Theme One: A Sense of Place

Sustainable Living is Rooted in a Deep Knowledge of Place and Self.

Theme One explores our connections to place. Each school in Hawai‘i is nestled in a unique place with its own individual history, culture, community, geography, stories, and ecosystem. Each place has a different climatic zone that includes various soil types, plants and trees, insects and animals, rainfall and wind patterns. Our relationship to and knowledge of place is the foundation of our relationships with our environment, our community, and ourselves. Our ability to live sustainably on a small isolated island in the middle of the Pacific is inexorably linked to our knowledge of place. Place is the unique starting point to explore and discover our connections with language and writing, storytelling, science and social studies, and Hawaiian studies.

Who are we? Where do we live? How did we get here? Where are we going?

A Sense of Place: Sustainable Living Is Rooted in a Deep Knowledge of Place and Self
Theme 1: Curriculum Map – Grades K–2

NOTE: *Codes in* ***RED*** *(e.g., K2.1.1) in the Learning Outcomes, Garden Activities, and Classroom Extensions columns refer to curriculum resources found in the Appendix documents.*

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	CC Math Standards	NGSS Standards	HCPS III NHES Health
Weather and Seasons	Names and patterns for local and regional weather	Observe and describe types and names of weather and understand how weather affects us. Measure, record and graph rainfall and temperature.	Create a daily weather journal. Observe and record weather observations, explore prior knowledge, develop a word bank. K2.1.1 Learn to read a thermometer and rain gauge. Collect, record and graph temperature and rainfall. Learn Hawaiian names for rain or wind in your area. K2.1.2	Discuss the day's weather; record on class calendar and student calendar using weather symbols. Use data at the end of the month for analysis and comparison. Calendar Math Read *Sun and Rain – Exploring Seasons in Hawai'i* by S. Feeney	K.W.2 K.W.8 1.W.7 1.SL.4 2.W.7 2.W.8	K.MD.3 1.MD.4 2.MD.10	K-PS3-1 K-ESS 2-1 1-ESS1-1 1-ESS1-2 2-ESS1-1	
	Seasons and place	Recognize and name the seasons of your area (rainy/dry, cool/hot, long/short day) also Winter, Spring, Summer, and Fall. Observe the role of the sun in daily and seasonal patterns.	Observe and discuss seasonal differences in the garden, school campus, and surrounding area. Throughout the year, observe and discuss how the hours of daylight change over the year. Temperature exploration; use your senses and a thermometer to explore temperature in	Learn verses and songs for the seasons. K2.1.3 Post a thermometer in the classroom and chart the temperature at the same time each day. Graph the changes quarterly. Read The Reasons for Seasons by Gail Gibbons; What Makes the Seasons? by Megan M. Cash	K.W.8 K.SL.2 1.W.7 1.W.8 2.W.7 2.W.8	K.MD.1 1.MD.4 2.MD.10	K-PS3-1 K-ESS3-2 1-ESS1-1 1-ESS1-2 2-ESS1-1 SC.K.1.1 SC.1.1.1 SC.2.1.2	

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	CC Math Standards	NGSS Standards	HCPS III NHES Health
			various spaces. Observe the impact of seasons on a nearby tree. Create a structure to reduce warming effects of sunlight.	Create a seasonal Nature Table.				
	The lunar cycle	Observe and describe changes in the moon.	Observe, discuss and draw changes in the shape of the moon over a month's time. Explore the moon's influence on planting and harvesting. K2.1.4 Learn and use a chant, song or verse relating to the moon K2.1.5	Practice the song about the phases of the moon over a month. Introduce a Moon and Tide Calendar.	K.W.2 K.SL.2 1.SL.2 1.SL.5 2.W.7 2.SL.2	K.G.1 K.G.2 1.G.2 1.G.3 2.G.1 2.G.3	1-ESS1-1	
Names, Stories, and History of Place	Local and regional place names	Know the name of the moku (district) and ahupua'a (land division) where your school is located.	Invite a kupuna (local expert) to tell local stories of your school's place. Ask family members to share place names. Introduce the Ahupua'a Poster K2.1.6	Use these stories as rich prompts for a writing exercise. Draw or describe with words the part of the story that is most remembered. Make a Word Bank of Family Place Names Use the Ahupua'a Poster as a prompt for rich discussion and imagining old Hawai'i and its rich and complex land systems. How has the ahupua'a changed?	K.W.8 K.SL.2 1.SL.1 1.SL.2 2.SL.1 2.SL.3		2-LS4-1 SC.2.5.1	

