



Theme Three: Nourishment

Feed Your Mind and Body with What It Needs to Stay Healthy and Flourish.

Theme Three explores our connections to food and nourishing ourselves. Food is a unique cultural experience with deep connections to land and family roots. Over the past 100 years, we have lost many of our direct connections to food and place as we became detached from our own food production. We instinctively know, however, that “you are what you eat.” School gardens create delicious opportunities for students to learn about and practice healthy lifestyles that include knowledge and practice of good nutrition, plenty of physical activity, and caring for the environment and for ourselves. School gardens create a seed to table experience that can connect healthy eating with core curriculum. All students can learn what good food is, care about how it’s grown, and strive to eat it every day. Ma ka hana ka ‘ike.

Nourishment: Feeding Our Mind and Body with What It Needs to Stay Healthy and Flourish
Theme 3: Curriculum Map – Grades K–2

NOTE: Codes in **RED** (e.g., **K2.3.1**) 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	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
Food Culture	Relationships to food via stories and memories from multiple perspectives	Recognize that different individuals, families, and communities eat different foods.	<p>Keep a food journal for one day. Draw or write. K2.3.1</p> <p>Make stone soup in fall or winter or a friendship fruit salad in spring as a class. K2.3.2</p> <p>Share your favorite food stories or memories.</p> <p>Invite community members and parents to share their food stories.</p>	<p>Keep a food journal for one day.</p> <p>Read or tell the story of Stone Soup.</p> <p>Students retell, share, write, or draw a favorite food memory.</p> <p>Connect favorite foods to Holidays</p>	<p>K.W.2 K.SL.4</p> <p>1.W.2 1.SL.4</p> <p>2.W.2 2.SL.4</p>		<p>SC.K.1.3</p> <p>SC.1.1.2</p> <p>SC.2.1.2</p>	<p>NHES K-2 1.2.1 2.2.1 7.2.1</p> <p>HE.K-2.1.4</p>
	Food traditions and celebrations, how they affect food choices and community food systems	Identify family and cultural food traditions in your local community.	<p>Conduct a family food interview and share with classmates. Ask questions like, “What kind of foods does your family eat daily?” K2.3.3</p> <p>Invite family or community members to share traditions and sample foods.</p>	<p>Students record food interview in drawings or words from memory. Share with a partner.</p> <p>Read <i>Eating the Alphabet -Fruits & Vegetables from A to Z</i> by Lois Ehlert</p> <p>Family members may want to share a favorite recipe. Practice recipe reading and measurement.</p>	<p>K.SL.1 K.SL.6</p> <p>1.SL.1 1.SL.4</p> <p>2.SL.1 2.SL.4</p>	K.MD.1	<p>SC.K.1.2</p> <p>SC.1.1.1</p> <p>SC.2.1.2</p>	<p>NHES K-2 2.2.1 4.2.2 8.2.1</p> <p>HE.K-2.1.4</p>

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
	Food is place based, and different regions around the world have distinct culinary attributes	<p>Name foods that grow in your regional area.</p> <p>Categorize locally grown foods into groups based on attributes i.e. fruits/vegetables.</p>	<p>Conduct a garden walk to identify food plants.</p> <p>Sort and classify garden plants into food groups and identify their origin.</p> <p>Create a word bank of foods grown in your area.</p> <p>Create a word bank of distinctly cultural foods eaten by your families.</p> <p>Grow at least one food from each culture represented. Taste test.</p>	<p>Students create a card game to sort fruits and vegetables. Each student draws a different fruit or vegetable. Sort and classify.</p> <p>Keep Word Banks in your classroom and integrate vocabulary.</p> <p>Create a class mural showing different cultures and respective foods represented in your community</p>	<p>K.W.7 K.W.8</p> <p>1.W.7 1.W.8 2.W.7 2.W.8</p>	<p>K.MD.3</p> <p>1.MD.4</p> <p>2.MD.10</p>	<p>2-PS1-1</p> <p>SC.K.1.1 SC.K.6.1 SC.1.1.2 SC.2.3.1</p>	<p>NHES K-2</p> <p>2.2.1 3.2.1</p>
	Relationships between food and physical/mental wellness, as well as disease prevention	<p>Know that healthy foods create healthy bodies.</p> <p>Understand the differences between whole vs. processed foods (e.g., apple vs. apple pie and apple vs. cookie).</p> <p>Recognize the differences between refined and natural sugars.</p> <p>Eat close to the source.</p>	<p>Grow, create and sample a healthy snack from the garden.</p> <p>Begin reading nutrition labels. K2.3.4</p> <p>Visit a farmers' market or produce section at a local grocery store.</p> <p>Grow herbs for tea, seasoning, or first-aid.</p> <p>Discuss "close to the source," and identify locally grown foods. Kōkua Hawai'i Foods Lesson K2.3.5</p> <p>Investigate the 'Āina Food Guide. K2.3.6</p>	<p>Children write or draw the steps of creating the healthy garden snack.</p> <p>Read and discuss simple nutrition labels.</p> <p>Post the 'Āina Food Guide Poster in your classroom. Use it as a prompt for asking about foods the children ate for breakfast or lunch.</p> <p>Invite other teachers to come to your classroom for herbal tea prepared by the students.</p>	<p>K.RL.10 K.RI.4</p> <p>1.RI.4 1.RI.10</p> <p>2.RI.4 2.RI.6</p>		<p>SC.K.1.2</p>	<p>NHES K-2</p> <p>1.2.1 1.2.3 2.2.2 2.2.3 7.2.1</p> <p>HE.K-2.1.6 HE.K-2.1.3</p>

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
Food Justice & Security	Social, economic, and environmental impacts of food systems including the energy inputs and outputs	<p>Know that food can be grown in a garden or farm, purchased at a store, harvested from the forest & ocean, and traded with friends/family.</p> <p>Be able to recall the energy inputs needed for the school garden (human energy, sun, and soil inputs).</p> <p>Understand how plants, animals, and people get their energy.</p> <p>Be able to “estimate” weight and use a scale. Weight of garden grown produce can be measured and recorded in a log. Log can be used for data discussion, graphing, or practicing math.</p>	<p>Have students grow a small garden of diverse crops and keep journal (# of hours of student work, counting and weighing harvest, tasting, etc.).</p> <p>Conduct a garden walk to identify food plants.</p> <p>Create signs for the garden.</p> <p>Tour a local farm and interview farmer. Ask questions and gather information.</p> <p>Use garden compost to grow healthy plants.</p> <p>Visit a farmers’ market or food garden in your area.</p>	<p>Ask students to share their garden journals with others.</p> <p>Create signs in more than one language for some of the garden plants with ELL class.</p> <p>Students write or draw a thank you letter to the farm or store they visited and mail the letters.</p> <p>Students write or draw their farm interview and share with class.</p>	<p>K.W.2 K.W.8</p> <p>1.W.2 1.W.8</p> <p>2.W.2 2.W.8</p>	<p>K.CC.1 K.MD.1</p> <p>1.NBT.1 1.MD.4</p> <p>2.NBT.2 2.MD.9</p>	<p>SC.K.1.3 SC.1.1.1</p>	<p>NHES K-2 1.2.1 1.2.2 3.2.1 7.2.1</p> <p>HE.K-2.6.2</p>
	Food systems, justice, security, access, affordability, and distribution	<p>Know what people and animals need to survive.</p> <p>Understand differences in access to foods needed to survive.</p> <p>Know how to access fresh food in your area (e.g., farmers’ market, supermarket, home garden, etc.).</p>	<p>Conduct a Food Drive and/or Grow a Row for the Food Basket</p> <p>Have students identify ways and places to obtain food in their region.</p> <p>Grow a simple food that students can take home to share with their family.</p> <p>Grow, share, or sell at least one food.</p> <p>Take care of a garden pet to learn empathy.</p>	<p>Ask for feedback of how different families prepared the same food taken home.</p> <p>Create a small market with other classes at a school event. Each grade grows one crop.</p> <p>Have an animal in your class that needs to be cared for by the children. Ask your parents to care for the animal during intersessions.</p>	<p>K.W.7 K.W.8</p> <p>1.W.7 1.W.8</p> <p>2.W.7 2.W.8</p>	<p>K.CC.5 K.CC.6</p> <p>1.NBT.4 2.MD.8.</p>	<p>K-LS1-1 K-ESS3-1</p>	<p>NHES K-2 1.2.1 1.2.2 3.2.2 5.2.1</p>

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
	Food discards as a valuable resource; landfill systems and redirecting discarded food; best practices.	<p>Understand where food waste goes.</p> <p>Understand how food is stored.</p> <p>Learn to identify when to harvest fruits or vegetables.</p>	<p>Investigate what happens to discarded food at school and at home.</p> <p>Learn how and when to pick a ripe fruit/vegetable to minimize waste.</p> <p>Recycle and/or weigh fresh fruit and veggie scraps from lunch or snack and add to the compost pile in the school garden.</p> <p>Create and maintain a garden worm bin.</p> <p>Create a garden bokashi composting system with two buckets. K2.3.7</p>	<p>Feed FFVP discards to Class Worm Bin.</p> <p>Use the weekly USDA FFVP Program to discuss ripeness and taste.</p> <p>Use food waste as a prompt for writing or drawing.</p> <p>Create a classroom bokashi composting system with 2 buckets. K2.3.7</p>	<p>K.W.7 K.W.8</p> <p>1.W.7 1.W.8</p> <p>2.W.7 2.W.8</p>	<p>K.MD.1 K.CC.6</p> <p>1.NBT.3</p> <p>2.MD.1</p>	<p>K-ESS3-3</p> <p>SC.K.1.2 SC.1.2.2 SC.2.1.1</p>	<p>NHES K-2 7.2.1 7.2.2</p>
	The economic value and ecological impact of a crop or product in your region	<p>Understand that one seed can turn into many or one food can be turned into multiple products.</p> <p>The garden can contribute to a family's economic health.</p> <p>Know the agricultural products that are grown in your area.</p>	<p>Student plants one bean seed, nurtures it, harvests single plant and quantifies yield. (journal and math extensions).</p> <p>Grow one crop for a student farmers' market at school. Quantify yield in pounds and dollars earned.</p> <p>Draw the kinds of foods grown in your regional area.</p>	<p>Students create a Word Bank of names of foods grown in their area.</p> <p>Using the Word Bank, create a mural of these crops. Individual students could draw & color them, cut them out and put them into a map of the area.</p> <p>If you plant one seed of lettuce or beans, how many would you get back when it goes to seed? Students count and create a total.</p>	<p>K.W.2 K.W.7</p> <p>1.W.2 1.W.7</p> <p>2.W.2 2.W.7</p>	<p>K.CC.5 K.MD.3</p> <p>1.OA.1 1.MD.4</p> <p>2.OA.1 2.MD.10</p>	<p>K-ESS3-3</p> <p>SC.K.1.3 SC.1.1.1 SC.2.1.2</p>	<p>NHES K-2 1.2.2 2.2.1 7.2.1</p>

