

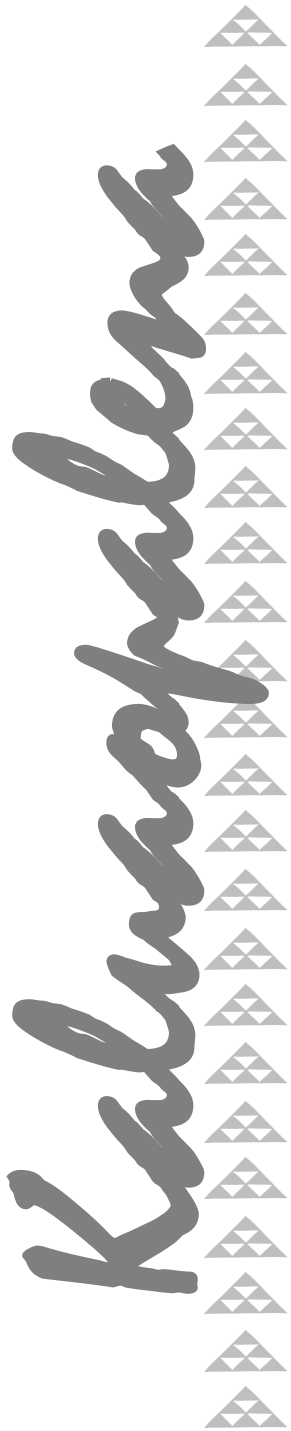


Kaluapalena

community garden



a curriculum guide for public housing families



Through our research, we have been unable to find any references to the 'āina (land) of Kaluaopalena. What we do know is that Kaluaopalena was a great chief of Kaua'i, and the father of Palila. This mo'olelo tells the story of a two great men, facing challenges but overcoming those challenges in the wake of adversity. Like father and son, the 'āina of Kaluaopalena has gone through many changes since its inception, but it remains steadfast – a beacon of hope for Kalihi public housing families.

Story of Palila

Palila was a very brave and powerful man, for in battle he could fight single-handed against a multitude of people. He belonged to Alanapo, in Humu'ula, at Kōloa, Kaua'i. Alanapo was a kapu temple sacred to the gods from the time of darkness and it was in this temple that Palila was brought up by the gods, and while here he received his instruction in all the arts of warfare.

Kaluaopalena was the father of Palila and Mahinui was his mother. Hina was the grandmother of Palila and it was she who took him to Alanapo to be brought up by the gods. Namakaokalani was the king of one side of Kaua'i, while Kaluaopalena ruled the other side. These two were at war with one another constantly; and Kaluaopalena was seen to be losing and it became apparent that in a short time he would be defeated when Namakaokalani would have in his possession the whole of Kaua'i.

The place where the battle was being fought was called Pa'a and here the two kings with their chiefs and a great number of their warriors were gathered. While the battle was at its height, Palila rose and came out of Alanapo, took up his war club, Huliamahe by name, and went out until he came to a rise looking down on the lowlands of Pa'a. The name of this rise is Komoikeanu.

While he stood meditating, looking at the battle that was raging below him, he concluded that it was a battle being fought against his father; so he twirled his club and threw it. The club flew through the air, traveling at such speed that the earth shook and the trees were thrown down. It was by means of the falling trees that the warriors of Namakaokalani were destroyed until there were none left. This destruction of the army of Namakokalani caused his defeat and Kaluaopalena, the father of Palila, became the ruler of the whole of Kaua'i.

Source:

<http://www.ulukau.org/elib/cgi-bin/library?e=d-0forlander5-000Sec--11haw-50-20-frameset-book->
accessed: 07.14.20

Kaluaopalena

community garden



Foreward

Introduction

Kaluaopalena is a beautiful, tranquil garden in the center of an urban core called Kalihi. The tiny space nestles up against several residential homes, but the entrance is exposed to a series of two-story concrete dwellings and multiple high rises – just one of many Kalihi public housing projects.

Children and families use the sidewalk that snakes along the front of the garden to enter and exit the secured complex. It's a high traffic area but a welcoming space where KKV staff greet residents, often calling them by name as they wave aloha to each other. Many regularly visit the garden to help care for it, gather food or medicine, or just to say hello. It's a busy little garden and a beacon of hope and light for the community.

Kalihi is known as a low-income area with a large immigrant population. Many of its children receive free or reduced lunch. Kalihi has five times more fast-food chains, drive-ins, and convenience stores than it does grocery or farmers markets. Its youth and their families face serious health disparities and loss of connection to their homeland.

KKV and its ROOTS program aim to uplift and empower the Kalihi community. Through this public housing curriculum project, ROOTS hopes to provide educational opportunities for youth and their families to reconnect and have access to land. Kaluaopalena is that space where people of all cultures can come together to grow food and medicine in a safe, loving environment.

Curriculum Design

ROOTS has created a curriculum modeled after 4MAT – a framework that is designed to help educators deliver content in a dynamic and engaging approach. The method engages all learners while encouraging them to connect to land-based activities in a meaningful way.

Each quadrant within the framework circle represents a specific type of learner. The 'āina educator at Kaluaopalena tries to incorporate all sections into their content delivery so that each keiki and family member can benefit.





Foreward

Curriculum Design

To help better understand how this works, we have included a description of each of the different quadrants.

Connect

This learner enjoys ideas and discussions and really connects to past experiences and new information. This type of learner asks, “Why do I need to listen to this?” or “Why should we do this now?”

Inform

This learner enjoys information and being taught, getting information, interacting with others and taking notes. This type of learner asks, “What information am I looking for?”

Practice

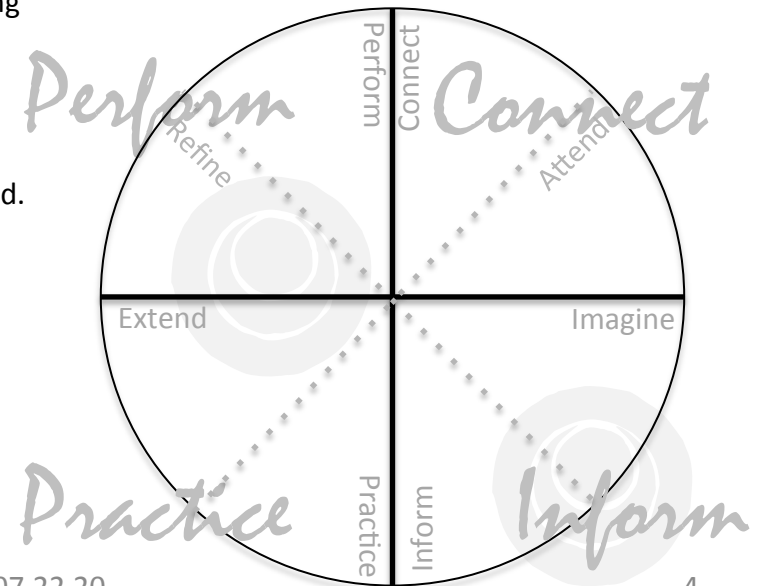
This learner enjoys experimenting with hands on materials, doing the task and applying what they learned. They have a love for how things work. This learner always asks, “How can I do this?”

Perform

This learner enjoys experimenting and self-discovery, exploring alternatives. This learner asks, “What are the possibilities?” “What IF I do it this another way?”

To deliver content, we have created four open-ended lesson plans that incorporate the 4MAT framework. Each lesson is based on a Hawaiian value that is a foundational concept at Kaluaopalena. **Aloha** (love), **Mālama** (to care for), **Hō’ihi** (to respect), and **Mahalo** (gratitude) are Hawaiian values that are woven into the day-to-day practices at the garden.

As keiki and ‘ohana visit Kaluaopalena, they will receive a warm greeting and perhaps a hug. And their heart will feel whole and connected as they explore ‘āina-based activities that will connect, engage, and inform in meaningful ways.





Ma'alela

The Story of 'Uala *based on a traditional story*

Keone'ō'io is the name of a bay and a land section ma uka of Mākena on Maui. Its upland slopes on the southern flank of Haleakalā were well-known for growing 'uala. Ma kai, at the ocean, the reefs are fertile limu and fishing grounds (especially for the 'ō'io, bone-fish, which the bay is named after). Here at Keone'ō'io, there is a story of a man who struggled to feed his family. He worked hard in the māla, and tirelessly in the ocean, but for many seasons could not provide enough sustenance to feed his 'ohana.