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	CC Math Standards	NGSS Standards	HCPS III NHES Health
	Relationship of self to place	Share the story of how your family came to live in this place.	Students ask parents or kūpuna to share a story of how their family came to live here. Share stories with writing and pictures.	Students share stories of how their families came to this place. Stories can be told, parts of them written down and read, and drawings can accompany them. The stories can be put together into a Class Book that can be read by the teacher or students. This can also be done with audio or digital recording. Create a chronological timeline.	K.W.8 K.SL.2 1.W.3 1.W.8 2.W.3 2.SL.5			HE.K-2.5.1
	Local legends and stories	Retell a local story or legend about your school's regional place.	Invite a local expert or kupuna to tell stories of your school's area. Draw and describe parts of the story (e.g., setting, characters).	Recall the story, then draw and describe parts of the story. Share the story with another student. Who are the characters, what is the setting?	K.W.2 K.W.8 1.W.8 1.SL.4 2.W.8 2.SL.2			HE.K-2.5.1
	Local agricultural history, practices, plants, and people	Be familiar with your local farming history. K2.1.7 Recognize and name plants in your school garden. Name agricultural crops from your area.	Guided garden walk (color, shape, smell, texture, amounts) K2.1.8 Aloha Plants-plant ID. Learn names of garden plants. Sorting/classification Scavenger hunt. K2.1.9 Brainstorm a list of crops grown and food gathered from your area.	Ask, "Who lives in our school garden? What are their names?" Students collect leaves from the garden and campus then sort and classify and draw the shapes. Make leaf rubbings or imprint leaves on clay. Using the list generated from the garden, create a mural	K.W.7 K.W.8 1.W.7 1.W.8 2.W.7 2.W.8	K.CC.4 K.MD.3 1.NBT.1 1.G.1 2.MD.1 2.MD.2	2-PS1-1 2-LS4-1	

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	CC Math Standards	NGSS Standards	HCPS III NHES Health
				that tells the story of the crops that are grown and foods that are gathered in your regional area. Collect flowers to string into a lei or twist ti leaves to make lei.				
Geography & Direction	Direction and orientation	Identify mauka/makai (inland/toward the ocean), the 4 cardinal directions, and position words (in front of/behind, next to, right/left, front/back, above/below, over/under etc.).	Teacher models words of directionality. Play directionality game. K2.1.10 Learn a directionality verse and song. Have a position word scavenger hunt. K2.1.11 Create and learn to read a school garden map. Make a map of a single garden bed; place it on a larger garden map of the entire garden.	Create word bank of directional words. Develop mapping skills; learn how to read maps by understanding keys and proportions of scale.	K.L.5 1.L.5 2.L.5	K.G.1 1.G.1 2.MD.1		HE.K-2.5.1
	Major geographical features	Identify and name geographical features you can see from the garden.	Observation game: What do you see when you look to the north, south, etc.? Name these places and add to a large classroom map. K2.1.12 Generate a word bank to describe what you see.	Post a large map of your area/island showing topographical features. Keep a large Earth globe for students to access when identifying where we are in relation to the rest of the world.	K.W.8 K.L.4 1.W.7 1.L.4 2.W.7 2.SL.3	K.G.1 1.G.3 2.G.3		

