

A Sense of Place: Sustainable Living Is Rooted in a Deep Knowledge of Place and Self

Theme 1: Scope and Sequence - Grades K–8

Strand	Topic	K–2		3–5		6–8	
		Learning Outcomes	Garden Activities	Learning Outcomes	Garden Activities	Learning Outcomes	Garden Activities
Weather and Seasons	Names and patterns for local and regional weather	<p>Observe, describe, and name types of weather events. Understand how weather events affect humans.</p> <p>Measure, record, and graph rainfall and temperature.</p>	<p>Create a daily weather journal.</p> <p>Observe and record weather.</p> <p>Explore prior weather knowledge.</p> <p>Develop a weather word bank.</p> <p>Learn to read a thermometer and rain gauge.</p> <p>Collect, record, and graph temperature and rainfall.</p> <p>Learn Hawaiian names for rain and wind.</p>	<p>Assess natural weather events as they occur.</p> <p>Interpret observations of weather events.</p> <p>Identify the effects of weather events on human behavior.</p> <p>Recognize Hawaiian names, mo'olelo (stories), and oli (chants) for local weather patterns and phenomena.</p>	<p>Use qualitative and quantitative methods to collect and record daily weather observations over extended period of time.</p> <p>Graph or model collected quantitative or qualitative weather data (see above).</p> <p>Interpret graph or model to make predictions and draw conclusions about local weather patterns (see above).</p> <p>Research, analyze, and discuss names and patterns of local weather distinct to school's moku and ahupua'a.</p> <p>Hypothesize local weather patterns using traditional mo'olelo, oli, 'olelo no'eau (stories, chants, proverbs).</p> <p>Design and construct signage in garden using 'olelo no'eau, traditional names, and sayings for weather patterns.</p>	<p>Demonstrate knowledge of regional weather patterns and events, including ecological and cultural perspectives.</p> <p>Demonstrate knowledge of Hawaiian names to tell mo'olelo and recite oli for different weather patterns and events.</p> <p>Utilize observations about weather and seasons to make decisions regarding best garden practices (e.g., proper planting and harvesting times).</p>	<p>Use qualitative and quantitative methods to collect and record daily weather observations over extended period of time.</p> <p>Make inferences and predictions about local weather patterns based on data collection.</p> <p>Design and conduct an experiment using data from local weather patterns and events.</p> <p>Compare and contrast stories and chants (e.g., relationship between rain and lehua, wiliwili tree, and sharks).</p>
	Seasons and place	Recognize and name the seasons of your area (e.g., rainy/dry, cool/hot, long/short day).	Observe and explain seasonal differences in the school garden and local area.	Apply concepts of plant-growing cycles in relationship to seasons and the role of the sun.	Introduce Makahiki season concepts as a traditional practice.	Explain local and global seasonal patterns, including solstice and equinox.	Observe and record the sun's movement over time using a sunstick/dial.

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		Observe the role of the sun in daily and seasonal patterns.	<p>Observe and describe how the hours of daylight change throughout the year.</p> <p>Record daily temperature readings in multiple sites. Explain findings.</p> <p>Observe the impact of seasons on a nearby tree.</p> <p>Create a structure to reduce warming effects of sunlight.</p>	Relate and understand Makahiki (season) as a traditional practice.	<p>Compare and explain how Makahiki calendars differ from Western calendars.</p> <p>Design a seasonal calendar that is distinct to your school garden, applying concepts of Makahiki.</p>	Explain the relationship of day and night with wind and weather patterns.	<p>Model the relationship between sun and Earth to show how seasons are caused.</p> <p>Synthesize garden data log and observations.</p> <p>Create and implement to solve basic garden management tasks. (e.g., weeding and mulching, applying soil amendments).</p>
	The lunar cycle	<p>Observe and describe changes in the moon.</p> <p>Explain the moon's effect on plants.</p>	<p>Observe, describe, and draw changes in the shape of the moon over a lunar cycle.</p> <p>Explore the moon's influence on planting and harvesting.</p> <p>Learn a traditional chant, song, or verse relating to the moon.</p>	<p>Interpret the Hawaiian moon calendar.</p> <p>Describe the nightly and monthly names of the moon phases.</p> <p>Explain how the phases of the moon affect plant growth.</p>	<p>Make observations and explain relationships of moon phases to land, water, and self.</p> <p>Design and build models of a Hawaiian and Western moon calendar.</p> <p>Compare and contrast Hawaiian moon calendar with the Western calendar.</p> <p>Use Hawaiian moon calendar to guide planting and harvesting in the garden. Synthesize Hawaiian seasonality and Hawaiian moon calendar. Apply knowledge to garden practices.</p>	<p>Appraise the Hawaiian moon calendar as a reference and use it to inform garden activities.</p> <p>Describe how the relationship between sun, moon, and Earth creates lunar phases and eclipses.</p>	<p>Observe and record the moon's movement over time.</p> <p>Model the relationship between sun, Earth, and moon to show how phases and eclipses are caused.</p> <p>Plant, prune, propagate, and harvest according to the Hawaiian moon calendar.</p> <p>Learn and use Hawaiian moon-phase chant <i>Mele Helu Po</i>.</p>