Frustrated and discouraged the man decided to reach out for help. He had heard of an akua – Makali'i – who was known to provide bounty to his followers. He decided to pray to him, asking for fish. For many, many moons, the man prayed and presented offerings. For many moons he would go to the ocean, full of hope and determination. Yet no i'a would fill his nets. Just when the man was losing all hope, Makali'i appeared to him – in a dream.

Aloha ^{love}

"I have seen your work and dedication," Makali'i said, "And I am here to kōkua."

"Amazing!" rejoiced the man, "My prayers are answered! Will I catch fish tomorrow?" he asked.

"No, I cannot provide fish for you," replied Makali'i. The man was disappointed. He had so hoped to feed himself and his 'ohana for the coming seasons.

"Your pule for fish was a mistake," revealed Makali'i.

"However, I can still help to feed you. You must kanu 'uala – plant sweet potatoes."

"Ok..." responded the man reluctantly. He was so ma'a with planting 'uala, however, when it was time to harvest he had only a few, tiny potatoes – like a handful of marbles.

"But you must plant the 'uala slips during the month of Ikuwā, Welehu, and Makali'i," continued Makali'i. "If you do so, I promise you an abundant crop of exceptionally large potatoes."

"Hiki nō," said the man. This is the time of late October thru January.

When he awoke, his mission was clear. He knew that these months were usually reserved for Makahiki, when maka'āinana would celebrate and rigorous work was not expected. But he was determined to feed his family; giving up his time to engage in Makahiki festivities was well worth the effort.



Ma'olelo

And so, the man planted as he was instructed by Makali'i. And when the vines were young and in the ground, the kona winds brought rain to his fields, giving life to the little shoots. In three months time, the 'uala was ready to harvest and Makali'i truly delivered – there was such a big crop of potatoes for the man and his 'ohana! Numerous potatoes bulged beneath the soil, and all of them were extraordinarily large – bigger than his head!

There was so much food for his 'ohana and for him to share with everyone in Keone'ō'io. He cried with joy and sent a big mahalo to his akua for the amazing harvest. He planned to save the biggest potato as a ho'okupu to Makali'i.

As he harvested the potato, he came across an unusually large 'uala. He dug and dug and noticed it was as big as a kanaka! But there was more 'uala to dig out. So he continued to dig and discovered that the 'uala was as big as a wa'a. Still, there was more potato under the loose soil. So he dug and dug, and lo and behold the 'uala was the size of a hale!

Aloha ^{love}

No matter how much he pulled away the dirt, he could not uncover the potato. He worked at that 'uala for several days, until the lua that he had dug was the size of a small crater, and the 'uala still would not budge. He decided that this was a message from Makali'i, to leave this 'uala in the lepo for the akua who answered his prayer. And so he did.

From then on, there was plenty of mea'ai for the man, his 'ohana, and all of the people of Keone'ō'io.

And, if you go to Keone'ō'io today (also known as La Perouse Bay), and look ma uka, there stands a dirt hill that was formed by all of the earth the man flung from the hole, trying to dig up that 'uala.

Pipi holo ka'ao.

Guiding Questions

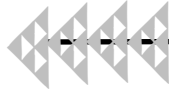
- How did the man show aloha (love) to his god, Makali'i?
- Have you had any really clear dreams like the man in this story? Tell us about your dream.
- What do you think the message meant in your dream?
- The man of Keone'ō'io was directed to plant during certain months, which he normally would not. What were the benefits of changing his practice?
- If Makali'i came to you, what would he tell you to change in your own life?

Kalunopalaena

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What does aloha mean to you? Draw, craft a poem or write a reflection.



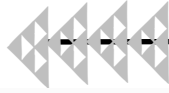
Aloha *love*

Kaluopala

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Can you name the parts of the 'uala plant? Use color pencils to color and label it.



Aloha ^{love}



Artwork: Joey Miller Final ROOTS @ KKV copyright 07.22.20

Kaluapalena

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Connect

Aloha connects us to one another, to the land, to our ancestors to ourselves. We create aloha circles to make safe spaces for our community to be vulnerable. Aloha circles affirm our intentions for the work at hand and for our presence on the land. As we hold hands, our circle of aloha creates a vibration of love, safety, joy, trust, and belonging.

Inform

Soil

Aloha is the main ingredient for a healthier soil. As we feed it with good vibrations, we are creating a nutrient-rich home pulsating with life. The hidden magic in healthy earth is the organisms that live there. Insects, worms, small animals and microbes create healthy soil when all the elements are in balance.

Sometimes soil needs an added boost of nutrients to increase organic matter. At Kaluaopalena, amendments are added such as bokashi, bone meal, FPJ (fermented plant juice), kelp meal, and manure to create healthy conditions for the plants.

Aloha ^{love}

Seed

For many early civilizations, the tiny seed has been the keeper of stories and traditions. It holds the memory of the forbearers and their connection to land and ancient wisdom. The seed is one of the most sacred gifts handed down by the ancestors.

Every seed has a special character. By intentionally placing energy and aloha into the care of that seed, it in turn will grow into food that will feed the community. Cultivating seeds with aloha will give birth to the perfect seed.

When we can begin to grow our own seed, we can begin to become more self sufficient. It's not enough for a farmer to know how to prepare soil, plant, and harvest. They must also know how to propagate and cultivate seeds.

At Kaluaopalena, most of our seed crops are obtained through our sister garden at Ho'oulu 'Āina. We also purchase seed from seed companies who share the same practices of saving open-pollinated and heirloom seeds.

Seed saving is a way for our community to reclaim our independence to grow our own food, using viable seeds we have collected from our land. Our sister program at Ho'oulu 'Āina collects and stores their own seeds and shares these seeds with us so that we can grow food.



Practice

Soil

Aloha is the main ingredient for a healthier soil. As we place our hands into the earth, our mana (energy) brings life to it, feeding it with good energy and plenty of aloha.

Traditionally, our ancestors gathered greens – old kalo leaves, hau and kukui and pressed these into the earth so they would eventually break down and replenish lost nutrients. At Kaluaopalena, we still practice this method of composting and have embraced other alternative methods for producing a robust soil.

To make healthy soil, our farmers have created three simple recipes to add nutrients to their beds. Remember that a little aloha also goes a long way to birthing hardy and happy plants.

Weed and Bury

- Weed your garden bed.
- Create a narrow trench in the middle of it at least 6"-8" deep.
- Place fresh weeds, mowed grass, or any fallen leaves into the trench.
- Now bury the green waste by placing composted soil on it.
- This will cause the weeds to breakdown providing your garden bed with plenty of healthy nutrients.

You Will Need : plants that grow in abundance on your 'āina, a mixing bin,

- organic or brown sugar, bucket, heavy duty plastic bag, scissors,
- T-shirt/mesh, rope, a scale, strainer/cheesecloth, glass bottles
- with a screw on cap or a cap with an air tight seal for storage.

References : • natural farming hawaii.net

• cta.hawaii.edu > pdf

• cgnfindia.com > FPJ

Fermented Plant Juice

HOW to Make

FPJ:

• Harvest plants

before the sun rises

• DO NOT wash plants. weigh plant matter

• CUT in pieces into mixing tub.

• weigh sugar, same amount as plant matter (1 to 1 ratio)

• MIX plants & sugar together until plants is translucent.

• Transfer into bucket. fill ONLY halfway

• put trash bag on plant matter,

push down to get air out

• Add water, to top of bucket.

• Let Sit for 3 days (Anaerobic)

• After 3 days, remove bag &

• Replace with a T-shirt & Rope.

• Let Sit for another 3 days (aerobic)

• After 3 days strain & store

• in a glass bottle, in a cool, dark place.

HOW to USE

FPJ:

• ALWAYS use RAINWATER

• 1/2 oz per Gallon

• USE on stressed out plants,

seed planting soil, or as a FOLIAR

• Foliar during early A.M. or

late PM

Nutrients:

• COMBET: source of Nitrogen,

Phosphorus, Potassium & calcium.

• Good for fruit trees, flowers &

vegies. Increase their production.

• Fast developing plants like hono hono,

have growth hormones that give every give

& can improve any weakness or head/heart issues &

help a plant through recovery.

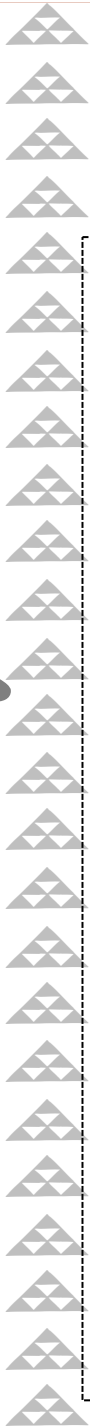
• Mugwort is useful during germination

through vegetative growth. helps crops

become strong & grow fast.