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	CC Math Standards	NGSS Standards	HCPS III NHES Health
			Use your body to show the geographical features.					
Values	Relationship of family to “place”	Identify and describe the value of the school garden.	Describe the school garden using drawing or writing. Describe or draw your favorite plant. Describe or draw your favorite job in the garden.	Using the list of identified garden “values,” write a sentence that describes the value. Collect student sentences into a garden story. Students read the garden story to each other. Create a title for this story.	K.SL.2 K.SL.4 1.SL.2 1.SL.4 2.SL.2 2.SL.4			1.2.1 2.2.2 HE.K-2.5.2
	School values	Incorporate school values into the garden.	What are our school’s values? (example: Being Pono) Identify and discuss how we can model these values in the garden class.	Can our school values also be modeled in the classroom? Is the classroom different than the garden? Are there differences?	K.W.8 1.W.8 2.W.8			1.2.1 2.2.2 HE.K-2.5.2
	Hawaiian values	Practice and describe aloha ‘āina, mālama ‘āina.	Teacher models and names concepts including: aloha ‘āina, mālama ‘āina, asking permission, taking only what you need, leaving enough to make more, reducing waste, etc. Teacher uses the wise sayings from *‘Ōlelo No‘eau* as small stories to illustrate these practices. K2.1.13	Students create a personal goal where they can model one of these values at school and at home. Write the goal into a sentence. Read the goal to a friend. Draw a picture of the value. Read *Pulelehua and Māmaki* by Janice Crowl	K.SL.2 K.L.4 1.SL3 1.L.4 2.SL3 2.L.4			1.2.1 2.2.2 6.2.1 HE.K-2.6.2

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	CC Math Standards	NGSS Standards	HCPS III NHES Health
	Best practices	Follow garden agreements in order to ensure a respectful, safe and cooperative learning environment.	Students will learn a verse, song, or ‘oli and use it to ask permission to enter the garden. Establish garden agreements with students at the beginning of the year, using “value words” and refer back to them (Hawaiian cultural values and GLOs). K2.1.14 Using the Best Practices in School Gardens Poster, students model and remind each other of good garden safety practices.	Practice verse, ‘oli, or song in class. Review Garden Agreements before students come to the garden. Hang the posters of the Hawaiian GLOs in the classroom. Use the sayings as they are applicable. Hang a copy of the Best Practices in School Gardens Poster in the classroom. Follow the Food Safety Practices when preparing food in the classroom. K2.1.15	K.SL.2 K.SL.6 1.SL.1 1.SL4 2.SL.1 2.SL.4			1.2.1 1.2.3 2.2.2 4.2.3 7.2.1 HE.K-2.1.4
		Working together	Using rope for a tug of war, discuss forces and interactions, pushes and pulls. Students practice addition or subtraction sentences while jumping rope	Students can always take a break from classroom work to jump rope together and practice number sentences, times tables, or ELA, such as: describing words, action words, names of places, people, things, etc.	K.W.8 1.W.8 2.W.8	K.CC.1 1.NBT.1 2.NBT.2	K-PS2-1	1.2.2 7.2.1 HE.K-2.1.2

A Sense of Place: Sustainable Living Is Rooted in a Deep Knowledge of Place and Self
Theme 1: Grades 3–5

