

**Inquiry Investigations™**  
**Environmental Issues and Solutions MODULE - 1287226**  
**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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10</li> </ul>

		<p>Activity 1: Dissecting an Owl Pellet</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p><b>CONTENT STANDARD / PERFORMANCE INDICATOR</b></p>	<p><b>SC.7.1.3.</b></p>	<p>Scientific Knowledge: Explain the need to revise conclusions and explanations based on new scientific evidence</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8</li> </ul>

		<p>Activity 2: Water Analysis</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.7.3.</b>	<b>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</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.7.3.1.</b>	<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"> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.7.3.2.</b>	<p>Interdependence: Explain the interaction and dependence of organisms on one another</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> </ul>

		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.3.3.	<p>Interdependence: Explain how biotic and abiotic factors affect the carrying capacity and sustainability of an ecosystem</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Teacher Resource CD: Air, Water, and Soils</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.7.4.	Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.4.2.	<p>Cells, Tissues, Organs, and Organ Systems: Describe the basic structure and function of various types of cells</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.4.3.	<p>Cells, Tissues, Organs, and Organ Systems: Describe the levels of organization in organisms</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.7.4.4.	<p>Classification: Classify organisms according to their degree of relatedness</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.7.5.	Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms
CONTENT STANDARD / PERFORMANCE	SC.7.5.4.	Unity and Diversity: Analyze how organisms' body structures

INDICATOR		<p>contribute to their ability to survive and reproduce</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> </ul>
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**Hawaii Content and Performance Standards**  
**Science**  
**Grade 8**

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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water</li> </ul>

		<p>Pollutant</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7</li> </ul>

		<p>Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.8.2.</b>	<b>The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.8.2.1.</b>	<p>Science, Technology, and Society: Describe significant relationships among society, science, and technology and how one impacts the other</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5</li> </ul>

		<p>Activity 1: Modeling Salt Runoff Discharge</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Environmental Issues</li> </ul>
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"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.8.5.	Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.8.5.1.	<p>Biological Evolution: Describe how changes in the physical environment affect the survival of organisms</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
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.8.8.6.	<p>Forces that Shape the Earth: Explain the relationship between density and convection currents in the ocean and atmosphere</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>

Hawaii Content and Performance Standards  
Science



Grade 9

CONTENT STANDARD / COURSE	HI.SC.PS.	Physical Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.2.	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
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.6.1.	<p>Energy and its Transformation: Describe endothermic and exothermic chemical reactions</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> </ul>
PERFORMANCE INDICATOR / GRADE	SC.PS.6.8.	Nature of Matter: Describe interactions among molecules

LEVEL EXPECTATION		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.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.BS.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"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf</li> </ul>

		<p>Litter Ecosystems</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> </ul>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> </ul>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7</li> </ul>

		<p>Activity 1: Soil Analysis</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.BS.</b>	<b>Biological Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.BS.2.</b>	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.BS.2.1.</b>	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> </ul>

		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
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.3.1.	<p>Cycles of Matter and Energy: Describe biogeochemical cycles within ecosystems</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Teacher Resource CD: Air, Water, and Soils</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
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"> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>Teacher Resource CD: Air, Water, and Soils</li> <li>Teacher Resource CD: Ecosystems, Energy, and</li> </ul>

		Biodiversity
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.3.3.	<p>Cycles of Matter and Energy: Explain how matter and energy flow through living systems and the physical environment</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.3.4.	<p>Interdependence: Explain dynamic equilibrium in organisms, populations, and ecosystems; explain the effect of equilibrium shifts</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.4.	Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.1.	<p>Cells, Tissues, Organs, and Organ Systems: Describe different cell parts and their functions</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> </ul>



		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.6.	<p>Classification: Explain the organization of life on Earth using the modern classification system</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.5.	Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.3.	<p>Unity and Diversity: Explain the structural properties of DNA and the role of DNA in heredity and protein synthesis</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.5.	<p>Unity and Diversity: Explain chromosomal mutations, their possible causes, and their effects on genetic variation</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> </ul>
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.2.1.	<p>Science, Technology, and Society Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>