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Names, Stories, and History of Place	Local and regional place names	<p>Know the name of the moku (district) and ahupua'a (land division) where your school is located.</p>	<p>Invite a local kupuna (respected elder) to tell stories of your school's place. Draw or describe the place based on that story.</p> <p>Ask family members to share place names.</p> <p>Introduce the ahupua'a poster.</p>	<p>Know the name of your ahupua'a and its meaning.</p> <p>Relate place names within an ahupua'a and explain the relationship to the landscape.</p> <p>Recount mo'olelo from places within the moku (district).</p>	<p>Introduce ahupua'a map.</p> <p>Compare and contrast place names and ahupua'a using historical and modern texts, as well as oral history.</p> <p>Find the location of your garden and the ahupua'a you live in.</p> <p>Interview a family or community member about traditional place names in your area. Describe how they have or have not changed over time.</p> <p>Investigate and index place names in your school's ahupua'a.</p>	<p>Reference your garden within your ahupua'a system.</p> <p>Using a map Identify and analyze place names within your ahupua'a.</p> <p>Explain the relationship between places names and culture and landscape, including the school garden.</p>	<p>Recognize and identify natural resources and occurrences in your garden that are specific to your ahupua'a or region (e.g., rains, winds, etc.).</p> <p>Identify characteristics or traits that these resources have based on your understanding of the landscape informed by knowledge of ahupua'a, place names, and mo'olelo (e.g., What is the name for the common rain/mist in Waimea? What are its characteristics?).</p> <p>Describe and identify the impact of these resources or occurrences on your garden and landscape. For example: The misty Kī pu'u rain nourishes the rainforest on the hills above Waimea, and causes mildew spots on the kabocha leaves.</p>
	Relationship of self to place	<p>Recall the story of how your family came to live in this place.</p>	<p>Students invite parents or kupuna to share a story of how their family came to live here.</p> <p>Draw, perform, or recall stories of how family and community came to live in your ahupua'a.</p>	<p>Investigate your personal relationship to the garden.</p>	<p>Write a response to a prompt or essential question (e.g., "I am the land, the land is me;" or what plant in the garden do you most identify with?).</p>	<p>Cite specific evidence to explain how you have impacted this place and this place has impacted you.</p>	<p>Draw a picture, write a poem, tell a story, sing a song, perform a dance or a chant that symbolizes your relationship to your garden or the 'āina (land).</p>