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extension (Suggestions for Teachers)	Common Core ELA	Common Core Math	NGSS	NHES
Weather and Seasonality	Names and patterns for local weather	Assess natural weather events as they occur. Interpret observations of weather and how it affects human behavior. Recognize Hawaiian names, mo‘olelo (stories) and oli (chants) for local weather patterns and phenomena.	Keep daily journal to record weather patterns. Graph or model these weather patterns. Introduce and encourage quantitative and qualitative weather observations. Investigate weather patterns over time; compare and contrast to current patterns to create and interpret a graph used to make predictions and draw conclusions about local weather. Research, discuss and analyze both oral and literal historical knowledge of the names and patterns for local weather unique to the school’s ahupua‘a and moku (place and district). Hypothesize local weather patterns using traditional mo‘olelo, oli, ‘ōlelo no‘eau (stories, chants, proverbs). Construct and design signage in garden using ‘ōlelo no‘eau, traditional names and sayings for weather patterns.	3 RI.1 3 RI.7 4 RI.1 4 RI.7 5 RI.1 5 RI.7	3 SL.1 4 SL.1 5 SL.1 3 SL.4 4 SL.4 5 SL.4	3.MD.3	3-ESS2.1 5-ESS1.2	NA
	Seasons and place	Recognize farming	Recognize and	3 RI.1	3 SL.1	NA	3-ESS2.1	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extension (Suggestions for Teachers)	Common Core ELA	Common Core Math	NGSS	NHES
		cycles in relationship to seasons and the role of the sun.	understand Makahiki (annual festival) season. Introduce Makahiki season concepts as a traditional practice to recognize and maximize seasonality. Critique this practice to prove how it is still relevant today. Log temperature, rainfall, and weather patterns. Use data collection to design a seasonal calendar for your school garden. Identify Hawaiian seasonality using the Hawaiian moon calendar and apply to garden practices and activities. Analyze other seasonal calendars to apply relevant concepts in developing a calendar unique to your place.	4 RI.1 5 RI.1 3 RI.7 4 RI.7 5 RI.7	4 SL.1 5 SL.1		5-ESS1.2	
	The lunar cycle	Interpret the Hawaiian moon calendar. Recognize both the nightly and monthly names of the moon phases and how they affect farming.	Use Hawaiian moon calendar to guide and track planting practices in the garden; make observations to understand relationships of moon phases to land, water, and self. Compare and contrast Hawaiian moon calendar with the western calendar.	3 RI.1 4 RI.1 5 RI.1 3 RI.7 4 RI.7 5 RI.7	3 SL.1 4 SL.1 5 SL.1	NA	5-ESS1.2	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extension (Suggestions for Teachers)	Common Core ELA	Common Core Math	NGSS	NHES
			Design a model of a moon calendar and use to collect data during different moon phases. Compare and contrast with other moon calendars. Investigate the moon's function and influence on Earth and living things in the garden.					
Place names, stories, and history (grounding)	Local and regional place names	Know the name of your ahupua'a and its meaning. Using a map, reference place names within an ahupua'a and their relationship to the landscape. Recount mo'olelo (stories) from places within the moku (district).	Use historical and modern texts to compare and contrast with oral history about place, names, ahupua'a, introduce map, identify on map where your garden is and what ahupua'a you live in. Conduct an interview with a family or community member about traditional place names in your area and how they have or have not changed over time and share these stories. Investigate place names in your school's ahupua'a and create an index of place names of your area.	3 RI.9 4 RI.1 4 W.8	3 SL.1 4 SL.1 5 SL.1	NA	NA	NA
	Relationship of self to place	Investigate your personal relationship to the garden.	Write a response to a prompt or essential question: ("I am the land, the land is me.") What plant in the garden do you identify most with?)		3 W.1 4 W.1 5 W.1	NA	NA	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extension (Suggestions for Teachers)	Common Core ELA	Common Core Math	NGSS	NHES
	Local legends and stories	Describe how legends relate to agriculture, climate, environment, and natural weather events. Apply mo'olelo (legends) to planting in the garden.	Listen to mo'olelo about native plants and apply concepts to planting, stewardship, or uses of those plants. Recite, chant or illustrate one mo'olelo or story learned in the garden. Introduce story of Hāloa to connect relationship to human and land. Compare and contrast stories of other cultures and their relationships to place (land and plants).		3 SL.1 3 SL.4 4 SL.1 4 SL.4 5 SL.1 5 SL.4	NA	NA	NA