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
	Practices that create resilient food systems (e.g., seed saving, encouraging biodiversity, nutrient recycling and water conservation)	<p>Understand, experience, and demonstrate that home gardening, composting, and seed saving leads to greater community food security.</p> <p>Explore other ways to promote community food security.</p>	<p>Conduct a Student Survey at the beginning and end of the year to identify fresh food sources at home or gathered in the environment (e.g., animals, fruit trees, garden).</p> <p>Students grow one crop to seed, save and replant seeds and/or propagate by division. K2.3.8, K2.2.14, K2.2.16</p> <p>Students share and take home seeds, cuttings, and slips/hulis to increase food security at home.</p> <p>Students maintain garden compost and greywater systems in the school garden. K2.2.7, K2.3.9</p> <p>Introduce the importance of water consumption for humans and plants.</p>	<p>Use the survey data for graphing or practicing arithmetic skills.</p> <p>Learn to fold origami seed packets.</p> <p>Make beautiful seed packets. Write the name of the seed, date, and any instructions on the packet.</p> <p>Students make a goal to grow one kind of food in a pot or in the ground at home. Write a short story or draw a picture of what happened.</p>	<p>K.SL.1 K.SL.2</p> <p>1.SL.1 1.SL.2</p> <p>2.SL.1 2.SL.2</p>	<p>K.OA.1 K.MD.3</p> <p>1.OA.1 1.OA.2</p> <p>2.OA.1 2.OA.3</p>	<p>K-ESS3-3 2-ESS2-1</p> <p>SC.K.1.2 SC.1.1.2 SC.2.8.2</p>	<p>NHES K-2 1.2.1 2.2.1 6.2.1 7.2.1</p> <p>HE.K-2.1.5 HE.K-2.7.1</p>
Food Seasons and Place	Know what grows well in your place and how and when to grow it	<p>Explore which crops grow well and identify corresponding environmental influences in each season (fall, winter, spring).</p>	<p>Propagate, grow, harvest and prepare one food crop in each growing season (fall, winter, spring).</p> <p>Try to grow the same crop in all three seasons and record observations to compare/contrast. Are there differences?</p> <p>Understand what</p>	<p>Ask questions about the seasons such as amount of light, temperature, weather, and rainfall.</p> <p>Use the season as a prompt for writing or discussion; learn seasonal verses and songs, and practice them every day.</p> <p>Use seasonal</p>	<p>K.W.7 K.SL.2</p> <p>1.W.7 1.SL.2</p> <p>2.W.7 2.SL.2</p>	<p>K.MD.2 1.MD.4 2.MD.10</p>	<p>K-LS1-1</p> <p>SC.K.1.2 SC.1.1.2 SC.2.1.2</p>	<p>NHES K-2 1.2.1</p> <p>HE.K-2.1.3</p>

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
			grows seasonally through tastings and observation in the garden and community. K2.3.10	fingerplays. K2.3.11 Create a large Seasonal Food Circle for the Classroom. K2.3.10				
	The components of your local food system	Identify where our food comes from and the roles of people in food production.	Identify local food practitioners (Farmers, Fishermen, Ranchers, Bakers, etc.). Visit a local farm or have a farmer visit you	Ask a local farmer to come and visit your class. Have the children think of questions they could ask before the visit. Use the visit as an opportunity to write or draw a thank you letter.	K.SL.2 K.SL.3 1.SL.2 1.SL.3 2.SL.2 2.SL.3			NHES K-2 2.2.1 3.2.1
	Quality foods - connecting ripe and fresh foods to optimal nutritional value and taste	Recognize quality foods - Connect ripe, fresh foods to optimal nutritional value and taste. Recognize foods that are in season.	Students can identify various stages of ripeness in produce during a taste test or FFVP program. Students experience tasting ripe and unripe fruits. Using the senses, create a word bank to describe how foods taste, what they look like, and how they feel and smell. *Identify and draw foods in season on a monthly calendar.	If your school has the USDA FFVP Program, this is an opportunity to discuss and observe the qualities of fresh and ripe with the students. Create a monthly calendar for the wall. Ask students to draw in fruits and vegetables that come ripe in that month. K2.3.10 Kōkua Hawaii Foundation's "Hawaiian Harvest" binder for information on fruits and vegetables in Hawai'i. K2.3.12	K.W.2 K.SL.4 1.W.2 1.SL.4 2.W.2 2.SL.4			NHES 6.2.1 7.2.1 7.2.2 HE.K-2.1.3

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
Food and Nourishment	Food product information and making healthy choices	We can make healthy food choices.	<p>Students learn the names of garden plants and create signage.</p> <p>Identify differences between whole and processed foods. K2.3.6</p> <p>Begin reading and discussing simple food labels.</p>	<p>Students learn names of garden plants and keep them on 3x5 cards to increase vocabulary.</p> <p>Use any opportunity to share a food label with students.</p>	<p>K.W.2 K.L.4</p> <p>1.W.2 1.L.4</p> <p>2.W.2 2.SL.2</p>			<p>NHES K-2 1.2.1 7.2.1 8.2.1</p> <p>HE.K-2.1.3 HE.K-2.1.5</p>
	The benefits of a balanced and diverse diet	<p>The foods we eat provide energy and nutrients that we need to survive and be healthy.</p> <p>Eat a Rainbow, Rethink Your Drink, My Eat Local Hawai'i Plate</p>	<p>Eat a Rainbow- Students identify whole foods that are different colors and discuss their benefits. See What's Under the Rainbow.</p> <p>Grow a rainbow garden; harvest and create a rainbow salad.</p> <p>Grow AINA Food Group gardens (bodybuilding garden, protective garden, etc.) K2.3.7</p> <p>Students discuss and then create a healthy snack from selected foods.</p> <p>Diversity in the diet, discuss what that means. Use My Eat Local Hawaiian Plate K2.3.13</p> <p>Use a 'sip and swallow' model to</p>	<p>Students gather healthy snack recipes and create a classroom cookbook of healthy snacks that can be easily made at home. Share with families</p> <p>Print and post Kōkua Hawai'i Foundations' 'Āina Nutrition Education Food Guide. Refer to the guide when eating the FFVP snack.</p> <p>Post a copy of My Eat Local Hawaiian Plate. K2.3.13</p> <p>Students could have refillable water bottles at their desk.</p>	<p>K.W.2 K.SL.2</p> <p>1.W.2 1.SL.2</p> <p>2.W.2 2.SL.2</p>		<p>K-LS1-1</p> <p>SC.K.1.2</p> <p>SC.1.3.1</p> <p>SC.2.3.1</p>	<p>NHES K-2 1.2.1 6.2.1 7.2.1 8.2.1 8.2.2</p> <p>HE.K-2.1.3 HE.K-2.1.5</p>

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
			show that people, like plants, need water to survive and thrive.					
	The relationships between healthy soil, healthy food, and healthy people	Healthy soils grow healthy plants. Healthy plants make healthy animals and people.	Learn and Sing, “Dirt Made My Lunch” K2.2.7 Use compost to add health to the soil in the garden beds. Harvest food from the garden, wash and sample.	Practice “Dirt Made My Lunch.”	K.SL.6 1.SL.4 2.SL.4	K.MD.1 K.MD.3 1.OA.3 1.MD.2 2.MD.1 2.MD.4	K-LS1-1 1-LS1-1 SC.1.5.2 SC.2.3.1	NHES K-2 1.2.1 1.2.2 7.2.1 HE.K-2.1.3
	Foods provide different flavors and nutritional attributes	Students will experience new flavors by tasting a variety of familiar and unfamiliar foods.	Taste fresh foods from the garden and describe their flavors in a food journal or discussion.	Encourage students to try new foods. One Bite. Students can also keep a food journal in their desk. The FFVP program will provide great opportunities for drawing or describing flavors.	K.W.7 K.SL.1 1.W.7 1.SL.1 2.W.7 2.SL.1		SC.K.1.1 SC.1.1.2 SC.2.1.2	NHES K-2 2.2.2 6.2.1 7.2.1 8.2.2
Food Practices and Science	Preservation and processing of food crops	Process garden crops in a variety of ways.	Students grow, process and preserve one garden food (suggestions: grow and dry herbal teas, fruit, and vegetables; freeze vegetables and fruit). Process garden foods to create products such as pesto, salsa, guacamole, salad dressing, smoothies	Use student-grown herbs to make a tea during the winter months. STEM: Design a solar dryer, discuss, draw a model, and build best design. Dry herbs for tea, or bananas or other fruit.	K.W.7 K.SL.5 1.W.8 1.SL.5 2.W.8 2.SL.5		K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	HE.K-2.1.3 HE.K-2.1.5

Strand	Topic	K–2 Learning Outcomes	Garden Activities	Classroom Extensions	Common Core ELA	Common Core Math	NGSS / HCPS III Science	HCPS III NHES Health
	Prepare, share and serve healthy, delicious food	Be able to prepare, share and serve healthy, delicious food.	Students make healthy snacks to share such as wraps, summer rolls, smoothies, salad and salad dressing, fruit salad. K2.3.14	Students recall steps taken to create a healthy snack and then write or draw steps in order. Take home and share with family.	K.W.2 K.W.6 1.W.7 1.W.8 2.W.6 2.W.8			NHES K-2 6.2.1 7.2.1 8.2.2 HE.K-2.1.3 HE.K-2.1.5
	Best practices to harvest and prepare foods safely.	Teacher models good food safety procedures for harvesting, washing, cutting and preparing fresh foods. *Model hand washing K2.1.15	Students have many opportunities to model good food safety practices preparing snacks from the garden. Model hand washing. Model best practices for harvesting, washing produce, and cutting produce.	Post the Best Practices in School Gardens Poster in your classroom. Refer to it for good food safety practices. K2.1.15	K.W.2 K.W.7 1.W.2 1.W.7 2.W.2 2.W.7			NHES K-2 1.2.3 7.2.1 7.2.2 HE.K-2.2.4 HE.K-2.1.7

Nourishment: Feeding Our Mind and Body with What It Needs to Stay Healthy and Flourish
 Theme 3: Grades 3–5