<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ES.2.2.</p>	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ES.2.3.</p>	<p>Science, Technology, and Society: Explain the impact of humans on the Earth system</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and</li> </ul>

		<p>Other Pollutants on Plants</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Teacher Resource CD: Environmental Issues</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> </ul>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ES.</b>	<b>Earth Space Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ES.8.</b>	Physical, Earth, and Space Sciences: EARTH AND SPACE SCIENCE: Understand the Earth and its processes, the solar system, and the universe and its contents
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ES.8.1.</b>	Forces that Shape the Earth: Describe how elements and water move through solid Earth, the oceans, atmosphere, and living things as part of geochemical cycles <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE</b>	<b>SC.ES.8.4.</b>	Forces that Shape the Earth: Describe how heat and energy transfer

LEVEL EXPECTATION		<p>into and out of the atmosphere and their involvement in global climate</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ES.8.6.	<p>Forces that Shape the Earth: Describe how winds and ocean currents are produced on the Earth's surface</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
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.1.10.	<p>Using Mathematics: Use quadratic equations and simple trigonometric, exponential, and logarithmic functions to solve problems</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.2.	Nature of Science - Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE	SC.PH.2.2.	Science, Technology, and Society: Compare the risks and benefits of

LEVEL EXPECTATION		<p>potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
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.5.1.	<p>Heat and Temperature: Explain that heat flow and work are two forms of energy transfer between systems</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> </ul>
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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.CH.2.	Nature of Science - Understand that science, technology, and society are interrelated

PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
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.3.2.	<p>Acids and Bases: Use the pH scale to characterize acid and base solutions</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.CH.	Chemistry
CONTENT STANDARD / PERFORMANCE	SC.CH.4.	Atomic Structure and Bonding - Understand properties of the periodic table, atoms, and bond formation

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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"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> </ul>
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.5.8.	<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"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.ENV.	Environmental Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.ENV.1.	Scientific Investigation - Discover, invent, and investigate using the skills necessary to engage in the scientific process
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.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"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> </ul>



		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5</li> </ul>

		<p>Activity 1: Modeling Salt Runoff Discharge</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p><b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b></p>	<p><b>SC.ENV.1.5.</b></p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> </ul>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
PERFORMANCE	SC.ENV.1.7.	Scientific Knowledge: Revise, as needed, conclusions and explanations

<p>INDICATOR / GRADE LEVEL EXPECTATION</p>		<p>based on new evidence</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> </ul>
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		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.2.</b>	Nature of Science - Understand that science, technology, and society are interrelated
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.2.1.</b>	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.2.2.</b>	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.3.</b>	Earth Science - Understand the physical systems of the earth.
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.3.4.</b>	Forces that shape the earth: Compare different methods of generating electricity (e.g., fossil fuels, nuclear)

		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.4.</b>	Life Science - Understand the interconnections of living systems.
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.4.1.</b>	Systems and Connections: Explain how scientists organize the biosphere <ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.4.2.</b>	Systems and Connections: Explain why populations undergo cyclic fluctuations <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.4.3.</b>	Systems and Connections: Explain how ecosystems respond to human activities <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5</li> </ul>

		<ul style="list-style-type: none"> <li>Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Teacher Resource CD: Environmental Issues</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p><b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b></p>	<p><b>SC.ENV.4.5.</b></p>	<p>Flow of Matter and Energy: Explain the relationship between the carbon cycle and fossil fuels</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Teacher Resource CD: Ecosystems, Energy, and</li> </ul>

		Biodiversity
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.4.6.	<p>Flow of Matter and Energy: Describe how the availability of resources (e.g., energy, water, oxygen, minerals) limits the amount of life an environment can support</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
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.5.1.	<p>Human Impact: Explain how economic and societal decisions affect global and local ecosystems</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Environmental Issues</li> </ul>
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"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8</li> </ul>