	Local agricultural history, practices, plants, and people	Define agriculture. Be familiar with your local agricultural history. Illustrate Kona and Kohala Field systems' historical land cultivation.	Create a timeline of agricultural history in your community. Introduce and discuss research from *Native Planters.* Visit local agricultural sites. Make traditional tools. Introduce, analyze and discuss traditional agriculture practices, resources, plants and people in your area. Compare and contrast traditional to current practices. Steward plants of historical relevance to your area.		3 SL.1 4 SL.1 5 SL.1	NA	NA	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extension (Suggestions for Teachers)	Common Core ELA	Common Core Math	NGSS	NHES
Geography & Directionality	Directionality and orientation	Demonstrate understanding of orientation and directionality and apply to planting.	Identify sun's direction and grow appropriate crops. Point and trace the sun's path in the garden. Use words like mauka/makai, ākau/hema, regional and geographical markers to describe directionality. Model understanding by facing these directions in the garden. Design a garden map incorporating directionality.	Measure area of ahupua'a by counting unit squares. Convert measurements to feet, meters, miles, kilometers. Measure and define school location on ahupua'a map in terms of coordinates.	3 SL.1 4 SL.1 5 SL.1	3.MD.6 4.MD.3 5.MD.1 5.G.1	5-ESS1.1 5-ESS1.2	NA
	Major geographical features	Make and read maps (qualitative and quantitative). Identify districts, mountains, regions, major archaeological and geographic features and how they affect growing conditions in the garden.	Through observation, be able to recognize and name geographical features in your area. Make and read maps to identify districts, regions, and major geographical features. Make a qualitative map of where the garden is within a district, recognizing different geographical features that influence the garden environment. Analyze ahupua'a map, and reproduce map in a model. Label the model to demonstrate directionality and	Measure area of ahupua'a by counting unit squares. Convert measurements to feet, meters, miles, kilometers. Measure and define school location on ahupua'a map in terms of coordinates.	3 SL.1 4 SL.1 5 SL.1	3.MD.6 4.MD.3 5.MD.1 5.G.1	NA	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extension (Suggestions for Teachers)	Common Core ELA	Common Core Math	NGSS	NHES
			geographical features. Compare and contrast ahupua‘a with a map from somewhere else.					
	Relationship of family to “place”	Describe how the ‘āina (land) sustains your family, school and community.	Identify family stories and relationship to plants and varieties.		3 SL.4 4 SL.4 5 SL.4	NA	NA	NA
Values	School values	Incorporate school values into the garden.	Incorporate school values into the garden.		3 SL.4 4 SL.4 5 SL.4	NA	NA	NA
	Hawaiian values	Practice Hawaiian values and describe how they relate to the garden. Describe kapu system as a tool for resource management.	Identify and give examples of Hawaiian values at work in the garden. Use Hawaiian values and ‘ōlelo no‘eau as agreements and assessments in the garden. Investigate Hawaiian resource management practices and compare to modern practices. Read mo‘olelo about ancient times and relate kapu system to natural resource management. Investigate indigenous resource management practices and compare and contrast to modern practices. Develop a logical argument that		3 SL.4 4 SL.4 5 SL.4	NA	NA	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extension (Suggestions for Teachers)	Common Core ELA	Common Core Math	NGSS	NHES
			indigenous resource management can or cannot be incorporated today.					
	Best practices	Follow and model garden agreements in order to ensure a respectful, safe, and cooperative learning environment. Understand the consequences of personal actions in the garden.	Demonstrate garden protocol prior to entering garden. Establish or create garden agreements. Participate in recording observations and measurements for a garden log. Follow information from Best Practices HFSSGH poster.		3 SL.1 4 SL.1 5 SL.1	NA	NA	NA