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
Food Culture	Articulate relationships to food via stories and memories from multiple perspectives	Recount stories around food and family food traditions. Draw conclusions about the relationships between food and family.	Interview a family member to create a family food story. Research food that was important in your family. Create a garden cookbook based on family food stories. Introduce diverse garden food plants. Map origin and share cultural uses of plants. Invite family members to garden to share food story.	Compare and contrast food stories from various cultures. Interview a family member to create a family food story. Research food that was important in your family. Create a family cookbook.	SL.3.1 SL.3.3 SL.4.1 SL.4.3 SL.5.1 SL.5.3	NA	5-ESS3-1	2.5.1 2.5.2
	Understand and define food traditions and celebrations and how they affect food choices and community food systems	Listen to a variety of food stories from a variety of cultures. Identify a family food tradition that has an impact on food choice and community.	Identify holiday meals among various students. Observe how holiday meals impact food choice and community. Process and prepare a plant-based traditional dish. Grow and prepare one traditional Hawaiian food crop. Harvest, compose a still life and watercolor a cornucopia.	Compare and contrast food stories from various cultures. Develop an argument that connects food stories to resource management. Create a multi-media presentation to share findings with class and community.	SL.3.1 SL.3.3 SL.3.5 SL.4.1 SL.4.3 SL.4.5 SL.5.1 SL.5.3 SL.5.5	NA	5-ESS3-1	2.5.2

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
	Appreciate that food is place-based and that different regions around the world have distinct culinary attributes	Different regions around the world have distinct culinary attributes.	<p>Conduct a survey about the culinary cultures represented by garden students.</p> <p>Grow simple gardens with cultural culinary food plants, e.g., Hawaiian, Filipino, Chinese, European, etc.</p>			NA	5-ESS3-1	2.5.2
	Recognize quality foods and understand relationships between food and physical/mental wellness as well as disease prevention	Infer that eating habits and diet choices directly affect physical/mental wellness and disease prevention.	<p>Identify and describe favorite food plants.</p> <p>Examine 'Āina Food Guide. Grow and taste one food from each category: protective foods, energy foods, bodybuilding foods, brain foods, and caution foods.</p> <p>Define 'Close to source,' and provide evidence from the garden.</p> <p>Explore the link between good food and good health through evaluating a food log.</p> <p>Make a poultice with comfrey, aloe, etc. and understand how garden products can support health.</p>	<p>Generate and compare solutions to create nutritional opportunities for food-insecure regions.</p> <p>Create multi-media presentation of the solutions to share with class, community.</p>	<p>SL.3.1 SL.3.3 SL.3.5</p> <p>SL.4.1 SL.4.3 SL.4.5</p> <p>SL.5.1 SL.5.3 S.L.5.5</p>	NA	<p>5-LS2-1</p> <p>3-5-ETS1-2</p>	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
Food Justice & Security	Analyze the social, economic, and environmental impacts of food systems including the energy inputs and outputs	Understand how a modern food system works in context of social, environmental, and economic systems.	<p>Examine agricultural practices of various cultures.</p> <p>Log planting and harvest data, record weight of harvest. Identify patterns in data.</p> <p>Identify social, economic and environmental inputs needed to grow plants.</p> <p>Compare and contrast a garden task completed by manual labor versus machine.</p> <p>Identify and model wise use of resources.</p> <p>Draw a model of various food systems including energy inputs and outputs.</p> <p>Compare and contrast various inputs in different environments needed to grow plants.</p> <p>Graph seasonal data from garden logs.</p>	<p>Use a bar graph to represent a food system, food miles, inputs and outputs.</p> <p>Measuring distances on a map of a food system.</p> <p>Show knowledge of relative size – feet vs. miles. Local food close by (feet) vs. imported (miles).</p> <p>Create multi-media presentation of the solutions to share with class, community.</p>	<p>SL.3.5 3.SL.4 3.RI.1 3.RI.2 3.RI.3</p> <p>SL.4.5 4.RI.1 4.RI.2 4.RI.3</p> <p>SL.5.5 5.RI.2</p>	<p>3.MD.B.3 3.MD.B.4 4.MD.A.1</p>	<p>3-LS4-3 3-LS4-4</p>	NA
	Analyze food systems for justice, security, access, affordability, and distribution. Be able to advocate for food justice and security	Identify food justice and injustice. Identify food security and insecurity.	<p>Examine global and/or local instances of food justice and injustice.</p> <p>Identify where foods come from and contrast with foods from the garden.</p> <p>Create a food map for students' home. Compare and contrast locally grown food to</p>	<p>Use a bar graph to represent a food system, food miles, inputs and outputs.</p> <p>Measuring distances on a map of a food system.</p> <p>Show knowledge of relative size - feet vs. miles. Local food close</p>	<p>3.SL.4 3.RI.1 3.RI.2 3.RI.3</p> <p>4.RI.1 4.RI.2 4.RI.3</p> <p>5.RI.2 5.SL.4</p>	<p>3.MD.B.3 3.MD.B.4 4.MD.A.1</p>	<p>3-5-ETS1-2 <i>Generate and compare possible solutions to food insecurity.</i></p>	8,5,2

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
			<p>imported food (e.g., compare and contrast Ka'ū oranges vs. Sunkist oranges).</p> <p>Design a barter system where garden resources are identified for exchange with other goods.</p> <p>Read about food deserts.</p> <p>Map where foods come from.</p> <p>'Āina in Schools' "Comparing Food Systems" food justice information.</p> <p>Define food map.</p>	<p>by (feet) vs. imported (miles).</p> <p>Create multi-media presentation to share findings.</p>				
	Understand that discarded food is a valuable resource. Identify and apply practices that eliminate and/or redirect discarded food from landfill systems	<p>Define and describe landfills.</p> <p>Define and describe food waste.</p>	<p>Create a vermiculture system and utilize castings as fertilizer.</p> <p>Incorporate garden snack discards into garden compost system. Layer with appropriate amounts of green/brown components.</p> <p>Compare and contrast volume of food discards in a classroom versus a school-wide lunch program.</p> <p>Examine a trashcan after lunch. Identify food waste (i.e., food waste audit).</p>	<p>Define and design a waste reclamation model for a variety of locations.</p> <p>Generate and compare possible solutions to landfill waste</p> <p>Create multi-media presentation to share findings.</p> <p>Unit cubes of food waste.</p>	<p>SL.3.5</p> <p>SL.4.5</p> <p>SL.5.5</p> <p>5.SL.4</p>	5.MD.3	<p>3-5-ETS1-1</p> <p>3-5-ETS1-2</p>	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
			<p>Identify practices that produce food waste.</p> <p>Identify local landfill systems.</p> <p>Identify local wastewater systems.</p>					
	Understand the economic value and ecological impact of a crop or product in your region	Understand crops grown for economic value.	<p>Create a model or drawing demonstrating the cycle of a single crop or product (bananas) from farm to table. Grow that product in garden.</p> <p>Map local crop production and/or food sources.</p> <p>Make an agricultural map showing kinds of foods grown in your regional area.</p>	<p>Correlate crop or seed cycle to the native habitat of that crop or seed.</p> <p>Generate and compare possible solutions to dispersing seeds in various food-insecure locations.</p> <p>Formulate an argument about how human activity has changed crop or seed cycle.</p> <p>Create multi-media presentation to share findings. Report findings to classroom.</p>	<p>3-LS4-3</p> <p>3-LS4-4</p> <p>3.SL.1</p> <p>3.SL.4</p> <p>3-ESS2-2</p> <p>5.SL.4</p> <p>5.SL.5</p>	<p>3.MD.3</p> <p>3.MD.4</p> <p>4.MD.1</p> <p>4.MD.2</p> <p>5.MD.5</p>	3-5-ETS1-2	NA
	Identify practices using on-going observation that create resilient food systems, e.g., seed saving, encouraging biodiversity, nutrient recycling, and water conservation	Define food security and food insecurity. Identify practices that can help secure food.	<p>Visit a local farm that is practicing regenerative/sustainable agriculture.</p> <p>Design and build greywater and/or rain catchment systems.</p> <p>Identify wastewater systems in the garden and community.</p> <p>Listen to the experiences of a local</p>	<p>Investigate environmental changes that affect food security.</p> <p>Generate and compare solutions to food insecurity.</p> <p>5.SL.4 Create multi-media presentation to share findings. Report findings to classroom.</p>	<p>3.SL.1</p> <p>3.SL.4</p> <p>3.RI.3</p> <p>3.RI.1</p> <p>3.RI.2</p> <p>4.SL.1</p> <p>4.RI.1</p> <p>4.RI.2</p> <p>4.RI.3</p> <p>5.RI.2</p> <p>5.SL.1</p> <p>5.SL.5</p>		3-LS4-3 3-LS4-4	NA

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
			<p>bee farmer. Grow plants to attract bees. Observe bees in the garden. Count and record the numbers of bees observed and what plants attract the most bees.</p> <p>Grow and save seed from at least one crop. Identify open-pollinated and heirloom seeds. Read seed packets to identify seed stories.</p>					
Food Seasons and Place	Know what grows well in your place and how and when to grow it	Summarize processes used to grow a crop. Summarize processes used to consume the crop. Predict inputs and systems needed for success.	<p>Design and create a garden bed, planning for seasonal variations in order to produce optimal success.</p> <p>Read seed catalogues and predict what varieties will grow well for your microclimate.</p> <p>Use seasonal produce to preserve, share, or consume.</p> <p>Understand the concepts of warm and cool, wet and dry weather crops.</p> <p>Identify and plant according to the season.</p> <p>Identify pests in season.</p> <p>Examine Hawaiian Moon Calendar. Observe seasons for fishing and planting. Plant in the garden</p>	<p>Investigate climate differences on crop production.</p> <p>Create multi-media presentation to share findings. Report findings to classroom.</p> <p>Analyze and harvest activities for volume.</p> <p>Track garden harvest over time.</p>	<p>3.RI.1 3.RI.2 3.RI.3</p> <p>3.SL.1 3.SL.4</p> <p>4.RI.1 4.RI.2 4.SL.1</p> <p>5.RI.2 5.NF.2 5.SL.1 5.SL.4 5.SL.5</p>	<p>3.MD.2</p> <p>4.MD.2 4.MD.1</p> <p>5.MD.5 5.G.2</p>	<p>3-LS4-3 3-LS4-4</p>	