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Kalua Palms



Fermented Plant Juice (FPJ)

Tools and Materials:

- Plants that grow in abundance on your 'āina
- A large mixing bin
- Organic brown sugar
- 5-gallon buckets
- Heavy duty trash bag (3 mil)
- Scissors
- Old t-shirt or fine mesh covering
- Rope
- Scale
- Strainer or cheese cloth
- Glass bottles with screw cap or air tight seal for storage

Preparation:

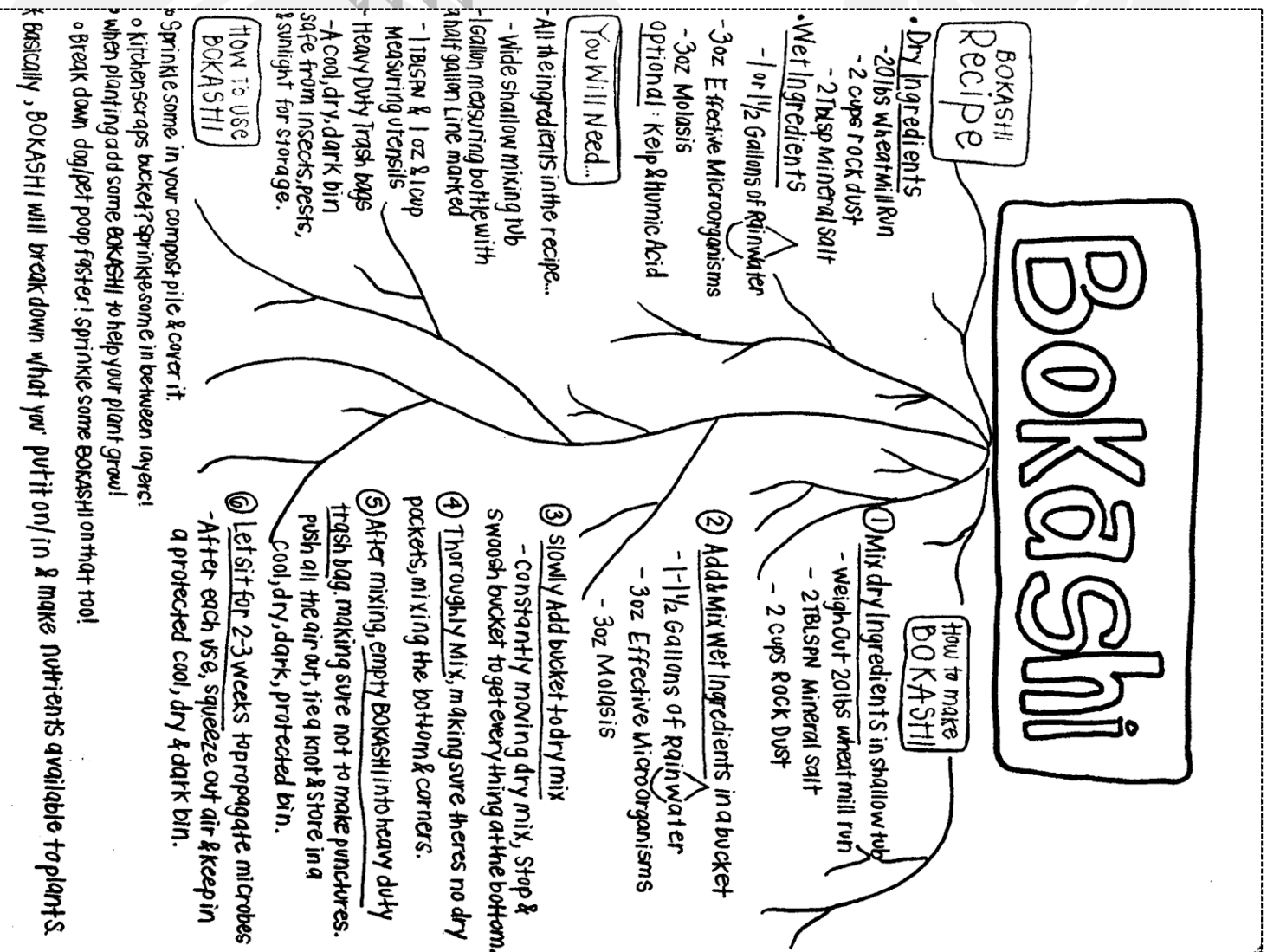
- Harvest plants before sun rise.
- Do not wash plants.
- Weigh plant matter. Then cut into 2" pieces.
- Weigh sugar. It should be the same weight as the plant matter. (1 to 1 ratio)
- Place plants and sugar into mixing bin. Mix plants and sugar together until plant is translucent.
- Transfer to bucket and fill half way.
- Open trash bag and place the bottom of it onto plant matter.
- Push down firmly to remove all air.

Fermented Plant Juice (FPJ)

- Add water into the trash bag to the top of the bucket.
- Tie off trash bag and let the plant matter sit for 3 days. (Anaerobic process.)
- After 3 days, remove the trash bag and replace with a t-shirt or fine mesh covering.
- Use the rope to wrap around the lip of the bucket and tie securely.
- Let sit for another 3 days.
- After 3 days, strain plant matter.
- Store liquid in air tight container.
- The leftover plant matter can go into your compost pile.

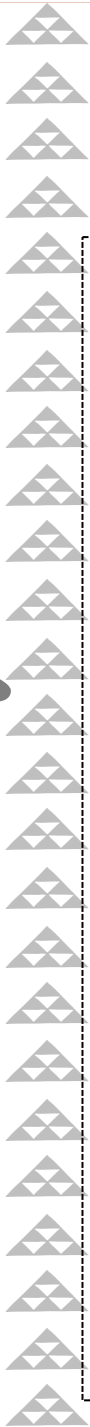
How to use FPJ;

- ½ ounce to 1 gal. of (preferably) rainwater
- Use on plants that are stressed, soil that needs additional nutrients before you plant seeds, or as a foliar in the early morning or late afternoon.
- A foliar is a technique of feeding plants by spraying FPJ directly onto the leaves of the plants. Plants are able to absorb essential elements through their leaves.



community garden

Kaunohouma



Bokashi

Tools and Materials:

- 20 lbs. wheat mill run
- 2 cups rock dust
- 2 tbsp. mineral salt
- 1 to 1 ½ gal. rainwater
- 3 oz. Effective Microorganisms (EM)
- 3 oz. molasses
- Kelp and humic acid (optional)
- Wide shallow mixing tub
- 1 gal. measuring bottle with a ½ gal line marked
- measuring spoons
- measuring cups
- heavy duty trash bags (3 mil.)
- A cool, dry, dark storage bin – safe from insects, pests, and sunlight

Preparation:

- Mix dry ingredients (wheat mill run, rock dust, and mineral salt) in shallow tub.
- Mix wet ingredients (rain water, EM, and molasses) in a bucket.
- Slowly add wet ingredients to dry. Make sure that ingredients are mixed thoroughly. Make sure there are no dry pockets – in the corner of the tub or on the bottom of it.
- Empty thoroughly mixed bokashi into a large trash bag.

Bokashi

- Remove all air from the bag by pushing down firmly.
- Once air is removed, tie a knot and store in a cool, dry, dark protected bin.
- Let sit for 2-3 weeks to propagate microbes.
- After each use, squeeze out air and return to its bin.

How to use Bokashi;

- Sprinkle bokashi in your compost pile and cover it.
- Add bokashi to your kitchen scraps by layering it.
- When planting, add bokashi to the soil.
- Sprinkle bokashi on your dog poop, it will break down the dog poop quicker and control the smell.



Practice

Seed

Seeds are sacred. Strong yet fragile. They require nurturing and aloha to thrive. Seeds live sheltered in their protective womb patiently waiting to be born.

At Kaluaopalena, seeds are gathered from the land or purchased from a reputable seed company where farmers have been saving seeds for generations. We believe in seed sovereignty. Seed sovereignty is a way for our community to reclaim our independence to grow our own food, using viable seeds.

There are certain rhythms to consider when working with seeds. Our farmers have provided a “Seed Gathering and Saving” recipe as well as a “Planting Sweet Potato from a Cutting” recipe both designed to support healthy farming practices.