A Sense of Place: Sustainable Living Is Rooted in a Deep Knowledge of Place and Self
Theme 1: Curriculum Map – Grades 6–8

Strand	Topic	6–8 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
Weather and Seasons	Names and patterns for local and regional weather	Demonstrate your knowledge of regional weather from an ecological and cultural perspective by using correct names and terminology to describe or explain regional weather. Use the Hawaiian names and be able to tell moʻolelo (stories) *and* recite oli (chants) for different weather patterns and phenomena including vog, winds, rains and cloud formations. Use observations about weather and seasons to make decisions regarding best garden practices (e.g., proper planting and harvesting times).	Regularly record quantitative and qualitative weather observations (wind speed and direction, rain, temperature) Make inferences and predictions about local weather patterns based on data. Develop a testable question based on local weather patterns and data such as how does air temperature relate to humidity Compare and contrast with knowledge gained from stories and chants. (e.g., relationship between rain and Lehua or Wiliwili tree and sharks)	Create spreadsheets and graphs from data sets collected in garden. Using data sets, compare and contrast weather patterns (over time, across the state, etc.) Read text on the causes of weather patterns. Design a model illustrating the movement of cold and warm air masses and how they affect weather. Review evidence on climate change. Create an argument for or against it.	CCSS: W.10, W.8 CCSS: S.L.1, L.1.a, L.3, L.4, L.5.c, L.6, CCSS: S.L.1, L.1.a, L.3, L.4, L.5.c, L.6,	6.SP.A.1: *Testable question* 7.SP.C.5: *Discuss how chance of rain is quantified and how this translates to the meaning of the words "likely", "unlikely", etc.* 8.SP.A.1: *Make scatterplots to consider possibilities of correlation between two sets of collected data.*	MS-ESS2-5 MS-ESS2-6	
	Seasons and place	Explain local and global seasonal patterns, including solstice and equinox. Explain the relationship of day and night with wind and weather patterns.	Observe and record the sun's movement over time using a sunstick/dial. Make particular note of Solstice and Equinox. Model the relationship between Sun and Earth to show how seasons are caused. Based on garden data log and observations, develop logical	Describe the forces and methods of heat transfer that cause wind, thermal patterns and ocean currents.	CCSS: W.7, W.10, S.L.1, L.3, L.4, L.6 CCSS: S.L.1, L.3, L.4, L.6		MS-ESS1-1 MS-ESS2-6	

Strand	Topic	6–8 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
			management tasks.(e.g., weeding and mulching, applying soil amendments)					
	The lunar cycle	Know how to use the Hawaiian Moon Calendar as a reference and use it to inform garden activities. Demonstrate the relationship between sun, moon, and earth that creates lunar phases and eclipses.	Observe and record the moon's movement over time. Model the relationship between sun, earth and moon to show how phases and eclipses are caused. Plant, prune, propagate and harvest according to the Hawaiian Moon Calendar. Learn and use Hawaiian Moon phase chant. *Mele Helu Pō.*	Using traditional texts, evaluate how the Hawaiian Moon Calendar influences farming and fishing practices.	CCSS: W.7 W.10, S.L.1, L.3, L.4, L.6 CCSS: RI.1, RI.2, RI.4, L.1.a, L.3, L.4, L.6, SL.1, SL.4, W.7, W.8, W.10		MS-ESS1-1 MS-ESS2-6	
Names, stories, and history of place	Local and regional place names	Reference your garden within your ah system. Using a map, analyze place names within an ahupua'a and their relationship to culture and landscape, including the school garden.	Recognize and identify resources in your garden and characteristics or traits that it may have based on your understanding of that landscape informed by knowledge of ahupua‘a, place names, and mo‘olelo.	Locate the garden on a map and state what resources are available based on your location within the ahupua‘a.	CCSS: SL.1, SL.4, L.3, L.4, L.5, L.6			
	Relationship of self to place	Cite specific evidence to explain how you have impacted this place and this place has impacted you.	Draw a picture, write a poem, tell a story, sing a song, perform a dance, or chant that symbolizes your relationship to your garden or the ‘āina	Significance/story of name	CCSS: SL.1, SL.4, RL.4, RL.5, RL.6, RL.7		ESS3-4	