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	Local legends and stories	Retell a local story or legend about your school’s regional place.	<p>Invite a local expert or kupuna to tell stories of your school’s place.</p> <p>Draw and describe parts of the story (e.g., setting, characters).</p>	<p>Describe how legends relate to agriculture, climate, environment, and natural weather events.</p> <p>Apply legends to planting in the garden.</p>	<p>Listen to mo’olelo about native plants and apply concepts to planting, stewardship, or uses of those plants.</p> <p>Recite, chant or illustrate one mo’olelo learned in the garden.</p> <p>Using story of Hāloa, explain relationship between humans and land.</p> <p>Compare and contrast stories of other cultures and their relationships to place (land and plants).</p>	Present a minimum of two local stories or legends to an audience.	Recite, chant, or illustrate a minimum of two local stories or legends.
	Local agricultural history, practices, plants, and people	<p>Recognize and name plants in your school garden.</p> <p>Name and describe the local farming history in your area.</p> <p>Name the agricultural crops grown in your area.</p>	<p>Sort and classify plants in school garden by color, shape, smell, texture, amount, and use.</p> <p>Identify and name aloha plants.</p> <p>Identify and name plants in garden.</p> <p>Create a list of crops grown and food gathered in your area.</p>	<p>Define agriculture.</p> <p>Define and illustrate traditional field systems such as Kona and Kohala.</p> <p>Compare and contrast traditional and modern land-cultivation methods.</p>	<p>Create a timeline of agricultural history in your community.</p> <p>Introduce and research <i>Native Planters</i>.</p> <p>Visit local traditional and current agricultural sites.</p> <p>Analyze and discuss traditional and modern agriculture practices, resources, plants, and people in your area.</p> <p>Steward plants of historical relevance to your area.</p>	<p>Describe how cultural and ecological resources have shaped local land use.</p> <p>Describe how human activity has impacted local agricultural resources.</p> <p>Propagate and plant Polynesian-introduced, indigenous, and endemic plants from your region.</p>	<p>Walk or hike within your ahupua’a and identify agricultural resources and current land uses.</p> <p>Identify, propagate, grow, and use indigenous and endemic plants from your region (e.g., cordage).</p> <p>Conduct an oral history interview with long-standing farmers and practitioners in your community and share with an audience.</p>

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Geography and Direction	Direction and map orientation	<p>Identify mauka/makai; the four cardinal directions,</p> <p>Explain position words (in front of/behind, next to, right/left, front/back, above/below, over/under etc.)</p>	<p>Direction game</p> <p>K2: 1-10 Learn a verse, finger play or song about direction.</p> <p>K2: 1-10 The Position Word Scavenger Hunt</p> <p>K2: 1-11 Create a simple map of the school garden, exchange maps and locate landmarks.</p> <p>Make a map of a single garden bed and place it on a larger garden map of the entire garden.</p> <p>Teacher models direction words.</p>	<p>Explain orientation and direction.</p> <p>Apply understanding of orientation and direction to planting.</p>	<p>Point and trace the sun's path in the garden.</p> <p>Identify sun's direction and create a planting map appropriate to crops' needs.</p> <p>Use words like mauka/makai, ākau/hema, regional and geographical markers to describe directionality. Model understanding by facing these directions in the garden.</p> <p>Design and present a garden map incorporating directionality.</p>	<p>Know the cardinal directions and where the celestial bodies rise and set.</p> <p>Point towards North, South, East, West (ākau, hema, hikina, komohana).</p>	<p>Standing in your school garden, identify the cardinal directions and locate and name major geographical features using cardinal directions.</p> <p>Point and trace the sun's path in the garden; predict seasonal changes.</p> <p>At any given location, be able to turn and face your body towards "your personal home."</p>
	Major geographical features	<p>Identify and name geographical features you can see from the school garden.</p>	<p>Observation game: What do you see when you look to the north, south, etc.? Have students use their bodies to describe location of geographical features.</p> <p>Create large classroom map; include place names and geographical features.</p> <p>Create a word bank to describe geographical features from your school.</p>	<p>Create qualitative and quantitative maps.</p> <p>Identify districts, mountains, regions, and major archaeological and geographic features.</p> <p>Explain how geographic features affect growing conditions in the garden.</p>	<p>Create and interpret maps that identify districts, regions, and major geographical features.</p> <p>Recognize and name geographical features in your area.</p> <p>Create a qualitative map of where the garden is within a district.</p> <p>Identify a variety of geographical features that influence the garden</p>	<p>Name and identify important geographical features that are pertinent to your garden classroom using both Hawaiian and English names.</p> <p>Locate the garden on a map using latitude and longitude.</p> <p>Compare and contrast what can be seen from the garden with major geographical features on a map.</p>	<p>From your garden, be able to locate and identify major geographical features that impact your region.</p> <p>Within your garden, identify organisms' response to geographical features (e.g., tree growth impacted by wind patterns resulting from geographical features).</p> <p>Locate the garden on a map using latitude and</p>