Seed Gathering and Saving

- Seeding plants. Allow your plant to mature and seed.
- Gather. Gently gather the flowers that have seeds. Or if the plant produces beans harvest the pods.
- Separating seeds. Gently remove the seeds from their casing. Winnowing is one method used to separate seeds.
- Sifting seeds. Seeds can be sifted gently between your thumb and index finger. You can use the magic of a gentle breeze to separate viable from non-viable seeds. Simply sift the seeds between your fingers in a circular motion. The wind will blow away the non-viable seeds.
- Saving seed. If you are saving seed, store the viable seeds in a small paper bag and then store in a re-sealable bag. Place the bag in an airtight container and store in a cool dark place.



Planting Sweet Potato from a Cutting

- Gather palula (sweet potato) slips about one ha'ilima (from elbow to fingertip) long.
- Remove older leaves from the base of the cutting. Make sure to leave at least 4-5 young shoots at the top of the palula slip.
- Prepare your bed by adding cinders to your soil and mounding the earth into a loose pile. (This practice helps with good drainage.)
- Bury the palula stem into the mound with the young leaves exposed.
- Kūpuna would plant the slips with the leaves facing either east or west. This practice allows the plant to harness and maximize the sun's energy elevating the mana of the plant.
- Water immediately after planting.
- As the vine begins to grow, it will tend to root wherever it finds soil. To prevent the vine from spreading, weave the vines back into itself wiliwili style. This focuses the energy of the plant into the 'uala, producing a larger more robust tuber.

Perform

At Kaluaopalena, we begin our day with an aloha circle. An aloha circle creates a space for families to feel safe and welcomed. It creates a vibration of love and belonging.

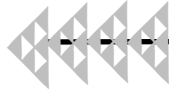
The aloha we share with each other is also shared with our garden. As we send out vibrations of aloha into our neighborhoods, we witness the mutual exchange of aloha between people and land. We see the transformation of kanaka and 'āina, and the healing of community.

Share your own story of aloha through a poem, reflection, or drawing. Here are a few questions to inspire you:

- Is there someone you know who shows aloha? How?
- Who makes you feel safe? Why?
- How do you show aloha to others?
- Is there anyone in your family who grows food? What kind?
- Does your family have a special tradition or practice to grow food?
- How does the land show aloha to us? How do we show aloha to the land?

Kalunopala

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Aloha *love*

Use this space to reflect, draw, or write a poem. What does aloha mean to you?

Kalunopalen



Kalunopalaena

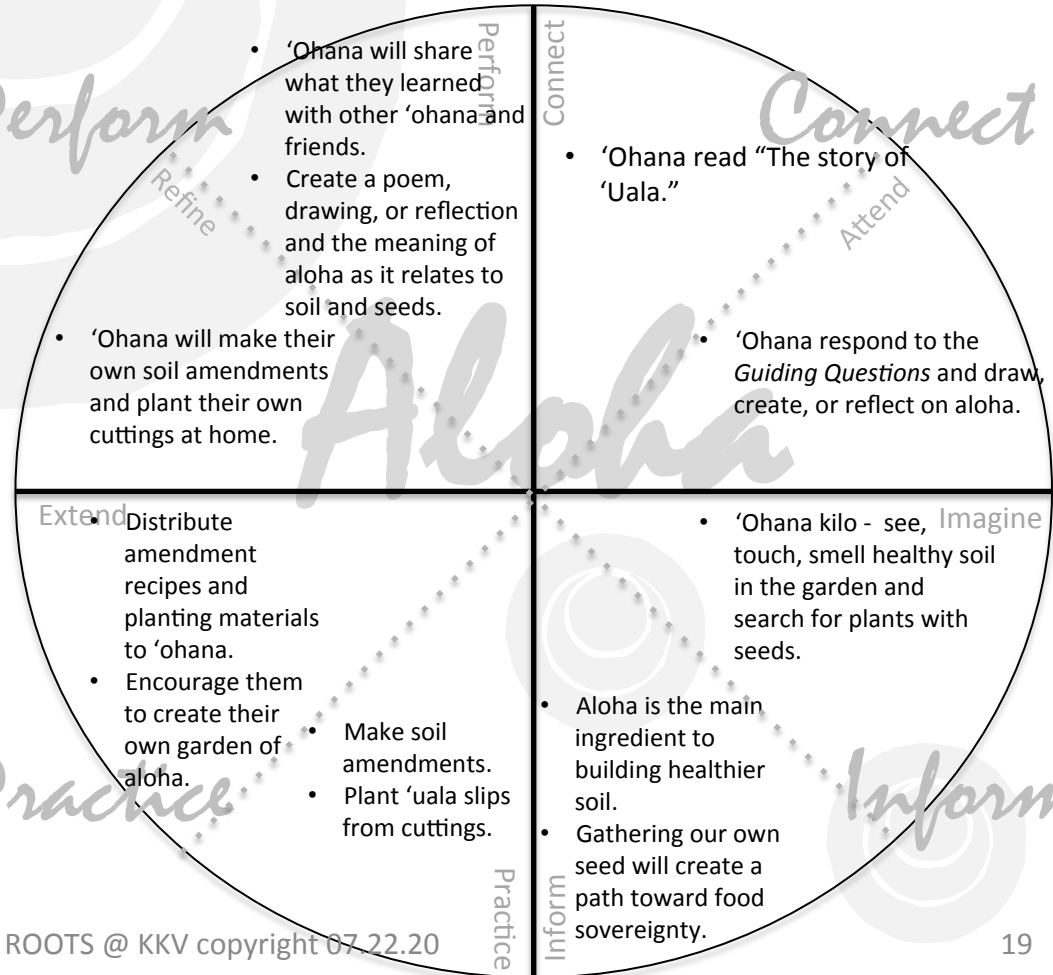
community garden



Aloha ^{love}

Curriculum Design

The 4MAT-ed curriculum circle summarizes content for each learner. An engaging lesson plan will incorporate all four areas. Use this curriculum circle as a model for you to develop your own activities around the value of aloha.

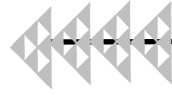


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Use this space to design your own curriculum 4MAT circle.



Aloha *love*



Ma'alela

The Story of Hinanalo

based on a traditional story

Under the leadership of Haloa, the 'aina thrived. The streams were clean. The forests and oceans were healthy – teeming with life. 'Aumakua and kūpuna were acknowledged through pule. And the people had everything they needed in order to continue the cycle of malama. The land and people were in balance.

When Haloa became a man, there were thousands of kanaka across the pae 'aina living in pono. Haloa eventually fell in love and had a child. They named him Waia.

As Waia grew older, he was taught the ways of his father and kupuna - Father Sky and Mother Earth. But Waia was different from Haloa. The kuleana of taking care of the 'aina and the people were of no interest to him.

Waia ignored his kuleana. He was very selfish and cruel. When the people came to ask him for help to clean their 'auwai or manowai, he ignored their request. When fishponds had to be repaired, he dismissed the responsibility. But because of the way he acted with no care or reverence for the 'aina, the 'aina stopped feeding the people.

Malama *care for*

A heaviness settled over the land. Streams no longer flowed. Reefs were smothered with lepo. The 'aina suffered. The people suffered too. Then a child was born to Waia. His name was Hinanalo. His mother was Huhune.

As Hinanalo grew older, he could see the devastation of his father's land. The 'auwai lay in disrepair. Streams did not flow freely. Water was filled with lepo. The ko'a where the fish once gathered now lay empty. No one cared for the land and ocean. The people were hungry and sick.

Hinanalo could feel the heaviness of the land and the people. It weighed deeply on his heart.

One day, he returned home to find his mother feverish laying on her moena. He ran to her side, "What is wrong, Mama?"

"Auwe! I have no strength," answered Huhune. Our people are suffering and so does the land. There is no clean water to drink. The food no longer grows in abundance as it once did. When our land was healthy, we were healthy. When your grandfather, Haloa, took care of the land, our people thrived. I married your father, Waia, expecting him to continue this kuleana, but 'auwe he has ignored it."



Ma'olelo

Huhune's breathing was labored and she whispered to Hinanalo, "You must seek the advice of your Tutu Man, Haloa. He will know what to do."

With a heavy heart, Hinanalo approached Haloa's hale and explained his mother's request. Haloa listened intently and sighed, "Ua waia ka inoa o ka 'ohana - your father has shamed our family. He has not taken care of the land that feeds his people. Nor has he cared for the people who feed the land. I have banished him to the land of Milu where he can do no further harm."