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
Food and Nourishment			according to Hawaiian moon calendar.					
	Understand the components of your local food system	Identify local food systems.	<p>Visit a local farm or have a farmer visit the school garden.</p> <p>Invite an animal-farming expert.</p> <p>List local farmers' markets.</p>	<p>Generate and compare solutions to create food procurement opportunities for food-insecure regions.</p> <p>Create multi-media presentation to share findings. Report findings to classroom.</p>	<p>3.SL.1</p> <p>3.SL.4</p> <p>4.SL.1</p> <p>5.SL.1</p> <p>5.SL.4</p> <p>5.SL.5</p>		3-5-ETS1-2	NA
	Recognize quality foods: connect ripe, fresh foods to optimal nutritional value and taste	Define quality foods.	<p>Compare and contrast taste of foods from the garden to canned, frozen, or dried foods.</p> <p>Compare and contrast taste of locally grown vs. imported (banana from Hawai'i vs. banana from Ecuador)</p> <p>Connect ripe, fresh foods to optimal value and taste. Taste Tests in the garden or classroom.</p> <p>One-word poem utilizing descriptive language about garden experiences.</p>	<p>Generate and compare solutions to create nutritional opportunities for food-insecure regions.</p> <p>Create multi-media presentation to share findings. Report findings to classroom</p>	<p>3.SL.1</p> <p>3.SL.4</p> <p>3.RI.1</p> <p>3.RI.2</p> <p>3.RI.3</p> <p>4.SL.1</p> <p>4.RI.1</p> <p>4.RI.2</p> <p>5.SL.1</p> <p>5.SL.4</p> <p>5.SL.5</p> <p>5.RI.2</p>		<p>5-PS1-2</p> <p>5-PS1-3</p> <p>3-5-ETS1-2</p>	<p>7.5.2</p> <p>5.5.1-6</p>
	Use food product information to discern healthy choices	Observe that products from the store have nutritional labels. Learn to read food labels.	<p>Use "Aina Food Guide" to classify and label garden crops.</p> <p>Describe various representations of foods (commercials, magazines, store shelves). Compare</p>	<p>Create multi-media presentation to share findings.</p>	<p>3.SL.4</p> <p>3.RI.1</p> <p>3.RI.2</p> <p>3.RI.3</p> <p>4.RI.1</p> <p>4.RI.2</p> <p>5.SL.4</p>		5-ESS3-1	<p>3.5.1</p> <p>2.5.5</p>

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
			<p>and contrast representations with actual food grown in the garden.</p> <p>Practice reading food labels. Discuss whole and processed foods.</p> <p>Identify and discuss food labeling and marketing strategies, what does “natural” mean.</p> <p>Have students create an advertisement for a fresh fruit or vegetable.</p>		5.RI.2			
	Know the benefits of a balanced, diverse diet	<p>Understand nutritional benefits from different foods.</p> <p>Understand eating a variety of foods provides optimal nutrition.</p>	<p>Introduce “Eating from a Rainbow.” Whole Food Foundation’s “What’s under the Rainbow.” Identify nutritional attributes and tastes provided by different colored foods.</p> <p>Introduce “Rethink Your Drink HI.” Identify and taste a variety of drinks made from garden ingredients.</p> <p>Investigate “My Eat Local Hawai’i Plate”.</p> <p>Create and design restaurant menus based on healthy food servings.</p> <p>Experiment with feeding garden plants only water, soda, or Gatorade. Record observations.</p>	<p>Measure and graph sugar in drinks.</p> <p>Create multi-media presentation to share findings. Report findings to classroom</p>	<p>3.SL.1 3.SL.4</p> <p>4.SL.1</p> <p>5.SL.1 5.SL.4 5.SL.5</p>	3.MD.3		7.5.2

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
Food Practices and Science	Understand the relationships between healthy soil, healthy food, and healthy people	Define and understand soil/plant nutrition cycle and its effect on human health.	<p>Observe and describe the Soil/Plant Nutrition Cycle.</p> <p>Draw a diagram indicating Soil/Plant Nutrition Cycle.</p> <p>Prepare, amend, turn, and harvest compost to add to garden beds.</p> <p>Harvest food from the amended garden bed and discuss process used.</p> <p>Prepare and share the snack.</p> <p>Relate healthy soil with healthy crops and good nutrition.</p>	<p>Graphing data from diagram generated in garden.</p> <p>Create multi-media presentation to share findings.</p>	<p>3.RI.1 3.RI.2 3.RI.3</p> <p>4.RI.1 4.RI.2</p> <p>5.RI.2</p>	<p>3.MD.3</p> <p>5.SL.4</p>	4-LS-1	1.5.1 7.5.2
	Recognize and appreciate that foods provide different flavors and nutritional attributes	Recognize and appreciate that foods provide different flavors and nutritional attributes.	<p>Taste a variety of herbs; describe their flavors and name the herb.</p> <p>Compare and contrast foods prepared with and without herbs.</p>	<p>Investigate how climate influences crop selection.</p> <p>Report findings to classroom.</p>	<p>3.RI.1 3.RI.2 3.RI.3 3.SL.1 3.SL.4</p> <p>4.RI.1 4.RI.2</p> <p>5.RI.2 5.SL.1 5.SL.5</p>		<p>3-LS4-3 3-LS4-4 3-ESS2-2</p>	1.5.1 7.5.2
	Know how to preserve and process a variety of food crops	Identify various food preservation methods. Identify various food processing methods.	<p>Compare and contrast various food preservation methods.</p> <p>Grow, process, and/or preserve at least one food from the garden. Compare tastes.</p>	<p>Investigate building a solar dehydrator.</p> <p>Report findings to classroom.</p>	<p>3.RI.1 3.RI.2 3.RI.3 3.SL.1 3.SL.4</p> <p>4.RI.1 4.RI.2 4.SL.1</p>		<p>3-5-ETS1-2 3-5-ETS1-1</p>	2.5.6

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
			<p>Create garden products such as pesto, salsa, guacamole, salad dressing, smoothies</p> <p>Design and build a solar dehydrator.</p>		<p>5.RI.2 5.SL.1 5.SL.5</p>			
	Be able to prepare, share and serve healthy, delicious food	Understand a variety of food preparation techniques.	<p>Prepare a healthy snack with foods from the garden and then create a recipe.</p> <p>Use a recipe to create a garden snack.</p> <p>Investigate alternative methods for cooking.</p>	<p>Investigate how climate affects food preparation.</p> <p>Investigate how to build a solar dehydrator.</p> <p>Report findings to classroom.</p>	<p>3.RI.1 3.RI.2 3.SL.1 3.SL.4</p> <p>4.RI.1 4.RI.2 4.SL.1</p> <p>5.RI.2 3.RI.3 5.SL.1 5.SL.5 5.NF.2 (word problem using fractions)</p>	5.NF.2 (word problem using fractions)	<p>3-LS4-3 3-ESS2-2 3-5-ETS1-1 3-5-ETS1-2</p>	<p>2.5.4 8.5.2</p>
	Use best practices to harvest and prepare foods safely	Identify and describe protocol to harvest, clean, and prepare foods from the garden.	<p>Demonstrate use of best practices while harvesting and preparing food, and while cleaning utensils and dishes.</p> <p>Demonstrate "claw method" when cutting produce.</p> <p>Students demonstrate food safety practices by creating a poster or short skit.</p>	<p>5.SL.4 Create multi-media presentation to share findings.</p> <p>Compare and contrast garden systems with other cultural systems.</p> <p>Report findings to classroom</p>	<p>3.SL.1 3.SL.4</p> <p>4.SL.1</p> <p>5.SL.1 5.SL.5</p>		3-5-ETS1-2	<p>1.5.3 2.5.4</p>

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core-ELA	Common Core- Math	NGSS	NHES
	Use best practices with food cooking methods		Prepare a single ingredient from the garden in three different ways, e.g.,, poaching, stir fry, roasting.	Investigate how climate influences food cooking methods and alternatives. Report findings to classroom.	3.RI.1 3.RI.2 3.RI.3 4.RI.1 4.RI.2 4.SL.1 5.RI.2 5.SL.1		3-5-ETS1-2 3-LS4-3 3-ESS2-2	

Nourishment: Feeding Our Mind and Body with What It Needs to Stay Healthy and Flourish
 Theme 3: Curriculum Map – Grades 6–8

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
Food Culture	Articulate relationships to food via stories and memories	Critically evaluate how personal food choices are impacted and influenced by media, culture, community, peers, family and self.	Choose and grow foods in the garden that are important to students, their families, community and culture. Prepare and eat these foods in the garden. Record and share stories about these crops. Examine advertising techniques, find common examples. Create slogans for healthy garden foods.			CCSS: 6.NS.1		2.8.1, 2.8.2, 2.8.3, 2.8.4, 2.8.5
	Understand and define food traditions and celebrations and how they affect food choices and community food systems	Recognize how values shape eating habits and foods available in the community. Recognize the factors that shape food traditions (e.g., seasonality, scarcity and abundance, geographical resources).	Describe a food-based tradition in your family. <ul style="list-style-type: none"> Choose and grow foods in the garden that are traditionally important. Prepare and eat these foods from the garden. Record and share traditions about these crops. 					2.8.1, 2.8.2, 2.8.3, 2.8.4, 2.8.5
	Appreciate that food is place-based and that different regions around the world have distinct culinary attributes	Compare and contrast foods from different locales. Identify distinguishing flavors and characteristics.	Propagate and plant different beds that represent cultural and regional foods in your garden Compare and contrast how crops from different regions grow in your environment.					2.8.1, 2.8.2, 2.8.3, 2.8.4, 2.8.5

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
	Recognize quality foods and understand relationships between food and physical/mental wellness, and disease prevention.	Connect what is eaten with emotional and physical states. Describe what wellness looks like. Choose healthy options daily that connect to long-term health. Recognize quality foods.	<p>Discuss how time spent in the garden influences students' food choices.</p> <p>Taste and eat fresh foods from the garden; recognize the qualities of fresh, healthy food.</p> <p>Try and describe fresh foods in the garden to expand the palate. Identify different taste profiles: sweet, sour, bitter, salty, umami</p> <p>Compare, contrast and evaluate garden-grown with frozen, canned and fresh, store-purchased produce.</p> <p>Dialogue about diabetes, heart disease etc., followed by a walk (lowers glycemic index) and preparation of a healthy snack.</p> <p>Make herbal teas. Research nutritional values of foods grown in the garden and taste them!</p>	<p>Create a food and mood log.</p> <p>* See Appendix: 'Āina in Schools' "Body Talk Hunger Scale."</p>	CCSS: W.10		MS-LS1-8	2.8.7, 2.8.8, 2.8.9, 7.8.1, 7.8.2, 7.8.3
Food Justice & Security	Understand the social, economic, and environmental components of food systems	Understand the components of your local food system. Recognize quality foods and where to obtain them.						