Strand	Topic	6–8 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
			(land).					
	Local legends and stories	Present a minimum of two local moʻolelo (stories or legends) to an audience.	Recite, chant or illustrate a minimum of two local stories or legends	Compare and contrast different legends and stories with a planting activity (e.g., Hāloa/ kalo and goddess/corn).	CCSS: SL.1, SL.4, RL.4, RL.5, RL.6, RL.7			
	Local agricultural history, practices, plants, and people	Describe how cultural and ecological resources have shaped local land use. Describe how human activity has impacted local agricultural resources. Propagate and plant Polynesian introduced, indigenous, and endemic plants from your region.	Walk or hike within your ahupuaʻa and identify agricultural resources and current land uses. Identify, propagate, grow and use indigenous and endemic plants from your region (e.g., cordage)	Use Google Maps to identify topography resources and land use of your region. Conduct an oral history interview with longstanding farmers and practitioners in your community and share with an audience.	CCSS: RI.2, RI.4, SL.4, L.3, L.4, L.6 CCSS: RI.2, RI.4, SL.4, L.3, L.4, L.6		MS-LS4-2 MS-LS4-4	
Geography & Directionality	Directionality and orientation	Know the cardinal directions and where the celestial bodies rise and set. Point towards ʻākau, hema, hikina, komohana (north, south, east, west).	From your garden be able to identify the cardinal directions and be able to locate major geographical features using cardinal directions. Point and trace the sun's path in the garden; predict seasonal changes. At any given location, be able to turn and face your body towards "your personal home."	Design garden map based on geographic weather knowledge and growing zones (e.g.,, structures, slopes, trees, wind)	CCSS: SL.1, L.3, L.4, L.6	7.G.A.1; *Garden map to scale*	MS-ESS1-1	

Strand	Topic	6–8 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
	Major geographical features	Name and identify important geographical features that are pertinent to your garden classroom using both Hawaiian and English names. Locate the garden on a map using latitude and longitude. Compare and contrast what can be seen from the garden with major geographical features on a map. Create a map of the garden, including major geographical features and a compass rose.	From your garden be able to find and name major geographical features that impact your region. In your garden identify organisms' response to geographical features (e.g., tree growth impacted by wind patterns resulting from geographical features). Locate the garden on a map using latitude and longitude. Map garden areas indicating what areas of the garden space would be best for specific uses (e.g., windbreak, crop area, fruit tree orchard, nursery).	Research how ancient Hawaiians lived and utilized the land in your region based on its geographical features. Create a map of the garden, including major geographical features and a compass rose.	CCSS: SL.1, L.1.a, L.3, L.4, L.6 CCSS: SL.1, L.1.a, L.3, L.4, L.6 CCSS: SL.1, L.3, L.4, L.6 CCSS: SL.1, L.1.a, L.3, L.4, L.6			
Values	Relationship of family to this place	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.	Conduct oral histories of your family members, or longstanding farmers and practitioners in your community regarding land use and practices. Analyze health data and land use for the community and evaluate trends.				2.8.1 2.8.2
	School values	Incorporate school values into the garden.	Incorporate school values into garden practices. Identify how the school values are reflected in garden					

Strand	Topic	6–8 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
			work and activities.					
	Hawaiian values	Apply the principles and practices of aloha ‘āina, mālama ‘āina, kuleana, lōkahi, etc. in the garden on a regular basis. Appraise the impact of practicing these values regularly on self, garden, and community.	Use the language and values of aloha ‘āina, mālama ‘āina, kuleana, lōkahi, etc. to inform daily garden practices and activities.	Research in *Hawaiian Planters,* and *‘Ōlelo No’Eau* Describe how the kapu system affected resource distribution and populations (plant, animal, and human) over time. Cite evidence about the kapu system as a source of resource management.	CCSS: SL.1, SL.1.c, L.1.a, L.3, L.4, L.6 CCSS: SL.1, SL.1.c, SL.1.d, SL.2, SL.4, L.1.a, L.3, L.4, L.6			2.8.2 2.8.8
	Best practices	Respect and adhere to codes of conduct for your garden classroom. Understand the consequences of personal actions in the garden. Keep garden records.	Create a garden protocol and daily ritual for all classes in the garden. Create and follow garden agreements; make signage of garden agreements Keep a daily log to collect real data from your garden. Follow information from Best Practices HFSSGH poster.		CCSS: SL.1, SL.2, L.1, L.3, L.4, L.6 CCSS: W.8, W.10			