With that, Haloa held his grandson in his arms as the young man wept for his mother, the 'aina, and his people. "Come, we will visit the land and our people," Haloa said. "This is our kuleana. This is where the healing will begin."

Hinanalo and Haloa trekked across their homeland from the mountains to the sea. They met with the sick and infirmed and brought them la'au to heal. They met with the hungry and brought them food to satisfy. Everywhere they visited the people rejoiced and so did the land.

Malama care for

Hinanalo became the chief of the land, replacing his father. Under his leadership, the land was happy and so were her people. The streams were once again clean. The forests and oceans were healthy, teeming with life. 'Aumakua and kupuna were acknowledged through pule. And the people had everything they needed in order to continue the cycle of malama. Everything was restored to pono.

Today, there are 'aina warriors who are protecting our streams. Our forests. Our oceans. Our kalo fields and fishponds. The kuleana of caring for 'aina and kanaka has been passed down to the next generation who perpetuate the practice of Haloa and Hinanalo. The kuleana does not end because of those who choose to neglect it. As Hinanalo has taught us, the kuleana is still here, and it is our choice to continue to malama the 'aina and our lahui. E ola!

Pipi holo ka'ao!

This mo'olelo was adapted from several historical writings and secondary sources and lomi-ed into a version digestible for keiki and 'ohana. The story of Hinanalo is meant to add to the overall mo'olelo and the end result is a combination of the writers' creativity and kupuna intervention.

Guiding Questions

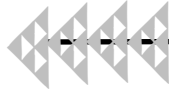
- Can you think of a time in your life when you should have mālama-ed but didn't?
- What happens when you mālama or take care of things?
- This mo'olelo also talks about kuleana or responsibility. What is your kuleana to the land, your ancestors, your community?

Kalunopalenā

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What does mālama mean to you? Draw, craft a poem or write a reflection.



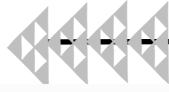
Malama *care for*

Kalunopalenā

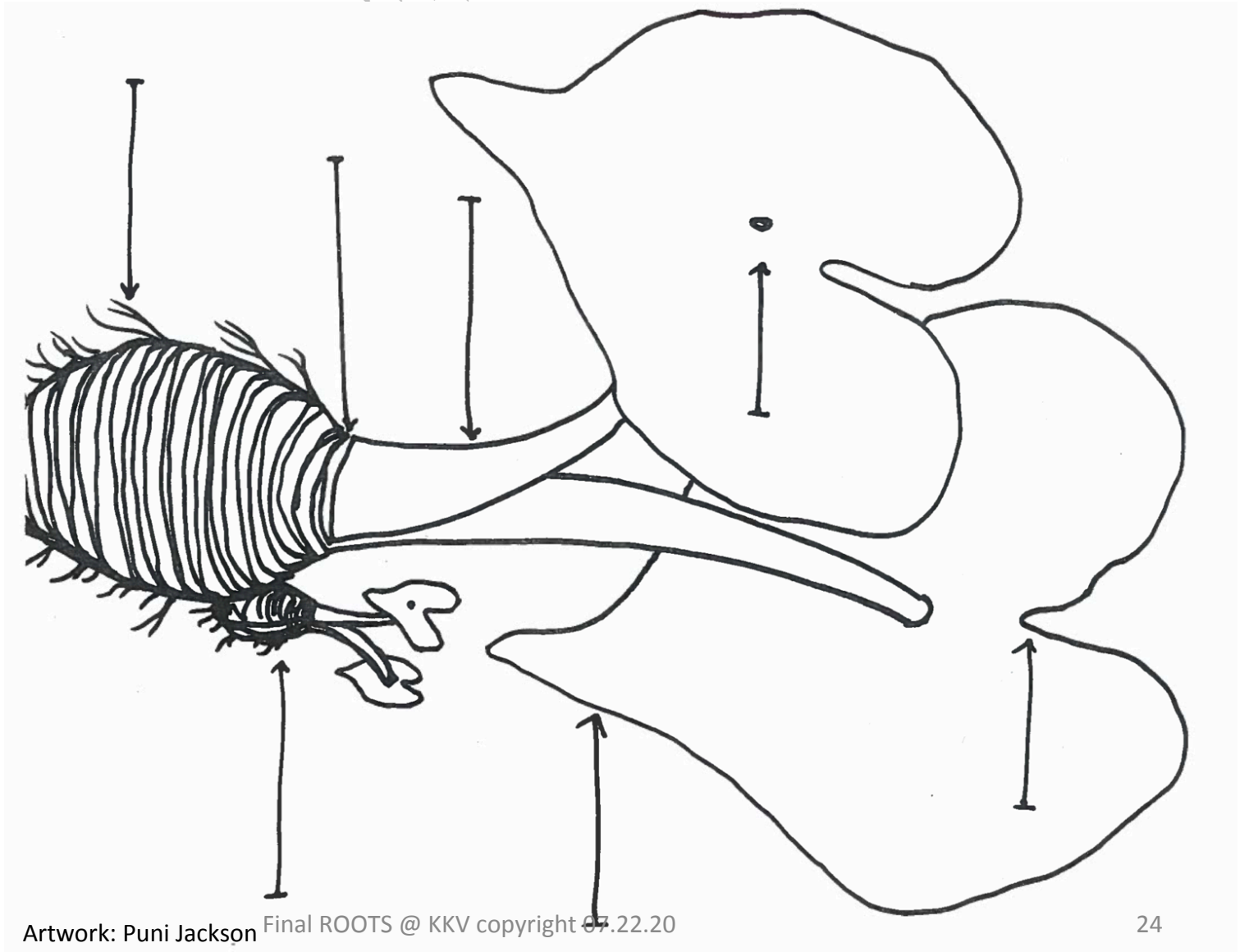
community garden



Can you name the parts of the kalo plant? Use color pencils to color and label it.



care for
Malama



Artwork: Puni Jackson Final ROOTS @ KKV copyright 07.22.20



Connect

A large part of growing food is maintenance or to mālama ‘āina (care for the land). For the farmer, the land is like a child to be cared for, loved, and pampered. Farmer and land are inseparable and the pilina (connection) formed between the two is one of mutual respect and aloha. If the crops are not tended to, food will not grow. Malama is essential to growing healthy food.

Inform

To ensure that plants are well taken care of, mālama practices are put into place. At Kaluaopalena, staff hand weed regularly with the help of volunteers. In large areas where weeds are profuse, wood chips form a barrier to help control unwanted plants. Landscape fabric or weed mat is not often used because the material is made from petroleum products, which can leak toxic chemicals into the māla. Instead weed mat is replaced with mulch – a healthier more natural choice for weed suppression. Tools such as weed whackers are used regularly to maintain the space.

We oppose any type of chemical use on the land. The most natural way to maintain a clean, healthy garden is to weed by hand, use tools when necessary, and to use organic methods of fertilization.

Malama *care for*

We know that herbicides and other non-organic methods of weed control deplete nutrients from the soil. It also depletes microbial diversity within the soil and general biodiversity.

Organic methods of mālama promote biodiversity. Biodiversity boosts our ecosystem productivity. No matter how large or small a species, each has a role and maintaining a non-toxic, healthy space is the way for each specie to find strength to flourish.

Kaluaopalena

community garden



Practice

Our ancestors created intentional spaces that they would be able to maintain with relative ease. Fishponds and lo'i fields were molded and shaped into "intentional structures" based on the formation of the land. These spaces were cared for regularly so that food would grow and the community would have access to it.

At Kaluaopalena, our garden space is small yet we have created intentional spaces that we can maintain with minimal effort. Keiki from the public housing units help beautify the area by picking up trash, weeding garden beds, raking leaf litter, scrubbing down the cement pad, dumping non-biodegradable trash, and caring for the garden tools.

We have included some suggestions on how to create your own garden space and what to consider when maintaining that space.

Malama *care for*

Mālama Tips

- **Assess the land.** What kind of overgrowth are you dealing with? Is the ground level? Are there trees or bushes in the way that will block sunlight or get in the way of other parts of the garden? What kind of soil do you have? Is it clay, rocky, hard, soft? Observe what kinds of bugs and animals are around. What is the history of the land? What is its mo'olelo?
- **Envision.** Sometimes spaces call out to you to be planted with certain plants, in a certain way. Activate your imagination.
- **Get the tools you'll need.** These might include: pick, shovel, hoe, rake, sickle, machete, 'ō'ō, your hands, or gloves. This is also the moment to get your friends and community involved so that the work can be shared.
- **Positive thoughts.** Some people find weeding and clearing land to be relaxing and a good stress relief. Have positive thoughts and intentions. As you begin to heal the land, the land will heal you.
- **Repurpose.** One culture's weed is another's food or medicine. Be maka'ala (alert)! If you are unfamiliar with the plant, ask! Something that looks like a weed could be something of value. These plants should be left in place or transplanted. When you pull up weeds, shake the dirt off the roots. Plants that have been uprooted, should be composted.