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
	Explain the energy inputs and outputs required by food systems	Characterize differences between local and imported food crops and various growing systems in regards to energy inputs and outputs.	<p>Compare and contrast the same food from various sources.</p> <p>Compare garden grown foods with pre-packaged foods.</p> <p>Assess how far the foods traveled, the number of people involved in handling, and the economic and environmental impacts. Use all senses to appraise the quality (e.g., taste, appearance, smell etc.).</p> <p>Using garden logs, calculate and analyze garden production from garden logs. Present findings.</p> <p>Recognize quality foods and identify where to obtain them.</p> <p>Analyze food from various sources including farmers' market, grocery store, and garden for impacts on social, economic and environmental systems.</p> <p><i>*See Appendix:</i> Film: Food Chains (explores social impact of ag).</p>					3.8.1, 3.8.3, 5.8.1, 5.8.2, 5.8.3, 5.8.4, 5.8.5, 5.8.6, 5.8.7
	Understand how food systems, food justice, and food security	Understand abundance, scarcity and access to quality	Describe a safe, secure time (in relation to food).	Read a story about a community/individuals who experience food	CCSS: W.10			1.8.1, 1.8.2, 1.8.3, 8.8.1, 8.8.2, 8.8.3

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
	<p>contribute to food access, affordability and distribution.</p> <p>Understand the relationship between advocacy and policy as they relate to food</p>	<p>foods.</p> <p>Advocate for food security.</p>	<p>Cultivate crops that represent food security in your community.</p> <p>Construct a plan to use food from your school garden to contribute to food justice and security in your community. (eg.grow 1 bed for the food basket, or distribute some produce to the elderly).</p> <p>Advocate for food justice and security. (grow, teach distribute, etc.)</p>	<p>insecurity and food injustice. Write a response in a journal and share thoughts with peers.</p> <p>Discuss and debate food labeling, food origin, etc.</p> <p>Create a public Service Announcement</p> <p>Identify imported and local ingredients in school food service.</p> <p><i>* See Appendix: Center for Ecoliteracy, <u>Nourish</u>, "School Food Audit"</i></p>	<p>SL.1.c, SL.4, SL.5</p> <p>L.1.a L.3 L.4,</p>			
	<p>Understand that discarded food is a valuable resource. Identify and apply practices that eliminate and/or redirect discarded food from landfill systems.</p>	<p>Develop awareness of food waste and reinforce routines that eliminate and/or redirect food from landfill systems.</p>	<p>Using 5 gallon buckets, determine volume and weight, and record food waste from lunch. Make comparisons over time. Identify mean, median and mode of waste, and annual totals for school and individual students.</p> <p>Create a strategy (e.g., taking smaller portions) and a system to generate less food waste in your garden, classroom or cafeteria. (e.g., using food waste as animal food, vermicompost, Effective Microorgaisms, or in compost piles in the garden).</p>	<p>Identify ways of sharing leftovers and excess produce with community organizations that support food security (e.g., The Food Basket).</p>	<p>CCSS: SL.1 SL4</p>	<p>6.SP.B.5.A</p> <p>6.SP.B.5.B</p> <p>6.SP.B.5.C</p> <p>6.SP.B.5.D</p> <p>8.G.C.9</p>		

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
			<p>Incorporate garden snack discards into garden compost system. Layer with appropriate amounts of nitrogen/carbon.</p> <p>Discuss how discards can become garden inputs. Connect to garden nutritional cycles.</p>					
	Understand the economic value and ecological impact of a crop or product in your region.	<p>Appreciate that gardening yields valuable resources.</p> <p>Do a cost analysis and simple ecological impact assessment of growing a crop in your garden.</p> <p>Know that individual choice has an impact on the larger food system. (Vote with dollars and actions.)</p>	<p>Grow crops to sell at a farm stand.</p> <p>Harvest, record, weigh and log garden crops. Compare and contrast prices across locations.</p> <p>Identify foods grown in various climate zones in your region.</p>	<p>Form a pen pal relationship between students in different regions to discuss food costs and locally grown foods.</p> <p>Understand the economic and ecological values of choosing locally grown foods by calculating Google miles.</p>		<p>6.RP.A.2</p> <p>7.RP.A.1</p>	<p>MS-ETS1-1</p> <p>MS-ETS1-2</p>	
	Identify, design, and practice techniques that build resilient food systems (e.g., seed saving, encouraging biodiversity, nutrient recycling and water conservation).	<p>Recognize that a biodiverse system is a resilient system.</p>	<p>Conduct a biodiversity survey in your school garden. Observe relationships which indicate resilience or imbalance in your garden system.(e.g., aphids and ladybugs)</p> <p>*See Appendix: Bioblitz Survey</p> <p>Recognize and describe local honey production. Discuss pollination and local food security. Learn about bees from local beekeeper. Identify</p>	<p>Compare and contrast various economic systems using garden produce.</p>			<p>MS-LS4-4</p> <p>MS-LS2-2</p>	

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
		Know the process and functions to save and safely store seeds.	<p>pollinators in school garden.</p> <p>Select a plant with desirable traits to save seeds from. Save, store, and propagate seed.</p> <p>Conduct interviews with community members to create seed stories. Collect and share seed stories.</p>					
Food Seasons and Place	Know what grows well in your place and how and when to grow it.	Know what grows well in your place and how and when to grow it.	<p>Propagate, grow, harvest and prepare at least three food crops during the appropriate season.</p> <p>Evaluate school lunches using the concepts of seasonality and geographic source.</p> <p>Grow, document and evaluate varieties of the same crop. Observe the growth rate and vigor of the varieties.</p> <p>Select a successful variety to propagate based on data gathered from growing over successive plantings and selection. Identify and treat for pests in season</p> <p>Examine Hawaiian Moon Calendar. Observe seasons for fishing and planting.</p>			6.SP.B.4 6.SP.B.5.A 6.SP.B.5.B 6.SP.B.5.C 6.SP.B.5.D 7.SP.A.1 7.SP.A.2 7.SP.B.3 7.SP.B.4 8.SP.A.1	<p>MS-LS2-1</p> <p>MS-LS2-3</p>	

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
			Plant in the garden according to moon calendar.					
	Understand the components of your local food system.		Utilize the fish waste in the garden composting system. Host a small farmer, fisherman or rancher and have them present about their business model. <i>* See Appendix: Nourishlife.org: Local Food Systems Diagram</i>	Create a fish print Research where school lunch food comes from.	CCSS: 6.RP.3.8 W.7.8 W.8 RI.1		MS-LS1-7 MS-LS1-8	
	Know when to harvest for optimal nutritional value, taste and presentation. Recognize that eating in season provides quality foods and optimal nutrition, and encourages ecological best practices	Recognize that growing and eating in season optimizes nutrition and food production while encouraging ecological best practices. Recite the macronutrients in food. (Carbohydrates, fats, protein, fiber, water) Know the roles of macronutrients in body processes.	Know crops in the garden that contain key macronutrients such as calcium. Research how nutritional values change over time post-harvest. Observe and chart changes in color and taste in the crops post-harvest over time. Plant and make seasonal herbal teas. Research and record nutritional values of herbs grown in garden. Taste and evaluate them. Plant seasonally sensitive crops at several times throughout the school year. Compare and contrast plant health vigor, production and					

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
			taste (e.g., tomato, beans, corn, lettuce, radishes, spinach).					
Food and Nourishment	<p>Know how to obtain information about food from a variety of sources to make informed food choices</p> <p>(e.g., nutrition labels, product packaging, cultural history, food stories, indigenous knowledge and practices)</p>	<p>Use food product information to discern (healthy) choices.(e.g., labels)</p> <p>Identify different sources for information about food.</p>	<p>Compare garden grown foods with pre-packaged foods.</p> <p>Understand the role of bias of advertising on our food choices.</p> <p>* See Appendix: 'Aina in Schools' guide: <i>Marketing 101</i></p>	<p>Design and create logos, slogans and simple songs for the garden and its products.</p> <p>Use both primary and secondary sources to find out information about a food or crop, (e.g., book, farmer, kupuna/elder, nutrition label).</p>	<p>CCSS: SL.1 SL.4</p> <p>L.3 L.4 L.5.c L.6</p>			
	<p>Know the benefits of a nutritionally balanced and diverse diet.e</p>	<p>Incorporate and apply health expressions into meaningful daily discourse about the benefits of a balanced, diverse diet.</p> <p>* See Appendix: <i>Eat a Rainbow, Rethink Your Drink, My Eat Local Hawai'i Plate</i></p>	<p>Identify and taste a variety of different colored foods and understand the role of phytonutrients in a healthy diet.</p> <p>Prepare a snack or meal from the garden that exemplifies a health slogan.</p> <p>Incorporate and apply health expressions into common conversation about the benefits of a balanced, diverse diet.</p> <p>Conduct a side-by-side experiment with an energy drink or soda and water.</p> <p>Participate in a nutrition workshop by a health-care practitioner.</p>	<p>Design a poster illustrating a common slogan.</p>				

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES	
	Understand the relationships between healthy soil, healthy food, and healthy people.	<p>Use the Slogan “Feed the soil and the soil feeds you!” or “<i>Mālama i ka ‘Āina...</i>” as it pertains to macronutrients and microbes.</p> <p>Understand that there is a biome in the human gut.</p> <p>(Recognize the relationship between feeding the soil, the soil feeding the plants, and the plants feeding people)</p>	<p>Apply amendments to the soil that enrich plants and improve nutrient values (e.g., egg shells add calcium to soil, calcium important for bone health).</p> <p>Prepare planting beds with and without soil amendments and compost. Plant the same crop in each bed at the same time. Compare and contrast the crops from the two beds, focusing on production, plant health, physical appearance etc. Make inferences about how those crops would impact a person’s body.</p>				<p>All 6.SP could be connected to the “Compare and contrast” component.</p> <p>7.SP.B.3</p>	<p>MS-LS1-5</p> <p>MS-LS2-3</p>	
	<p>Understand that nutrients in food are assimilated into the human body.</p> <p>(This is a topic for discussion in the garden.)</p>	<p>Know that cells use sugars to make energy (ATP), how nutrients in food are assimilated into the body and used for physical movement (cellular respiration).</p>	<p>Explain how human cells use sugars to make energy (ATP).</p> <p>Explain how nutrients in food are assimilated into the body and used for physical movement as in cellular respiration. Describe cellular respiration.</p>	<p>Design a shredder that breaks down plants.</p> <p>Plants build the sugars up, and humans break them down.</p>					
	Expand palate through tasting a variety of foods providing different flavors and nutritional attributes.	<p>Eat a variety of foods. Recognize and appreciate that foods provide different flavors and nutritional attributes.</p>	<p>Sample a variety of plants from the garden and categorize their flavors. Discuss the different flavors and apply the vocabulary (e.g., sweet, sour, salty/savory, bitter, umami).</p>					LS1-8	

