



**'Ōhi'a Project
Geography Unit**



**Exploring the Islands
Grade 4**

HCPS Content Standards/Benchmarks	HCPS Performance Indicators
<p>Social Studies: Physical Systems</p> <ul style="list-style-type: none">• Explain how physical processes affect formation and distribution of climates, natural resources and ecosystems.	<ul style="list-style-type: none">• Explain the presence of <u>climates</u>, natural resources and ecosystems.• Explain causal relationships between the physical process and climate, natural resources and/or ecosystems.
<p>Social Studies: World in Spatial Terms</p> <ul style="list-style-type: none">• Collect, organize and analyze data to interpret and construct geographic representations.	<ul style="list-style-type: none">• Show organization of collected data.• Construct a map (or diagram) that includes collected geographic data.• Explain the meanings, patterns and relationships found in the geographic data.

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HCPS Content Standards/Benchmarks	HCPS Performance Indicators
<p>Science: Earth in the Solar System</p> <ul style="list-style-type: none"> • Illustrate the water cycle and its relationship to weather and climatic patterns. • Describe the Earth’s daily rotation and annual revolution 	<ul style="list-style-type: none"> • Describe or illustrate the water cycle and its relationship to weather and climate in Hawai‘i. • Compares/contrasts rotation and revolution of the Earth.
<p>Science: Doing Scientific Inquiry</p> <ul style="list-style-type: none"> • Explain how the question or problem arose. Develop a hypothesis or prediction based on the question. • Design and conduct simple investigations to answer their questions or to test their ideas about the environment. • Collect and organize data for analysis, using simple tools and equipment. • Use appropriate models to summarize data and construct conclusions based on observations and findings. • Communicate investigations and results appropriately to an audience. • Defend conclusions based on evidence; reflect and revise conclusions based on recommendations from other points of view. 	<ul style="list-style-type: none"> • Design and <u>conduct</u> simple investigations to answer questions and test ideas. • Collect and organize data for analysis, using simple tools and equipment. • Use appropriate models to summarize data based on observations and findings. • Communicate investigations and results appropriately to an audience. • Defend conclusions based on evidence and revise conclusions as needed.
<p>Science: Using Unifying Concepts and Themes</p> <p>MODEL</p> <ul style="list-style-type: none"> • Use geometric figures, number sequences, graphs, <u>diagrams</u>, sketches, number lines, <u>maps</u>, or stories to represent corresponding features of objects, events, and processes in the real world. Identify ways in which the representations do not match their original counter parts. 	<ul style="list-style-type: none"> • Use geometric figures, number sequences, graphs, <u>diagrams</u>, sketches, number lines, <u>maps</u>, or stories to represent corresponding features of objects, events, and processes in the real world.

Unit at a Glance

Content Standards	OP Lessons & Telecasts	Essential Questions	Key Concepts	Assessment
<p>Social Studies: World in Spatial Terms</p> <p>Social Studies: Physical Systems</p> <p>Science: Earth in the Solar System</p> <p>Science: Doing Scientific Inquiry</p>	<p>OP Activity: Let's Put Hawai'i on the Map!</p> <p>Exploring the Islands (ETI) Program: Lucky You Live in the Tropics</p>	<p>How do Hawai'i's subtropical latitude and the surrounding ocean affect the islands' climate and weather?</p> <p>What causes the two seasons in Hawai'i each year?</p>	<p>The Hawaiian Islands are located in a subtropical, oceanic environment, isolated from other large land masses. The islands are also in the North Pacific. Tradewinds from the northeast blow over the islands.</p> <p>The warm, stable year-round climate of the Hawaiian Islands is due to subtropical latitude and the moderating effects of the surrounding ocean. These factors, and the Earth's annual revolution around the sun on its tilted axis, create the islands' two seasons: <i>ho'oilo</i> (the changeable, wet season) and <i>kau wela</i> (the hot, dry season).</p>	<p>Student maps with island cut-outs placed on a geographic grid.</p> <p>Completed activity sheet</p> <p>Written summaries of experiments explain question/problem, investigation design, observations/findings, and conclusion.</p> <p>Written summaries explain effects of the surrounding ocean and factors that create the Islands' two seasons.</p>
<p>Science: Doing Scientific Inquiry</p> <p>Science: Earth in the Solar System</p> <p>Science: Using Unifying Concepts and Themes - MODEL</p>	<p>OP Activity: Plunging Into the Water Cycle</p> <p>ETI Program: Take a Water Cycle Ride</p>	<p>What factors affect the water cycle on high volcanic islands?</p> <p>How are high islands like water factories?</p>	<p>Water is continually cycled between the atmosphere and the Earth's surface and is affected by temperature, topography, vegetation, and geology.</p> <p>Water reaches the Earth as precipitation and runs off as surface water, infiltrates the ground to become groundwater, or is intercepted by vegetation. It returns to the atmosphere through the combined processes of transpiration through plants and evaporation from plant, land and ocean surfaces.</p>	<p>Written summaries explain how "water factory" puzzle pieces contribute to the water cycle.</p> <p>Illustrations of a water cycle diagram with all parts labeled.</p> <p>Written summaries of experiments explain the question/problem, investigation design, observations/findings, and conclusion.</p>