Kaluaopalena

community garden



Perform

We mālama our garden at Kaluaopalena as we mālama the 'āina that grows our food. As with a child who is given love and protection by her family, the 'āina needs that same quality of care. We understand that our pilina (connection) to the garden through regular mālama will provide our community with nourishing, healthy food and medicine.

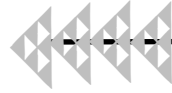
Share your own story of mālama through a poem, reflection, or drawing. Here are a few questions to inspire you:

- How do you mālama yourself?
- Do you have a ritual to mālama your space or your hale? What is it?
- Does your 'ohana grow food?
- Does your family have a particular practice to mālama your garden? Can you share that with us?

care for
Malama

Kalunopalenā

community garden



care for
Malama

Use this space to reflect, draw, or write a poem. What does mālama mean to you?

Kalunopalaena

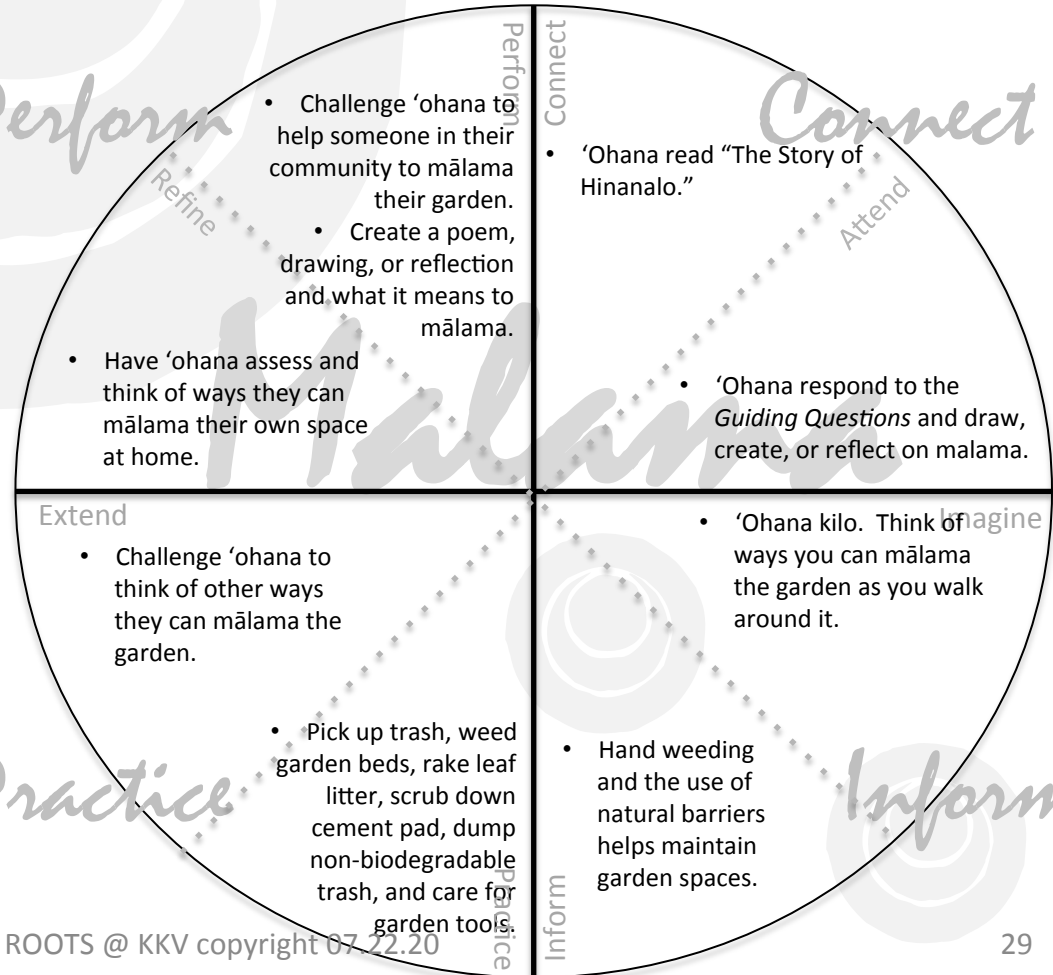
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Malama care for

Curriculum Design

The 4MAT-ed curriculum circle summarizes content for each learner. An engaging lesson plan will incorporate all four areas. Use this curriculum circle as a model for you to develop your own activities around the value of mālama.

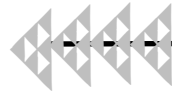


Kalunopalen

community garden



Use this space to design your own curriculum 4MAT circle.



care for
Malama



Ma'olelo

The Sacred Breadfruit Tree

based on a traditional story

In a traditional Hawaiian mo'olelo (story), the god Kū lived among the people as a human. He was married with wife and children. As the seasons progressed, food became scarce. Concerned about his family's welfare, Kū decided to reclaim himself as a god to prevent his family from starving.

On the hōkū moon, Kū went to his wife and held her tightly.

"I must leave you for the sake of our family. Do not try to search for me for I will always be within reach. Tomorrow you will find an 'ulu (breadfruit) tree. Nurture it well for it will provide for you and our 'ohana (family). Once the tree has sprouted keiki (children), then share the saplings with the rest of the people. I leave to ensure the legacy of our family and our community."

Kū's wife wept as she bid her husband farewell. The next day, she gazed upon their fields and discovered a beautiful 'ulu tree with lovely white sap dripping down the fruit.

Ho'ihi ^{respect}

With great joy, she harvested the 'ulu and cooked it over a fire and shared it with her family. As her husband had directed, she gathered the keiki saplings and distributed them among the people. From that day forward, 'ulu grows abundantly in Hawai'i always a staple for the community.

Guiding Questions

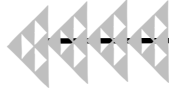
- Ku's wife had great respect for her husband and her family. How did she show hō'ihi to Kū?
- What did Kū have to sacrifice in order to feed his 'ohana?
- Have you ever had to give up something to gain something in return?
- How do you show respect to yourself, your 'ohana, your community?
- How do we extend our gardening practices beyond our 'ohana?

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What does hō'ihī mean to you? Draw, craft a poem or write a reflection.