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
			Select foods from the garden that appeal to various flavor profiles (e.g., salad with bitter, sweet, spicy profiles). Prepare healthy, balanced foods from the garden that appeal to various flavor profiles.					
Safe Food Preparation	Know how to preserve and process a variety of food crops	<p>Preserve and process a variety of food crops.</p> <p>Decipher implications of additives and preservatives on health.</p>	<p>Prepare garden foods for immediate consumption and long term storage (e.g., preparing poi, cooking stir fry, pickling, fermenting, canning).</p> <p>Design and build a solar oven.</p>				MS-PS1-1	
	Understand how to prepare and serve healthy, delicious food	<p>Know how to prepare foods from the garden using safe protocols to harvest, prepare and share them.</p> <p>Experiment with different methods of preparing foods, (boiling, baking, dehydrating, solar cooking, etc.)</p> <p>Understand how cooking foods impacts health and nutrition.</p>	<p>Prepare a single ingredient from the garden in 3 different ways (e.g., poaching, stir fry, roasting).</p> <p>Harvest, clean, process, present and distribute foods grown in the garden.</p> <p>Package, label and share preserved garden food with community (e.g., 'Ai Pono, Hokulea)</p>		<p>CCSS: SL.4 SL.5</p> <p>6.RP.3 6.NS.1</p>			

Strand	Topic	Learning Outcomes	Garden Activities	Classroom Extensions	Common Core- ELA	Common Core- Math	NGSS	NHES
	Identify and employ best practices to safely harvest and prepare foods	<p>Identify and employ best practices to safely harvest and prepare foods.</p> <p>Know how to prepare foods from the garden using safe protocols to harvest, prepare and share them.</p>	<p>Safely harvest and prepare foods using best practices (e.g., knife safety, proper washing of foods, washing of hands, clean harvesting tubs).</p> <p>Demonstrate the ability to work with crops and foods using best practices in a manner that reduces/eliminates personal injury and contamination.)</p> <p><i>* See Appendix: The HISGN Garden Food Handling Safety Poster</i></p>	Have students create a food and garden safety video.			<p>MS-PS2-1</p> <p>MS-PS3-5</p>	7.8.1, 7.8.2. 7.8.3

*(Every garden should have food safety poster and checklist informed by- Good Agriculture Practice GAP). **Food Safety poster available from Hawaii Island School Garden Network**

Garden Based Nutritional Education
Standards and Benchmarks for Health, Grades K-2

Standard 1: Understanding the concepts that lead to health and prevention	
Benchmarks	Garden Example Lessons
HE.K-2.1.1 – The student uses appropriate ways to communicate feelings.	
HE.K-2.1.2 – What does exercise do for our bodies? What are the benefits?	Pa‘ahana “hard, industrious work”: working in the garden to grow food.
HE.K-2.1.3 – What are the benefits of a healthy diet? What is a healthy diet?	
HE.K-2.1.4 – Students can identify behaviors that are safe, risky or harmful.	Working in the garden with tools, soil, working in a group.
HE.K-2.1.5 – Students can describe ways in which they can promote and protect their own health.	Eating healthy foods, physical exercise, understanding stresses, good communication.
HE.K-2.1.6 – Students can describe helpful and harmful substances.	
HE.K-2.1.7 – What are the benefits of cleanliness?	Food Safety Guidelines for School Gardens.
HE.K-2.1.8 – Students can describe signs and symptoms of common illness and how to avoid spreading or catching different illnesses.	
Standard 2: Accessing valid health information, products & services	
HE.K-2.2.1 – Where can I get information on healthy eating and healthy living?	
HE.K-2.2.2 – The student explains where true information comes from and why. Student can identify trusted sources.	
Standard 3: Self-Management - Practicing health: Enhancing behaviors and reducing health risks	
HE.K-2.3.1 – Students can describe what “stress” feels like, where it comes from and how to emotionally deal with it on a daily basis.	
Standard 4: Analyzing influences: Understanding the influences of culture, family, peers, media, technology and other factors that influence health.	
HE.K-2.4.1 – What is nutritional health? What are the factors of nutritional health? How do media effect what and how we eat? How do external factors influence health behaviors?	

Garden Based Nutritional Education
 Standards and Benchmarks for Health, Grades K-2

Standard 5: Interpersonal communication: Use to enhance health (group work in outdoor classroom)	
HE.K-2.5.1 – Students can use effective verbal and non-verbal communications.	
HE.K-2.5.2 – Students can communicate and express feelings, wants and needs.	Food choices are tied to deep feelings in families and communities. What are the foods that are special to my family and why? Recipes?
HE.K-2.5.3 – Students know basic “refusal” skills and can use them appropriately.	
HE.K-2.5.4 – Students can be good friends and responsible family members.	
Standard 6: Decision making and goal setting to enhance health	
HE.K-2.6.1 – How can we become more informed and begin to make better nutritional choices and set goals for how we eat? What is health? When and who can we ask for help in making health decisions and setting goals?	Make a health goal, track it and reflect on it over time.
HE.K-2.6.2 – Students can make a personal nutritional or physical activity goal and decide how it could be achieved. What decisions need to be made in order to achieve this goal?	
Standard 7: Advocacy: Advocate for personal, family, and community health	
HE.K-2.7.1 – How can we help others make better nutritional choices that will influence their health? Sharing with family and community. How can we help ourselves?	

Standards and Benchmarks

Health, Grades 3-5

Standard 1: Understanding the concepts that lead to health and prevention	
Benchmarks	Garden Example Lessons
HE.3-5.1.1 – The student can explain how physical health can affect emotional well-being and vice versa. How can healthy eating and increased exercise contribute to overall health?	
HE.3-5.1.2 – The student can describe how healthy eating and increased physical activity can prevent disease (obesity, diabetes, etc.)	
HE.3-5.1.3 – The student will be able to describe how good nutrition can prevent problems and is important for proper growth and development.	
HE.3-5.1.4 – The student can assess and avoid dangerous situations (working with tools, working with simple machines, sun protections, food safety in the garden, etc.)	
HE.3-5.1.5 & .6 - The student can identify consequences of adopting a tobacco and alcohol-free lifestyle.	
HE.3-5.1.7 – The student can identify changes in physical, emotional, and social growth in humans.	
HE.3-5.1.8 – The student can describe the relationship between personal behavior (over-eating and weight, or sugar and tooth decay, etc.) and well-being.	
HE.3-5.1.9 – The student can describe the consequences of environmental effects that affect the body (sun exposure, chemicals, molds and mildew, etc.).	
HE.3-5.1.10 – The student can describe ways to prevent disease (healthy eating, physical exercise, etc.).	
Standard 2: Accessing information: Access valid health information and health promoting products & services	
HE.3-5.2.1- The student can describe where to find true information on health in the home, school and community.	

Standards and Benchmarks

Health, Grades 3-5

<p>HE.3-5.2.2 – The student explains where true information comes from and why. Student can identify trusted sources.</p>	
<p>Standard 3: Self-Management: Practice health/enhance behaviors/reduce risks</p>	
<p>HE.3-5.3.1 – The student can use appropriate strategies for dealing with emotional and stressful situations.</p>	
<p>HE.3-5.3.2 – The student can compare behaviors that are safe, risky, or harmful to self and others.</p>	
<p>Standard 4: Analyzing influences: Understanding the influences of culture, family, peers, media, technology and other factors that influence health.</p>	
<p>HE.3-5.4.1 – The student can identify inner and outer factors that influence health and health decisions.</p>	
<p>Standard 5: Interpersonal communication: Use to enhance health (group work in outdoor classroom)</p>	
<p>HE.3-5.5.1 – The student can use appropriate strategies for effective verbal and non-verbal communication in various settings.</p>	
<p>HE.3-5.5.2 – The student can identify strategies that can be used to avoid miscommunication and misunderstanding.</p>	
<p>HE.3-5.4.3 – The student can demonstrate positive strategies in dealing with conflict and dispute.</p>	
<p>Standard 6: Decision making and goal setting: Use to enhance health</p>	
<p>HE.3-5.6.1 – The student can use the decision-making model (identify the problem, barriers and alternatives, choose best alternative, evaluate choice) and can identify a health problem that could be solved with this model.</p>	
<p>HE.3-5.6.2 – The student can predict the possible outcomes of health related decisions (the decision not to brush teeth, not eat healthy foods, not exercise, etc.)</p>	
<p>HE.3-5.6.3 – The student sets a personal goal, can describe why it is important, and can take steps to reach that goal (nutrition/physical activity, or others)</p>	

Standards and Benchmarks
Health, Grades 3-5

Standard 7: Advocacy – Advocate for personal, family, and community health	
HE.3-5.7.1 – The student can identify community organizations, agencies or individuals who advocate for increased health.	
HE.3-5.7.2 – The student gives a brief presentation on something they are doing to stay healthy and tells why she/he would recommend this practice to others.	

Health Standards and Benchmarks**Grades 6-8**

Standard 1: Understanding the concept related to health promotion and disease prevention	
Benchmarks	Garden Example Lessons
HE.6-8.1.1 – The student can describe how problems in one aspect of health can lead to problems in another aspect.	
HE.6-8.1.2 – The student can describe the short and long-term effects of poor nutrition and lack of physical activity. The student can also describe the same effects for good nutrition and increased physical activity.	
HE.6-8.1.3 – The student can describe and explain short and long-term consequences of violent or aggressive behaviors.	
HE.6-8.1.4 – The student can identify risky and emergency situations and knows procedures for responding to these emergencies.	
HE.6-8.1.5 – The student knows the short and long-term consequences of tobacco use.	
HE.6-8.1.6 – The student knows the short and long-term consequences of alcohol and drug use.	
HE.6-8.1.7 – The student knows the short and long-term consequences of sexual activity.	
HE.6-8.1.8 – The student can explain how human body systems are impacted by risky health behaviors.	
HE.6-8.1.9 – The student identifies choices that can be made to promote or harm health in a variety of situations.	
HE.6-8.1.10 – The student can describe how health care can prevent or treat different types of diseases.	
Standard 2: Accessing information: Products and services	
HE.6-8.2.1 – The student can identify situations that require professional health services.	
HE.6-8.2.2 – The student can access a variety of appropriate sources for health information, products or services.	