Content Standards	OP Lessons & Telecasts	Essential Questions	Key Concepts	Assessment
<p>Social Studies - Geography: World in Spatial Terms</p> <p>Social Studies: Physical Systems</p> <p>Science - Habits of Mind: Using Unifying Concepts and Themes – MODEL</p>	<p>OP Activity: From the Sea to the Mountains</p> <p>ETI Program: Exploring Mountain Zones</p>	<p>What key factors affect the zonation of natural communities in Hawai‘i?</p> <p>What makes one vegetation zone different from another?</p> <p>How does the Hawaiian zonation system differ from the vegetation zonation system?</p>	<p>The Earth’s surface is divided into natural communities known as zones.</p> <p>The variation in temperature and rainfall results in the zonation of natural communities.</p> <p>There are different ways of representing natural communities in Hawai‘i.</p>	<p>Diagrams of vegetation zones with average rainfall and temperature for each zone.</p> <p>Venn Diagram comparing pairs of students’ diagrams.</p> <p>Written summaries describing the physical factors that affect the zonation of natural communities.</p>

Culminating Activity

Write a letter of recommendation to a friend who lives in a dry area of California where droughts are common and water is scarce. Find a town on a map of California that fits this description when you address your letter. Your friend would like to move to Hawai‘i and has asked for your help in finding where his family should buy a home. The family’s main concern is to live where they can be cool, comfortable and have enough rainfall to grow a garden. They would also like to have a stream nearby and not have to travel a long distance to go to the beach. Write a letter in response and describe a natural community on your island where your friend could live. Be sure to give a complete description of the natural community you are recommending and include its: **orientation (leeward or windward); elevation; average annual rainfall and temperature; types of plants and animals, natural resources (streams, other features).** Tell your friend that you have been studying climate and weather, the water cycle, and natural communities in Hawai‘i. Use what you have learned to explain *why* Hawai‘i has such a favorable climate and abundance of natural communities to choose from. Explain to your friend why the natural community you are recommending has more fresh water than the area where he lives.

Rubric for Culminating Activity

Performance Indicators for Geography Unit Culminating Activity	Meets Standards	Standards Not Yet Met	I noticed...
<p>Social Studies: Physical Systems</p> <ul style="list-style-type: none"> ✓ Explain the presence of climates, natural resources and ecosystems. 	<p>Writing accurately explains factors contributing to climate, and abundance of natural communities.</p> <p>Writing accurately explains the presence of water (natural resources) and the lack of water (in selected town in California).</p>	<p>Writing only partially explains factors contributing to climate, and abundance of natural communities.</p> <p>Writing only partially explains the presence of water (natural resources).</p>	
<ul style="list-style-type: none"> ✓ Explain causal relationships between the physical process and climate, natural resources and/or ecosystems. 	<p>Writing accurately explains the relationships between physical process and climate, natural resources, and natural communities.</p>	<p>Writing partially explains the relationship between physical process and climate, natural resources, and natural communities.</p>	