respect
Ho'ihī

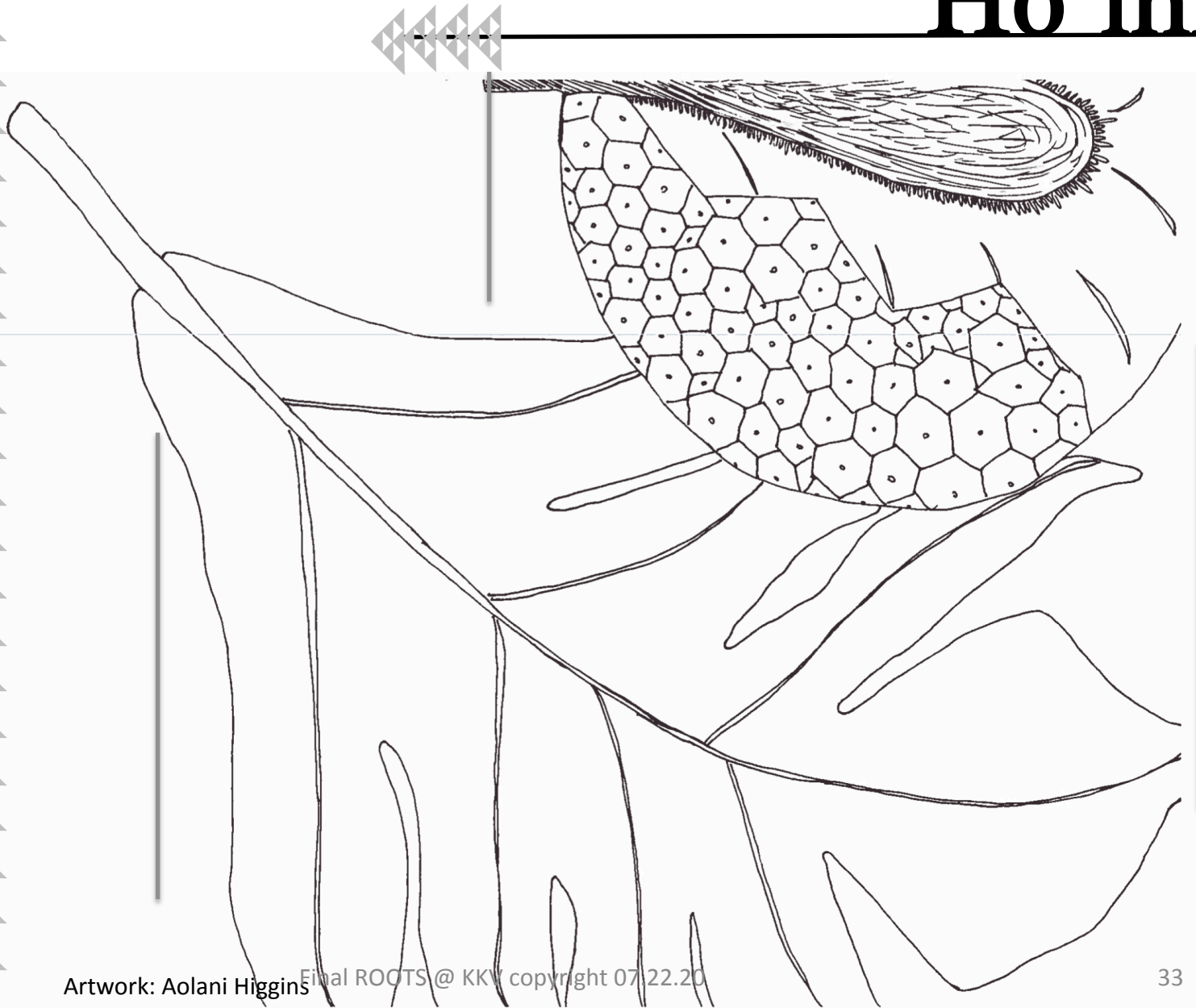
Kalunopalaena

community garden



Can you name the parts of the 'ulu? Use color pencils to color and label it.

respect
Ho'ihi



Kalunopahala



Kaluaopalena

community garden



Connect

Hō'ihī or having respect for garden space is equally important as respect for personal space. Creating spaces that are welcoming is just as essential as spaces that are functional. As each garden space is designed, shape and form are thoughtfully and respectfully considered.

Spending time with the land and observing her contours, watching the energy of the water and how it flows is key to assessing and connecting to a space. Connecting to the land first before designing and building garden containers, shows intention and respect for the 'āina.

Inform

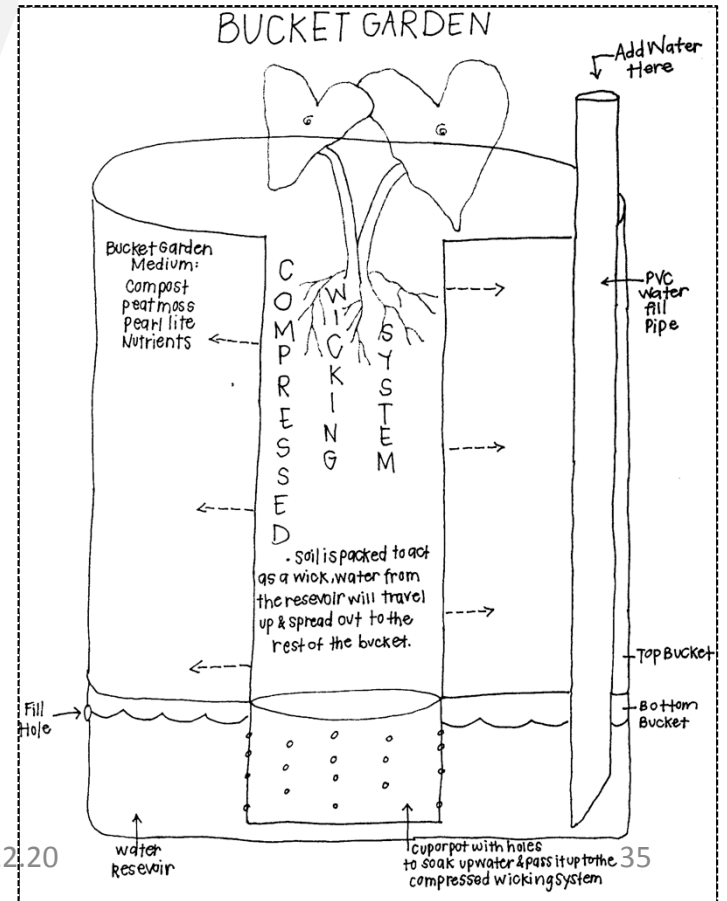
Holding hō'ihī or respect for the many patterns in nature and creating those same shapes in a design plan will produce a functioning, beautiful space. Spend time with the space before building anything. We call this practice kilo or observation. Kilo helps you determine the direction of the wind, how often the rain falls onto the land, where is the sunniest area of your garden, and if there are any likely animals or critters that may disrupt the flow of your garden. These are all important elements to consider when you kilo.

At Kaluaopalena, we have created spaces to hold plants such as raised garden beds, boxes, and buckets. In a māla, raised beds can help keep pathway weeds from creeping into the garden bed. They can also help prevent soil from compacting, provide good drainage, and serve as a barrier to pests such as slugs and snails. The sides of a raised garden bed can keep valuable soil from eroding or washing away during heavy rains. Final ROOTS @ KKV copyright 07.22.20

Ho'ihī ^{respect}

Practice

Since our Kaluaopalena families live in an urban setting with little space to garden, we have created a container system that will allow 'ohana to grow food in a small space. The bucket garden uses a five-gallon container system.





Bucket Garden

Materials and Equipment:

- 2-5 gallon buckets
- 1/8" drill bit
- 1/2" and 4" hole saw bits and drill
- 4" round pot
- 10 gallons compost
- 10 gallons peat moss/pearl lite
- 1/2" PVC piping 2 ft. long
- 1 single large plant or a variety of plants that grow well together

Preparation:

- Place Bucket #1 (inside bucket) into Bucket #2 (outside bucket).
- Using a 1/8 drill bit, drill a single hole into Bucket #2 just below the bottom of Bucket #1. (This will serve as your overflow hole.) Remove Bucket #1 and set aside Bucket #2.
- In Bucket #1, drill a 1/2 inch hole in the bottom of the bucket close to the rim. (This is where you will water your plant through a PVC pipe.)
- In Bucket #1, use a 4" hole saw bit, drill a 4" hole into the center of Bucket #1. (This is where your 4" pot will sit.)
- In Bucket #1, use the 1/8 drill bit to evenly drill holes in the bottom of the bucket. (This procedure helps with water drainage and water uptake through the wicking system.)
- Place Bucket #1 into Bucket #2.

- In the 4" pot, drill 1/8" holes into the side of the pot so that water can escape. (See diagram on previous page.)
- Fill pot with soil and pack firmly so it is not loose.
- Place 4" pot into the center hole of Bucket #1.
- Insert 1/2 inch PVC pipe into the 1/2 inch hole in the bottom of Bucket #1.
- Slowly fill Bucket #1 with soil mix. It should be about 3/4 full.
- As you fill the bucket, firmly pat down the soil in the center of the bucket where the 4" pot is buried. The surrounding soil should be loose.
- Add your plants to the bucket and top with soil mix.
- Say a planting pule such as *E ola 'oe. E ola mākou nei.*
- Add water to your reservoir.
- Make sure you respect your plants by checking them daily and sending good mana (energy) their way.



Perform

Respect for ʻāina. Respect for space. Being intentional about how you design and shape your space. Creating a space that considers your surroundings is important to making your plants happy.

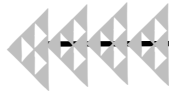
Kilo helps assess your environment to determine the best place to grow food. What direction is the sunlight? Is the area I chose have too much shade? How will I water my plants? Did I choose the right “bed” for my plants to feel happy and safe?

Share your own story of hōʻihi through a poem, reflection, or drawing. Here are a few questions to inspire you:

- How do I show respect for myself?
- How do I show hōʻihi for the people in my life?
- If I were to dream about a garden space, what would that look like?
- How would I create a garden that is respectful of its surroundings, considering the shape and contours of the land?