		<p>Activity 3: Determining the LD50 of a Water Pollutant</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Environmental Issues</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.5.4.</p>	<p>Resource Use: Describe the relationship between the environment and the growth rate of a population</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.5.5.</p>	<p>Resource Use: Compare the consumption of natural resources by different nations</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> </ul>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.5.6.	<p>Resource Use: Explain why recycling and conservation of resources are important</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.2.	Nature of Science - Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3</li> </ul>

		<p>Activity 2: Cleaning Up Shore Environments</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.3.	Oceanography - Understand the physical features of the ocean and its influences on weather and climate.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.3.3.	<p>Physical Characteristics of the Ocean: Explain how the ocean participates in the geochemical cycling of elements</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Teacher Resource CD: Air, Water, and Soils</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.3.7.	<p>Oceans Influence: Describe the relationship between fresh bodies of water, watersheds, and the ocean</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
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	SC.MS.4.1.	Ecosystems: Differentiate freshwater, brackish, and saltwater

INDICATOR / GRADE LEVEL EXPECTATION		<p>ecosystems</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.4.2.	<p>Ecosystems: Explain how estuaries provide productive and important nursery areas for many marine species</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.4.5.	<p>Influence of Water: Explain how chemical factors (e.g., pH, salinity, dissolved O<sub>2</sub>, nutrients) affect the distribution of life in the ocean</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.4.6.	<p>Influence of Water: Describe how physical factors (e.g., light, temperature, pressure, current) define the region/zone in the ocean</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.5.	Structure, Function, and Interdependence - Understand the structure, function, and interdependence of marine organisms.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.5.2.	<p>Structure And Function: Compare the characteristics of marine organisms (e.g., planktonic, invertebrate, vertebrate)</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> </ul>

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.MS.</b>	<b>Marine Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.MS.6.</b>	Interdependence of Humans and the Ocean - Understand the interdependence of humans and the ocean.
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.MS.6.2.</b>	<p>Influence of the Ocean on Human Society: Describe the relationship between the ocean and human cultural development</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.MS.6.3.</b>	<p>Human Impact Evaluate mariculture in terms of use of technology and environmental impact</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.MS.6.4.</b>	<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"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>Teacher Resource CD: Air, Water, and Soils</li> <li>Teacher Resource CD: Environmental Issues</li> <li>Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.MS.6.5.</b>	<p>Human Impact Describe how urbanization has impacted the ocean</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Environmental Issues</li> </ul>

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

<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.PS.</b>	<b>Physical Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.PS.2.</b>	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated

PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
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.6.1.	<p>Energy and its Transformation: Describe endothermic and exothermic chemical reactions</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PS.6.8.	<p>Nature of Matter: Describe interactions among molecules</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science

CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.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.BS.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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> </ul>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> </ul>



		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8</li> </ul>

		<p>Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.BS.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> </ul>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.BS.</b>	<b>Biological Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.BS.2.</b>	The Scientific Process: NATURE OF SCIENCE: Understand that science, technology, and society are interrelated
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.BS.2.1.</b>	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> </ul>

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.3.	<p>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</p>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.3.1.	<p>Cycles of Matter and Energy: Describe biogeochemical cycles within ecosystems</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Teacher Resource CD: Air, Water, and Soils</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
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"> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>Teacher Resource CD: Air, Water, and Soils</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.3.3.	<p>Cycles of Matter and Energy: Explain how matter and energy flow through living systems and the physical environment</p>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.3.4.	<p>Interdependence: Explain dynamic equilibrium in organisms, populations, and ecosystems; explain the effect of equilibrium shifts</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.BS.4.	Life and Environmental Sciences: STRUCTURE AND FUNCTION IN ORGANISMS: Understand the structures and functions of living organisms and how organisms can be compared scientifically
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.4.1.	<p>Cells, Tissues, Organs, and Organ Systems: Describe different cell parts and their functions</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
PERFORMANCE INDICATOR / GRADE	SC.BS.4.6.	Classification: Explain the organization of life on Earth using the