Health Standards and Benchmarks

Grades 6-8

Standard 3: Self-Management: Practicing healthy behaviors and reducing risks	
HE.6-8.3.1 – The student can describe personal strategies for dealing with stressful situations.	
HE.6-8.3.2 – The student can describe why it is important to take personal responsibility for their health.	
Standard 4: Analyzing influences: Understanding the influences of culture, family, peers, media, technology and other health factors.	
HE.6-8.4.1 – The student can describe how values and beliefs, media, peer pressure, family and society pressures impact personal and family health decisions and practices.	
Standard 5: Interpersonal communications: Use to enhance health	
HE.6-8.5.1 – The student can use effective verbal or non-verbal communication that promotes healthy communications.	
HE.6-8.5.2 – The student can demonstrate effective behaviors that communicate respect and consideration to self and others.	
HE.6-8.5.3 – The student can list factors, like differences in values or beliefs, oppressive environments or financial issues that often result in disputes between peers, family and community.	
HE.6-8.5.4 – The student can demonstrate a variety of non-violent strategies to resolve conflict and dispute.	
Standard 6: Decision making and goal setting to enhance health	
HE.6-8.6.1 – The student can describe decision-making processes related to health decisions.	
HE.6-8.6.2 – The student can evaluate how a personal decision regarding a health behavior affects not only them but also those around them.	
HE.6-8.6.3 – The student can assess personal health strengths and risks and make personal goals describing the steps they will take to reach the goal.	

Health Standards and Benchmarks
Grades 6-8

Standard 7: Advocacy: Advocate for personal, family and community health	
HE.6-8.7.1 – The student can use effective strategies to influence and support others to make healthy choices.	
HE.6-8.7.2- The student can use appropriate methods to communicate accurate health information and ideas.	
HE.6-8.7.3- The student can describe how barriers can affect the message (information, ideas, feelings and opinions).	

NHES—Standard 1

Students will comprehend concepts related to health promotion and disease prevention to enhance health.

Rationale: The acquisition of basic health concepts and functional health knowledge provides a foundation for promoting health-enhancing behaviors among youth. This standard includes essential concepts that are based on established health behavior theories and models. Concepts that focus on both health promotion and risk reduction are included in the performance indicators.

Performance Indicators*

Pre-K-Grade 2

- 1.2.1 Identify that healthy behaviors impact personal health.
- 1.2.2 Recognize that there are multiple dimensions of health.
- 1.2.3 Describe ways to prevent communicable diseases.
- 1.2.4 List ways to prevent common childhood injuries.
- 1.2.5 Describe why it is important to seek health care.

Grades 3-5

- 1.5.1 Describe the relationship between healthy behaviors and personal health.
- 1.5.2 Identify examples of emotional, intellectual, physical, and social health.
- 1.5.3 Describe ways in which safe and healthy school and community environments can promote personal health.
- 1.5.4 Describe ways to prevent common childhood injuries and health problems.
- 1.5.5 Describe when it is important to seek health care.

Grades 6-8

- 1.8.1 Analyze the relationship between healthy behaviors and personal health.
- 1.8.2 Describe the interrelationships of emotional, intellectual, physical, and social health in adolescence.
- 1.8.3 Analyze how the environment affects personal health.
- 1.8.4 Describe how family history can affect personal health.
- 1.8.5 Describe ways to reduce or prevent injuries and other adolescent health problems.
- 1.8.6 Explain how appropriate health care can promote personal health.
- 1.8.7 Describe the benefits of and barriers to practicing healthy behaviors.
- 1.8.8 Examine the likelihood of injury or illness if engaging in unhealthy behaviors.
- 1.8.9 Examine the potential seriousness of injury or illness if engaging in unhealthy behaviors.

* The performance indicators articulate specifically what students should know or be able to do in support of each standard by the conclusion of each of the following grade spans: Pre-K–Grade 2; Grade 3–Grade 5; Grade 6–Grade 8. The performance indicators serve as a blueprint for organizing student assessments.

Standard 2

Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

Rationale: Health is affected by a variety of positive and negative influences within society. This standard focuses on identifying and understanding the diverse internal and external factors that influence health practices and behaviors among youth, including personal values, beliefs, and perceived norms.

Performance Indicators*

Pre-K-Grade 2

- 2.2.1 Identify how the family influences personal health practices and behaviors.
- 2.2.2 Identify what the school can do to support personal health practices and behaviors.
- 2.2.3 Describe how the media can influence health behaviors.

Grades 3-5

- 2.5.1 Describe how family influences personal health practices and behaviors.
- 2.5.2 Identify the influence of culture on health practices and behaviors.
- 2.5.3 Identify how peers can influence healthy and unhealthy behaviors.
- 2.5.4 Describe how the school and community can support personal health practices and behaviors.
- 2.5.5 Explain how media influences thoughts, feelings, and health behaviors.
- 2.5.6 Describe ways that technology can influence personal health.

Grades 6-8

- 2.8.1 Examine how the family influences the health of adolescents.
- 2.8.2 Describe the influence of culture on health beliefs, practices, and behaviors.
- 2.8.3 Describe how peers influence healthy and unhealthy behaviors.
- 2.8.4 Analyze how the school and community can affect personal health practices and behaviors.
- 2.8.5 Analyze how messages from media influence health behaviors.
- 2.8.6 Analyze the influence of technology on personal and family health.
- 2.8.7 Explain how the perceptions of norms influence healthy and unhealthy behaviors.
- 2.8.8 Explain the influence of personal values and beliefs on individual health practices and behaviors.
- 2.8.9 Describe how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
- 2.8.10 Explain how school and public health policies can influence health promotion and

disease prevention.

Standard 3

Students will demonstrate the ability to access valid information, products, and services to enhance health.

Rationale: Access to valid health information and health-promoting products and services is critical in the prevention, early detection, and treatment of health problems. This standard focuses on how to identify and access valid health resources and to reject unproven sources. Application of the skills of analysis, comparison, and evaluation of health resources empowers students to achieve health literacy.

Performance Indicators*

Pre-K-Grade 2

- 3.2.1 Identify trusted adults and professionals who can help promote health.
- 3.2.2 Identify ways to locate school and community health helpers.

Grades 3-5

- 3.5.1 Identify characteristics of valid health information, products, and services.
- 3.5.2 Locate resources from home, school, and community that provide valid health information.

Grades 6-8

- 3.8.1 Analyze the validity of health information, products, and services.
- 3.8.2 Access valid health information from home, school, and community.
- 3.8.3 Determine the accessibility of products that enhance health.
- 3.8.4 Describe situations that may require professional health services.
- 3.8.5 Locate valid and reliable health products and services

Standard 4

Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

Rationale: Effective communication enhances personal, family, and community health. This standard focuses on how responsible individuals use verbal and non-verbal skills to develop and maintain healthy personal relationships. The ability to organize and to convey information and feelings is the basis for strengthening interpersonal interactions and reducing or avoiding conflict.

Performance Indicators*

Pre-K-Grade 2

- 4.2.1 Demonstrate healthy ways to express needs, wants, and feelings.
- 4.2.2 Demonstrate listening skills to enhance health.
- 4.2.3 Demonstrate ways to respond in an unwanted, threatening, or dangerous situation.
- 4.2.4 Demonstrate ways to tell a trusted adult if threatened or harmed.

Grades 3-5

- 4.5.1 Demonstrate effective verbal and nonverbal communication skills to enhance health.
- 4.5.2 Demonstrate refusal skills that avoid or reduce health risks.
- 4.5.3 Demonstrate nonviolent strategies to manage or resolve conflict.
- 4.5.4 Demonstrate how to ask for assistance to enhance personal health.

Grades 6-8

- 4.8.1 Apply effective verbal and nonverbal communication skills to enhance health.
- 4.8.2 Demonstrate refusal and negotiation skills that avoid or reduce health risks.
- 4.8.3 Demonstrate effective conflict management or resolution strategies.
- 4.8.4 Demonstrate how to ask for assistance to enhance the health of self and others.

Standard 5

Students will demonstrate the ability to use decision-making skills to enhance health.

Rationale: Decision-making skills are needed to identify, implement, and sustain health-enhancing behaviors. This standard includes the essential steps that are needed to make healthy decisions as prescribed in the performance indicators. When applied to health issues, the decision-making process enables individuals to collaborate with others to improve their quality of life.

Performance Indicators*

Pre-K-Grade 2

- 5.2.1 Identify situations when a health-related decision is needed.
- 5.2.2 Differentiate between situations when a health-related decision can be made individually or when assistance is needed.

Grades 3-5

- 5.5.1 Identify health-related situations that might require a thoughtful decision.
- 5.5.2 Analyze when assistance is needed in making a health-related decision.
- 5.5.3 List healthy options to health-related issues or problems.
- 5.5.4 Predict the potential outcomes of each option when making a health-related decision.
- 5.5.5 Choose a healthy option when making a decision.
- 5.5.6 Describe the outcomes of a health-related decision.

Grades 6-8

- 5.8.1 Identify circumstances that can help or hinder healthy decision-making.
- 5.8.2 Determine when health-related situations require the application of a thoughtful decision-making process.
- 5.8.3 Distinguish when individual or collaborative decision-making is appropriate.
- 5.8.4 Distinguish between healthy and unhealthy alternatives to health-related issues or problems.
- 5.8.5 Predict the potential short-term impact of each alternative on self and others.
- 5.8.6 Choose healthy alternatives over unhealthy alternatives when making a decision.
- 5.8.7 Analyze the outcomes of a health-related decision.

Standard 6

Students will demonstrate the ability to use goal-setting skills to enhance health.

Rationale: Goal-setting skills are essential to help students identify, adopt, and maintain healthy behaviors. This standard includes the critical steps that are needed to achieve both short-term and long-term health goals. These skills make it possible for individuals to have aspirations and plans for the future.

Performance Indicators*

Pre-K-Grade 2

- 6.2.1 Identify a short-term personal health goal and take action toward achieving the goal.
- 6.2.2 Identify who can help when assistance is needed to achieve a personal health goal.

Grades 3-5

- 6.5.1 Set a personal health goal and track progress toward its achievement.
- 6.5.2 Identify resources to assist in achieving a personal health goal.

Grades 6-8

- 6.8.1 Assess personal health practices.
- 6.8.2 Develop a goal to adopt, maintain, or improve a personal health practice.
- 6.8.3 Apply strategies and skills needed to attain a personal health goal.
- 6.8.4 Describe how personal health goals can vary with changing abilities, priorities, and responsibilities.

Standard 7

Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

Rationale: Research confirms that practicing health-enhancing behaviors can contribute to a positive quality of life. In addition, many diseases and injuries can be prevented by reducing harmful and risk-taking behaviors. This standard promotes the acceptance of personal responsibility for health and encourages the practice of healthy behaviors.

Performance Indicators*

Pre-K-Grade 2

- 7.2.1 Demonstrate healthy practices and behaviors to maintain or improve personal health.
- 7.2.2 Demonstrate behaviors that avoid or reduce health risks.

