSE	HI.SC.ENV.	Environmental Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ENV.5.	Interdependence of The Environment and Human Societies - Understand the interdependence between environmental systems and human societies.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.5.2.	<p>Human Impact: Assess the effect of human actions on an environmental system</p> <ul style="list-style-type: none"> Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass Teacher Resource CD: Matter - Chemical Properties and Changes Teacher Resource CD: Matter - Physical Properties and Changes
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE	SC.MS.4.	Ecological Systems - Understand the locations and characteristics of marine ecosystems.

INDICATOR		
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.4.5.	<p data-bbox="630 228 1243 275">Influence of Water: Explain how chemical factors (e.g., pH, salinity, dissolved O₂, nutrients) affect the distribution of life in the ocean</p> <ul style="list-style-type: none"> <li data-bbox="678 317 1252 373">• Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 1: Modeling Atoms and Ions <li data-bbox="678 380 1252 436">• Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 2: Forming Covalent Bonds <li data-bbox="678 443 1252 499">• Chemistry - A Closer Look at Matter: Unit 1 Lab 1 Activity 3: Forming Ionic Bonds <li data-bbox="678 506 1252 562">• Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 1: Molecular Structure of Acids and Bases <li data-bbox="678 569 1252 625">• Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 2: Crystal Structure of Common Salt <li data-bbox="678 632 1252 688">• Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 3: Forming Organic Compounds <li data-bbox="678 695 1252 751">• Chemistry - A Closer Look at Matter: Unit 1 Lab 2 Activity 4: Chemical Structure of Soaps and Detergents <li data-bbox="678 758 1252 814">• Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 1: Classifying Matter <li data-bbox="678 821 1252 877">• Chemistry - A Closer Look at Matter: Unit 2 Lab 3 Activity 2: Exploring Changes in Matter <li data-bbox="678 884 1252 940">• Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 1: Examining Elements <li data-bbox="678 947 1252 1003">• Chemistry - A Closer Look at Matter: Unit 2 Lab 4 Activity 2: A Closer Look at the Periodic Table <li data-bbox="678 1010 1252 1066">• Chemistry - A Closer Look at Matter: Unit 2 Lab 5 Activity 1: Investigating Mixtures <li data-bbox="678 1073 1252 1129">• Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 1: Separating the Compound Water <li data-bbox="678 1136 1252 1192">• Chemistry - A Closer Look at Matter: Unit 2 Lab 6 Activity 2: Writing a Description of a Chemical Reaction <li data-bbox="678 1199 1252 1255">• Chemistry - A Closer Look at Matter: Unit 2 Lab 7 Activity 1: Demonstrating Boyle's Gas Law <li data-bbox="678 1262 1252 1318">• Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 1: Testing Properties of Acids, Bases, and Salts <li data-bbox="678 1325 1252 1381">• Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 2: Chemical Reactions of Acids with a Metal <li data-bbox="678 1388 1252 1444">• Chemistry - A Closer Look at Matter: Unit 3 Lab 10 Activity 3: Production of a Salt - Neutralization Reaction <li data-bbox="678 1451 1252 1507">• Chemistry - A Closer Look at Matter: Unit 3 Lab 11 Activity 1: The Traffic Light Reaction <li data-bbox="678 1514 1252 1570">• Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 1: Observing Temperature Change in a Chemical Reaction <li data-bbox="678 1577 1252 1633">• Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 2: Observing Color Change in a Chemical Reaction <li data-bbox="678 1640 1252 1696">• Chemistry - A Closer Look at Matter: Unit 3 Lab 8 Activity 3: Observing Gas Production During a Chemical Reaction <li data-bbox="678 1703 1252 1759">• Chemistry - A Closer Look at Matter: Unit 3 Lab 8

		<p>Activity 4: Observing a Biochemical Reaction</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 1: An Exothermic Reaction • Chemistry - A Closer Look at Matter: Unit 3 Lab 9 Activity 2: An Endothermic Reaction • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 2: Demonstrating Conservation of Mass • Virtual Laboratory: Titrating an Acid of Unknown Concentration
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.6.	Interdependence of Humans and the Ocean - Understand the interdependence of humans and the ocean.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.6.4.	<p>Human Impact Explain how human activities and development lead to marine pollution (e.g., point sources, non-point sources)</p> <ul style="list-style-type: none"> • Chemistry - A Closer Look at Matter: Unit 4 Lab 12 Activity 1: Water Purification

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