LEVEL EXPECTATION		<p>modern classification system</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.BS.	Biological Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PS.5.	Life and Environmental Sciences: DIVERSITY, GENETICS, AND EVOLUTION: Understand genetics and biological evolution and their impact on the unity and diversity of organisms
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.3.	<p>Unity and Diversity: Explain the structural properties of DNA and the role of DNA in heredity and protein synthesis</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.BS.5.5.	<p>Unity and Diversity: Explain chromosomal mutations, their possible causes, and their effects on genetic variation</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> </ul>
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.2.1.	<p>Science, Technology, and Society Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ES.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1</li> </ul>

		<p>Activity 1: Biodegradation in a Landfill</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ES.2.3.</p>	<p>Science, Technology, and Society: Explain the impact of humans on the Earth system</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10</li> </ul>

		<p>Activity 2: Identifying Owl Prey</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Teacher Resource CD: Environmental Issues</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> </ul>



		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ES.</b>	<b>Earth Space Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ES.8.</b>	<b>Physical, Earth, and Space Sciences: EARTH AND SPACE SCIENCE: Understand the Earth and its processes, the solar system, and the universe and its contents</b>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ES.8.1.</b>	<p>Forces that Shape the Earth: Describe how elements and water move through solid Earth, the oceans, atmosphere, and living things as part of geochemical cycles</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ES.8.4.</b>	<p>Forces that Shape the Earth: Describe how heat and energy transfer into and out of the atmosphere and their involvement in global climate</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> </ul>

		<ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ES.8.6.	<p>Forces that Shape the Earth: Describe how winds and ocean currents are produced on the Earth's surface</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
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.1.10.	<p>Using Mathematics: Use quadratic equations and simple trigonometric, exponential, and logarithmic functions to solve problems</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.PH.	Physics
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.PH.2.	Nature of Science - Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.PH.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> </ul>

		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.PH.</b>	<b>Physics</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.PH.3.</b>	<b>Matter and Energy Conservation - Understand the nature of momentum and energy transformations</b>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.PH.3.1.</b>	<p>Matter: Measure or determine physical quantities such as density and mass of samples</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.PH.</b>	<b>Physics</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.PH.5.</b>	<b>Heat and Thermodynamics - Understand the laws of thermodynamics, and their applications</b>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.PH.5.1.</b>	<p>Heat and Temperature: Explain that heat flow and work are two forms of energy transfer between systems</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.PH.5.2.</b>	<p>Heat and Temperature: Differentiate between heat, specific heat, and temperature</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.CH.</b>	<b>Chemistry</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.CH.2.</b>	<b>Nature of Science - Understand that science, technology, and society are interrelated</b>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.CH.2.1.</b>	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technologies have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> </ul>

		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.CH.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
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.3.2.	<p>Acids and Bases: Use the pH scale to characterize acid and base solutions</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> </ul>
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.4.10.	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

		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.CH.</b>	<b>Chemistry</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.CH.5.</b>	Chemical Reactions - Understand the nature of chemical interactions and solutions
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.CH.5.8.</b>	<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"> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.1.</b>	Scientific Investigation - Discover, invent, and investigate using the skills necessary to engage in the scientific process
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.1.2.</b>	<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"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> </ul>

		<ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.4.</p>	<p>Scientific Inquiry: Determine the connection(s) among hypotheses, scientific evidence, and conclusions</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators -</li> </ul>

		<p>Lichens</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.5.</p>	<p>Scientific Inquiry: Communicate the components of a scientific investigation, using appropriate techniques</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4</li> </ul>