Grades 3-5

- 7.5.1 Identify responsible personal health behaviors.
- 7.5.2 Demonstrate a variety of healthy practices and behaviors to maintain or improve personal health.
- 7.5.3 Demonstrate a variety of behaviors to avoid or reduce health risks.

Grades 6-8

- 7.8.1 Explain the importance of assuming responsibility for personal health behaviors.
- 7.8.2 Demonstrate healthy practices and behaviors that will maintain or improve the health of self and others.
- 7.8.3 Demonstrate behaviors to avoid or reduce health risks to self and others.

Standard 8

Students will demonstrate the ability to advocate for personal, family, and community health.

Rationale: Advocacy skills help students promote healthy norms and healthy behaviors. This standard helps students develop important skills to target their health-enhancing messages and to encourage others to adopt healthy behaviors.

Performance Indicators*

Pre-K-Grade 2

- 8.2.1 Make requests to promote personal health.
- 8.2.2 Encourage peers to make positive health choices.

Grades 3-5

- 8.5.1 Express opinions and give accurate information about health issues.
- 8.5.2 Encourage others to make positive health choices.

Grades 6-8

- 8.8.1 State a health-enhancing position on a topic and support it with accurate information.
- 8.8.2 Demonstrate how to influence and support others to make positive health choices.
- 8.8.3 Work cooperatively to advocate for healthy individuals, families, and schools.
- 8.8.4 Identify ways in which health messages and communication techniques can be altered for different audiences.

Food Journeys: An Exploration

Three Short films from the Curriculum “Nourish” and One Testimonial

1. Anna Lappe
 - What experiences have shaped your relationship to food and diet?
 - What food traditions, values, or habits have you inherited from your family?
 - What is something you would like to change about the way you eat? What is something you are happy with?
 2. Bryant Terry
 - How would you characterize your eating style?
 - Describe an experience where you’ve changed your eating habits for the better. What was that process like?
 - Describe a memory of a food or meal that is special to you.
 3. Nadine Burke
 - How has your relationship to food and health evolved over the years?
 - What are some ways we can remind ourselves to eat well?
 - What are some other healthy lifestyle changes that can support our food journeys?
 4. Amanda Rieux
 - What would be a perfect meal, tastiest and happiest?
 - What would be the most nourishing meal you could feed yourself? How do the two meals compare? As we evolve do these meals change?
 - How do we decide what to eat each day?
-

Food Journeys Activity

An Open Conversation: Teachers get together in groups of 2-5 and choose one of the Food Journeys listed above. First have a conversation around the set of questions that you have chosen. Then choose one of the following activities to extend and deepen the experience. Choose one person to share at the end.

Step One: Choose one of the above Food Journeys and read the questions together. Then, have a conversation and share your answers with one another.

Step Two: Use one of the following classroom techniques to share the outcomes of your conversation with the group at the end of the period.

Brainstorm: Choose a key concept from your discussion and write it on your flip chart. Then, generate a list of related ideas that flow from the key concept. Write those on your chart also. Choose a recorder and someone to present your ideas.

Categorize/Clarify: Using your flip chart, create a group word map. Begin with a key word from your discussions in the center. Build on that word by adding words related to the key word; arrange them in categories around the center word. Choose someone to share your work.

Compare and Contrast: Create two main ideas that came out of your discussion. Record them on your flip chart. Discuss and record similarities and differences between the two ideas. Choose someone to share your work.

Jigsaw: Each group member chooses a main idea of the chosen video. Each of the ideas may be different. Write them down on your flip chart. Then your job is to figure out how each statement is a piece of the whole idea, like a jigsaw puzzle. How are they related? Do they come in a particular order? Does one lead to another, how? Choose someone to share your work.

Think-Pair-Share: Teachers work in pairs and record a summary of each other's answers to one of the sets of questions above. Share highlights of each other's thoughts.

Quick Write: After your discussion, each of you will spend 2-5 minutes writing your personal thoughts down on paper. Make sure you allow your thoughts to flow out onto the paper. Share any surprise thoughts with your small group when everyone is finished writing. Choose someone to share some of those surprising ideas that came out in your writing.

Group Sharing

Nourishment: Feeding Ourselves (Garden Based Nutrition)
Feed your mind and body with what it needs to stay healthy and flourish.

1. Food choices (nutrition) impact health and quality of life.

You are what you eat.

Essential question: How does what you eat and drink affect your health – mentally, emotionally, socially, and physically?

Guiding concepts:

- Discover the strong relationships between soil and health through the nutrient cycle, pre/pro-biotics, and fiber.
- Understand the role of protein, carbohydrates, and good fats building in physical health.
- Understand energy foods, body-building foods, brain foods
- Understand the role of vitamins, minerals, and fiber in maintaining physical health.
- Understand the role of water in the body.
- Recognize foods (and drinks) that will bring increased health and wellness:
 - ❖ Whole foods vs. processed foods
 - ❖ Caution foods
- Read and understand food labels.
- Recognize the impact of food on mental and emotional health - mood, behavior, and clarity of mind.
- Recognize the role of food in culture, families, and community building:
 - ❖ Food justice or injustice
 - ❖ Festivals, celebrations
 - ❖ Family heirloom plants, family recipes.

2. Practicing life-long wellness: Essential Nourishment Concepts.

You eat based on your culture and values.

Essential question: What does enhancing healthy behaviors and habits lead to?

Healthy behavior leads to:

- Decreasing health risks
- Interpersonal communication
- Healthy goal setting

Creating **Healthy Habits** – you become what you repeatedly do

Examples of good habits

- Eat a rainbow – greens, reds, yellows, orange
- Eat local fruits and roots
- Fresh and in-season, close to the source
- Low processed foods, whole foods
- Balanced intake of vitamins, mineral, salt
- Choosing sugar-free drinks and water
- Choosing healthy snacks

3. Skills needed to stay nourished:

- a. Food Safety and Harvesting
- b. Food preparation and cooking skills

Asexual Propagation

Divisions

- Water well before dividing
- Cut back above ground growth by up to 1/3 if there is a lot of leafy growth
- Lift the entire plant
- Divide into clumps by hand, or with a flat headed spade and digging fork

Stem Cuttings

Usually done on perennial plants

Basics-

Moisture and Temperature *Balance between rooting and rotting

Plant medium (perlite/vermiculite in equal portions)

Best if medium is sterile, pre-moisten your medium

Plant material-best to collect in the morning when the plants are fully hydrated

Don't let cuttings get hot and dry.

Woody to Green- rooting vs. rotting

Woody resists rot, roots more slowly

Green-roots faster, more prone to rot

Nodes and internodal spaces

Seasonal considerations

For your cuttings

- Fill container to top with medium! AVOID MICROCLIMATE
- Make cuts at 45° angle, 1/3" below node using clean clippers
- Allow for 3-5 nodes to go into medium-clearing foliage from them-Take care not to tear the plant!
- Clear off some excess leaves The cutting will lose moisture to evapotranspiration
- Leave a few leaves on to provide energy to the plant. (Balance)
- Make several cuttings of each desired plant, some greener, some woodier
- Label you cuttings
- Use a butter knife to "open medium" to insert your cuttings
- Water well, consider making a terrarium, even with a plastic bag
- Keep cuttings well misted
- Keep them warm but out of direct sunlight
- *Bottom heat stimulates root growth

Fresh, Healthy, and Safe

Best Practices for Growing and Using Produce Grown in Hawai'i School Gardens Pre-K-8

School Gardens serve as exciting living laboratories for learning and are an important component of Farm to School programs. The produce grown will be eaten and shared with students, their families, and the community. The following are basic food safety guidelines for everyone who works in a School Garden.

Growing Practices: Garden Care and Maintenance

- Use only clean potable water. If unsure, or have only catchment water, test your water source.
- Use compost to nourish soil. Create a composting program that recycles garden waste, weeds, grass clippings and leaves from your campus.
- Start a worm box and use worm compost to make tea that will nourish soil.
- Sheet mulching builds soil fertility - soil mulch preserves water and discourages weed growth.
- Do not use synthetic pesticides, herbicides, or fertilizers.
- Use high quality seeds: organic/non-GMO, from "Safe Seed Pledge" companies, or saved from last harvest.
- All organic matter including manure should be fully composted in aerobic conditions prior to application.
- Test your soil for contaminants if unsure of its source.
- Use non-toxic materials for raised beds, containers, stakes or trellises. Do not use pressure treated wood, used tires, or single use plastic.
- Select non-allergenic and non-toxic plants.

Food Safety Supplies

- Clean sink for washing hands and produce
- Potable water
- Pump soap
- Veggie scrub brushes
- Trash can with lid
- Disposable gloves may be used for food preparation
- First Aid Kit

Personal Protection for Students

- Access to drinking water
- Sunscreen available
- Sun hats are recommended
- Closed shoes are recommended
- Access to a shady area where students can rest

"Aloha 'Aina and a Respectful Attitude"

- Work as a community: share responsibilities and rewards
- Give thanks
- Give to those in need
- Demonstrate your respect for living and non-living things

Harvesting and Handling of Garden Produce

- Students, staff, parents and volunteers involved in the harvest must wash their hands with soap before and after harvesting.
- Anyone with open cuts, wounds, or sick should not harvest until healed.
- Disposable or clean gloves may be used for harvesting.
- Please don't eat while harvesting.
- All harvest tools, scissors, bowls, containers or tubs should be food grade and designated solely for harvest and food handling.
- Brush or shake off excess soil before placing in harvest container.
- Tools and containers should be cleaned, dried, and stored properly after use.
- Select non-allergenic and non-toxic plants.

Food Preparation and Storage of Garden Produce

- Always wash hands with soap before preparing food.
- Use only clean potable water.
- Compost damaged produce.
- Use a clean scrub brush and clean hands to wash produce.
- Knives, cutting boards, bowls, and containers should be food grade.
- Produce should be eaten immediately or refrigerated as necessary.

Tool Safety and Care

- Age appropriate and supervised tool use
- Tools cleaned with hose and/or brush after use
- Tools stored in a locked shed
- Work gloves provided for heavy jobs

Animals in the Garden

- Animals should be housed down-slope from garden area to avoid runoff into food growing areas.
- Livestock and pets should be kept out of the garden.

Soil and Water Testing

- *Testing Your Soil:*
Why and How to Take a Soil-Test Sample
www.ctahr.hawaii.edu/oc/freepubs/pdf/AS-4.pdf
- *Testing Your Water:*
Water Testing Services UH Mānoa
www.ctahr.hawaii.edu/hawaiiain/test.html