Weather, Season, and Direction in the Garden and their Impact on Place: A Guided Experience on the KPPCS Land

Please work in pairs. Choose the garden, field or forest.
When you hear the bell, hui up in the Center Courtyard.

I. Nature Journaling: Observe and Describe (O&D) from the Field or Garden.

1. Your Names:

2. Date and Time of Day:

3. Season:

4. Name of Place:

5. Observe and Describe (O&D) the Sun:

6. O&D the Weather:

7. Estimate or Read Temperature:

8. O&D Wind and Wind Direction

9. O&D Rain (if any)

10. O&D Clouds

Question: When you place a garden into the landscape, which 3 of the above elements are critical to consider? Why? (answer on next page).

1.

2.

3.

II. Describe the elements that define the land: Geographical features, Animals, Plants & Trees.

Describe and/or name:

3 sounds you hear	smells	3 geographical features
2 plants in the area	2 trees in the area	2 - 4 animals, insects, and birds

III. In the box below, draw what you see overhead. Label the 4 cardinal directions and put an arrow for wind direction.

IV. Find 2 different leaves that are interesting to you. Sit down, and using your pencil and drawing paper:

1. Observe each leaf carefully.
2. Without looking at the paper or lifting your pencil draw the outline, then the veins, holes, etc. of one of the leaves.
3. With the second leaf, start by drawing the center mid-rib then sketch the outline of the leaf, this time *you may look at your paper*.

Compare the 2 drawings. (draw on next page)

What is the overall feeling or thoughts you are left with when you think about this Place?
What is important to YOU?

Suggested Routine for Learning Garden Classes

Outdoor classroom management with a clear, set routine. Everyone knows what to do and where to go at all times.

1. Make work groups and choose leaders in class before coming to the garden.
2. Weather (DASH) in the garden responsibilities – bring equipment to measure.
3. Ask permission, say a prayer, or sing a song to enter the garden in a respectful manner.
4. Enter the garden; always leave bags and things at a very specific designated area.
5. Garden teacher provides a theme or idea for observation (e.g., look for insects, how are leaves arranged, sounds you hear, soil texture, etc.).
6. Two minutes of silent observation. Students should be ten feet away from each other in the garden.
7. Gather back for discussion of observation.
8. Lesson of the day. Ideas for lessons:
    a. Measurement in the garden.
    b. Identify living things and non-living things.
    c. Local plants and uses.
    d. What do plants need to live?
9. The garden teacher explains garden jobs and projects.
10. Jobs and projects in small groups.
11. Provide five-minute warning to end time.
12. Put tools and materials away neatly.
13. Gather for closing circle – discuss the lesson of the day and how it related to the jobs.
14. Moving poem – say a word or phrase that will express your feelings about the garden, or what you did or learned.
15. Exit in a respectful manner.

Inquiry and discussion on cultivating a sense of place

- Where and what is your place?
- Name of the place, and/or name of the ahupua‘a – what does it mean?
- What do we know about this place?
- What is the human impact on this place?
- What is the human history here?
- What geological attributes?
- What are the stories or mo‘olelo?
- What is this place telling us?
- What is this place known for?
- What is the climate of this area?
- How do we feel in this place?
- What are the living things in this place?
- Who lives here?
- What do you sense in this place?
- Do you have connections to the elders in this place?