		<p>Activity 1: The Greenhouse Effect and Global Warming</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.1.7.</p>	<p>Scientific Knowledge: Revise, as needed, conclusions and explanations based on new evidence</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2</li> </ul>



		<p>Activity 1: Observing Radiation Effects on Plants</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on</li> </ul>
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		Dissolved Oxygen
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.2.</b>	Nature of Science - Understand that science, technology, and society are interrelated
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.2.1.</b>	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.2.2.</b>	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.3.</b>	Earth Science - Understand the physical systems of the earth.
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.3.4.</b>	<p>Forces that shape the earth: Compare different methods of generating electricity (e.g., fossil fuels, nuclear)</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3</li> </ul>

		<p>Activity 3: Examining Oil-Degrading Microbes</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.4.</b>	Life Science - Understand the interconnections of living systems.
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.4.1.</b>	<p>Systems and Connections: Explain how scientists organize the biosphere</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.4.2.</b>	<p>Systems and Connections: Explain why populations undergo cyclic fluctuations</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.4.3.</b>	<p>Systems and Connections: Explain how ecosystems respond to human activities</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators -</li> </ul>

		<p>Lichens</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 1: Dissecting an Owl Pellet</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Teacher Resource CD: Environmental Issues</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.4.5.</p>	<p>Flow of Matter and Energy: Explain the relationship between the carbon cycle and fossil fuels</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.4.6.</p>	<p>Flow of Matter and Energy: Describe how the availability of resources (e.g., energy, water, oxygen, minerals) limits the amount of life an environment can support</p>

		<ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
<b>CONTENT STANDARD / COURSE</b>	<b>HI.SC.ENV.</b>	<b>Environmental Science</b>
<b>CONTENT STANDARD / PERFORMANCE INDICATOR</b>	<b>SC.ENV.5.</b>	Interdependence of The Environment and Human Societies - Understand the interdependence between environmental systems and human societies.
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.5.1.</b>	Human Impact: Explain how economic and societal decisions affect global and local ecosystems <ul style="list-style-type: none"> <li>Teacher Resource CD: Environmental Issues</li> </ul>
<b>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</b>	<b>SC.ENV.5.2.</b>	Human Impact: Assess the effect of human actions on an environmental system <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 1: Identifying Airborne Pollutants</li> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>Environmental Issues and Solutions: Unit 3 Lab 10</li> </ul>

		<p>Activity 1: Dissecting an Owl Pellet</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 2: Identifying Owl Prey</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 10 Activity 3: Constructing a Predator-Prey Food Web</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 1: Calculating a Biodiversity Index for Leaf Litter Ecosystems</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Environmental Issues</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.5.4.</p>	<p>Resource Use: Describe the relationship between the environment and the growth rate of a population</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 11 Activity 2: Determining the Carrying Capacity of a Population</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
<p>PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION</p>	<p>SC.ENV.5.5.</p>	<p>Resource Use: Compare the consumption of natural resources by different nations</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 6</li> </ul>

		<p>Activity 1: Identifying Airborne Pollutants</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 2 Lab 6 Activity 2: Observing Air Pollution Indicators - Lichens</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>Environmental Issues and Solutions: Unit 3 Lab 9 Activity 2: A Closer Look at Energy Pyramids</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.ENV.5.6.	<p>Resource Use: Explain why recycling and conservation of resources are important</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.2.	Nature of Science - Understand that science, technology, and society are interrelated
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.2.1.	<p>Science, Technology, and Society: Explain how scientific advancements and emerging technology have influenced society</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5</li> </ul>