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					<p>environment.</p> <p>Analyze ahupua'a map, and reproduce map in simpler form.</p> <p>Label the map to demonstrate directionality and geographical features.</p> <p>Compare and contrast the simple ahupua'a map with other maps.</p>	<p>Create a map of the garden, including major geographical features and a compass rose.</p>	<p>longitude.</p> <p>Create a map of the garden and identify areas that would be best for specific uses (e.g., windbreak, crop area, fruit tree orchard, nursery).</p> <p>Using prior and new knowledge, assess existing garden space for improvement based on geographical features.</p>
Values	Relationship of family to "place"	Identify and describe the value of the school garden.	<p>Describe or draw the school garden.</p> <p>Describe or draw your favorite plant.</p> <p>Describe or draw your favorite job in the garden.</p>	Describe how the 'āina sustains your family, school, and community.	Create a collection of family stories that describe the relationship between humans, plants, and land.	Demonstrate an understanding of the interrelationship between the health of the land and natural resources with the health of the community and families in it.	Research the history of the school community regarding land use.
	School values	Incorporate school values into the garden.	<p>Define personal values.</p> <p>Create classroom values.</p> <p>Identify potential school values (e.g., being pono).</p> <p>Identify and discuss ways students can model values in the garden classroom.</p> <p>Create garden agreements.</p>	Incorporate school values into the garden.	Identify how the school values are reflected in garden work and activities.	Incorporate school values into the garden.	<p>Identify how the school values are reflected in garden work and activities.</p> <p>Incorporate school values into garden practices.</p>

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	Hawaiian values	Practice and describe aloha ‘āina, mālama ‘āina.	<p>Explain and model behaviors, including aloha ‘āina, mālama ‘āina, asking permission, taking only what you need, leaving enough to make more, reducing waste, etc.</p> <p>Perform, illustrate, or write stories that use the sayings from ‘Ōlelo No‘eau.</p>	<p>Practice Hawaiian values.</p> <p>Explain how Hawaiian values relate to the garden.</p> <p>Explain how the kapu system can be a model for resource management.</p>	<p>Identify and give examples of Hawaiian values at work in the garden.</p> <p>Incorporate Hawaiian values and ‘ōlelo no‘eau as agreements and assessments in the garden.</p> <p>Investigate Hawaiian resource management practices and compare to modern practices.</p> <p>Read mo‘olelo about ancient times and relate kapu system to natural resource management.</p> <p>Investigate indigenous resource management practices and compare and contrast to modern practices.</p> <p>Develop a logical argument that indigenous resource management can or cannot be incorporated today.</p>	<p>Apply the principles and practices of aloha ‘āina, mālama ‘āina, kuleana, lokahi, etc. in the garden on a regular basis.</p> <p>Appraise the impact of practicing these values regularly on self, garden, and community.</p>	Use the language and values of aloha ‘āina, mālama ‘āina, kuleana, and lokahi to inform daily garden practices and activities.
	Best practices	Create and model garden agreements to ensure a respectful, safe, and cooperative learning environment.	<p>Create a garden protocol to be performed daily when entering the garden.</p> <p>Create or learn a verse, song, or oli to ask permission to enter the</p>	<p>Create and model garden agreements to ensure a respectful, safe and cooperative learning environment.</p> <p>Respect and adhere to codes of conduct for your</p>	<p>Create a garden protocol to be performed daily when entering the garden.</p> <p>Create garden agreements using traditional Hawaiian and</p>	<p>Create and model garden agreements to ensure a respectful, safe, and cooperative learning environment.</p> <p>Respect and adhere to codes of conduct for your</p>	<p>Create a garden protocol to be performed daily when entering the garden.</p> <p>Create garden agreements using traditional Hawaiian and</p>

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			<p>garden.</p> <p>Create garden agreements using traditional Hawaiian and western value words.</p> <p>Practice recording observations and measurements for a garden log.</p> <p>Follow information from Best Practices on the Hawaii Farm to School and School Garden Hui Food Safety Poster.</p> <p><i>* See Appendix: Hawaiian Cultural Values and General Learner Outcomes</i></p>	<p>garden classroom.</p> <p>Describe the consequences of personal actions in the garden.</p> <p>Maintain garden data records.</p>	<p>Western value words.</p> <p>Participate in recording daily observations and measurements for a garden log.</p> <p>Follow information from Best Practices Poster - Hawaii Farm to School and School Garden Hui (HFSSGH)</p>	<p>garden classroom.</p> <p>Describe the consequences of personal actions in the garden.</p> <p>Maintain garden data records.</p>	<p>Western value words.</p> <p>Create signage of garden agreements.</p> <p>Participate in recording daily observations and measurements for a garden log.</p> <p>Follow information from Best Practices HFSSGH poster.</p>