		<p>Activity 1: Modeling Salt Runoff Discharge</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.2.2.	<p>Science, Technology, and Society: Compare the risks and benefits of potential solutions to technological issues</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 2 Activity 1: Observing Radiation Effects on Plants</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 1: Biodegrading a Simulated Oil Spill</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 4 Activity 1: The Greenhouse Effect and Global Warming</li> <li>Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>Teacher Resource CD: Environmental Issues</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.3.	Oceanography - Understand the physical features of the ocean and its influences on weather and climate.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.3.3.	<p>Physical Characteristics of the Ocean: Explain how the ocean participates in the geochemical cycling of elements</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 1: Soil Analysis</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 2: Soil Porosity and Permeability</li> <li>Environmental Issues and Solutions: Unit 2 Lab 7 Activity 3: Soil Testing For Nitrogen, pH, and Phosphates</li> <li>Teacher Resource CD: Air, Water, and Soils</li> <li>Teacher Resource CD: Ecosystems, Energy, and Biodiversity</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.3.7.	<p>Oceans Influence: Describe the relationship between fresh bodies of water, watersheds, and the ocean</p> <ul style="list-style-type: none"> <li>Teacher Resource CD: Air, Water, and Soils</li> </ul>
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.4.1.	<p>Ecosystems: Differentiate freshwater, brackish, and saltwater ecosystems</p> <ul style="list-style-type: none"> <li>Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>Environmental Issues and Solutions: Unit 1 Lab 3</li> </ul>



		<p>Activity 3: Examining Oil-Degrading Microbes</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 5 Activity 1: Modeling Salt Runoff Discharge</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.4.2.	<p>Ecosystems: Explain how estuaries provide productive and important nursery areas for many marine species</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 2: Cleaning Up Shore Environments</li> <li>• Environmental Issues and Solutions: Unit 1 Lab 3 Activity 3: Examining Oil-Degrading Microbes</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.4.5.	<p>Influence of Water: Explain how chemical factors (e.g., pH, salinity, dissolved O<sub>2</sub>, nutrients) affect the distribution of life in the ocean</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.4.6.	<p>Influence of Water: Describe how physical factors (e.g., light, temperature, pressure, current) define the region/zone in the ocean</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 3 Lab 9 Activity 1: Food Web Organization</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE INDICATOR	SC.MS.5.	Structure, Function, and Interdependence - Understand the structure, function, and interdependence of marine organisms.
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.5.2.	<p>Structure And Function: Compare the characteristics of marine organisms (e.g., planktonic, invertebrate, vertebrate)</p> <ul style="list-style-type: none"> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> </ul>
CONTENT STANDARD / COURSE	HI.SC.MS.	Marine Science
CONTENT STANDARD / PERFORMANCE	SC.MS.6.	Interdependence of Humans and the Ocean - Understand the interdependence of humans and the ocean.

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PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.6.2.	<p>Influence of the Ocean on Human Society: Describe the relationship between the ocean and human cultural development</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.6.3.	<p>Human Impact Evaluate mariculture in terms of use of technology and environmental impact</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Environmental Issues</li> </ul>
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"> <li>• Environmental Issues and Solutions: Unit 1 Lab 1 Activity 1: Biodegradation in a Landfill</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 1: How Water Pollutants Are Measured</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 2: Water Analysis</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 3: Determining the LD50 of a Water Pollutant</li> <li>• Environmental Issues and Solutions: Unit 2 Lab 8 Activity 4: Observing the Effects of Acid Rain and Other Pollutants on Plants</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 1: Modeling a Water Treatment Plant</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 2: Biological Treatment of Pollution</li> <li>• Environmental Issues and Solutions: Unit 4 Lab 12 Activity 3: Evaluating the Health of an Ecosystem</li> <li>• Teacher Resource CD: Air, Water, and Soils</li> <li>• Teacher Resource CD: Environmental Issues</li> <li>• Virtual Laboratory: The Effect of Temperature on Dissolved Oxygen</li> </ul>
PERFORMANCE INDICATOR / GRADE LEVEL EXPECTATION	SC.MS.6.5.	<p>Human Impact Describe how urbanization has impacted the ocean</p> <ul style="list-style-type: none"> <li>• Teacher Resource CD: Environmental Issues</li> </ul>