Kalunopalaena

community garden



respect
Ho'ih

Use this space to reflect, draw, or write a poem. What does hō'ih mean to you?

Kalunopalaena

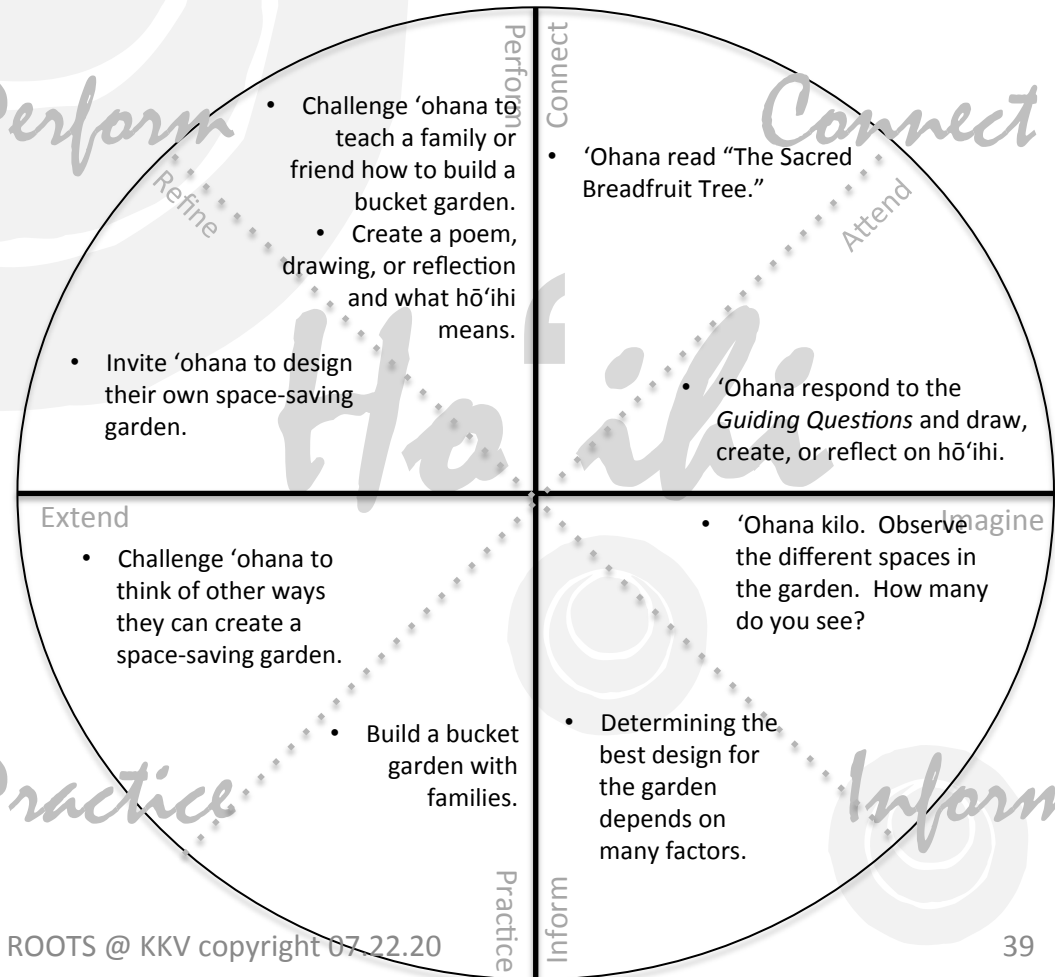
community garden



respect
Ho‘ihi

Curriculum Design

The 4MAT-ed curriculum circle summarizes content for each learner. An engaging lesson plan will incorporate all four areas. Use this curriculum circle as a model for you to develop your own activities around the value of hō‘ihi.

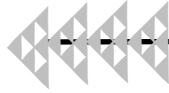


Kalunopalenā

community garden



Use this space to design your own curriculum 4MAT circle.



respect
Ho‘ihi



Ma'alela The Shimmering Laupele

a creative, interpretive work with kūpuna guidance

Long ago there was a family who lived deep in the beautiful valley of Kalihi. Kalihi was known for its many lo'i (taro) fields, sweet potato farms, and 'ulu (breadfruit) groves. The valley was fertile and green and abundant with plenty of food for people to eat.

The family lived frugally, but their 'umeke (calabash) was always filled with poi and mea'ai (food). Next to their hale was a field where they cultivated laupele (edible hibiscus plant). Laupele grew as far as the eye could see. It had been planted by their kūpuna (grandparents) and their kūpuna's kūpuna. Laupele had been farmed by their family for generations.

The youngest boy in the 'ohana was named Ola. Everyday Ola would join his Tūtū Man to help tend the laupele field. He would harvest leaves for his Mama to make a dish of greens and fish, and he would bury stalks in the earth so that the laupele would continue to flourish.

As Tūtū Man planted, he would chant to the gods who cared for the crops. "We are grateful, o Mighty Ones, for laupele brings us life."

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gratitude Mahalo

One day, as Ola prepared to join his grandfather in the laupele fields, he noticed that his Mama was still on her moena (sleeping mat). He went to her side as she lay there pale and listless. "Mama what can I do for you?" Ola asked worried as he placed his hand upon her swollen 'ōpū.

Ola was eager for the new baby to be born and his Mama was eager too. Just a couple of weeks ago Mama had been helping in the laupele fields with the other women, walking along the rows of dark green trees harvesting the bright yellow hibiscus flowers to make tea.

He had also seen her laughing with the women as she gently beat wauke into kapa cloth for the new baby. Ola was use to seeing his Mama active until today when she lay in bed without energy. Tūtū Lady had even given Mama lā'au to help bring baby into the world. But nothing seemed to be working. Baby was late and Mama was uncomfortable and feeling poorly.

Ola remembered the prayer that his Tūtū Man would recite as he planted the laupele stalks. "We are grateful, o Mighty Ones, for laupele brings us life." Could the laupele leaves help Mama bring baby into this world?

Ola ran to the laupele fields and stood before the shimmering trees. He prayed heavily, begging the gods for help. "Please o Mighty Ones. Help my Mama give birth to this baby," he recited. "We are grateful. For laupele brings us life."



Ma'alela

After reciting the chant, he gathered the leaves. He was careful to select the younger ones knowing that the older leaves were far too stringy and tough. He remembered what his grandfather taught him, which was to take only a few leaves from each branch so that each limb would continue to produce more leaves.

All of this Ola did with reverence and gratitude in his heart. And once he had harvested enough for his Mama, he returned home and handed the leaves to his Tūtū Lady to prepare a soup for his mother.

Everyday for one week, Ola prayed, gathered, and prepared laupele. And everyday he thanked the gods for caring for his mother.

In the middle of the night, Ola woke with a start. What had he heard? There were noises coming from the other hale. Was that Mama crying? He bounded from his moena and entered the hale. An orange glow cast shadows against the pili (type of grass) walls. Slowly Ola crept to where his Mama lay.

She was sitting up on her moena, cooing over a little bundle wrapped in the kapa she had made. Ola tiptoed to the side of his mother and peered over. There he saw the most beautiful baby suckling on her Mama's waiū (bosom).

gratitude Mahalo

"This is your kaikamahine (sister), Ola," Mama whispered. "It was you who helped bring her into our world, and we have named her 'Alohi – the shimmering one."

As the morning sun rose over the ridge in Kalihi Valley, Ola made his way to the laupele field. While he prayed and chanted, Ola gathered laupele leaves and flowers and made them into a bundle and presented them as an offering to their family's 'ahu (altar). Thanking the gods for bringing his baby sister into his world.

As he stood next to the 'ahu, the Haupe'epe'e wind lifted the bundle and gently set it down. The sun cast a pink-orange glow against the leaves. And new rain created a beautiful shimmering light upon them. Ola smiled and murmured, "Laupele indeed brings us life." Pipi holo ka'ao!

Guiding Questions

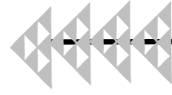
- How did the Kalihi 'ohana show their gratitude in this story?
- Ola means life. Why do you think Ola's family named him that?
- How did the laupele leaves help Ola's Mama?
- At the very end of the story Ola says, "Laupele indeed brings us life." What did he mean by that?
- Can you identify a metaphor in the story? What does it mean?
- Can you think about a time in your life when you were deeply grateful?

Kalunopalenā

community garden



What does mahalo mean to you? Draw, craft a poem or write a reflection.



gratitude
Mahalo

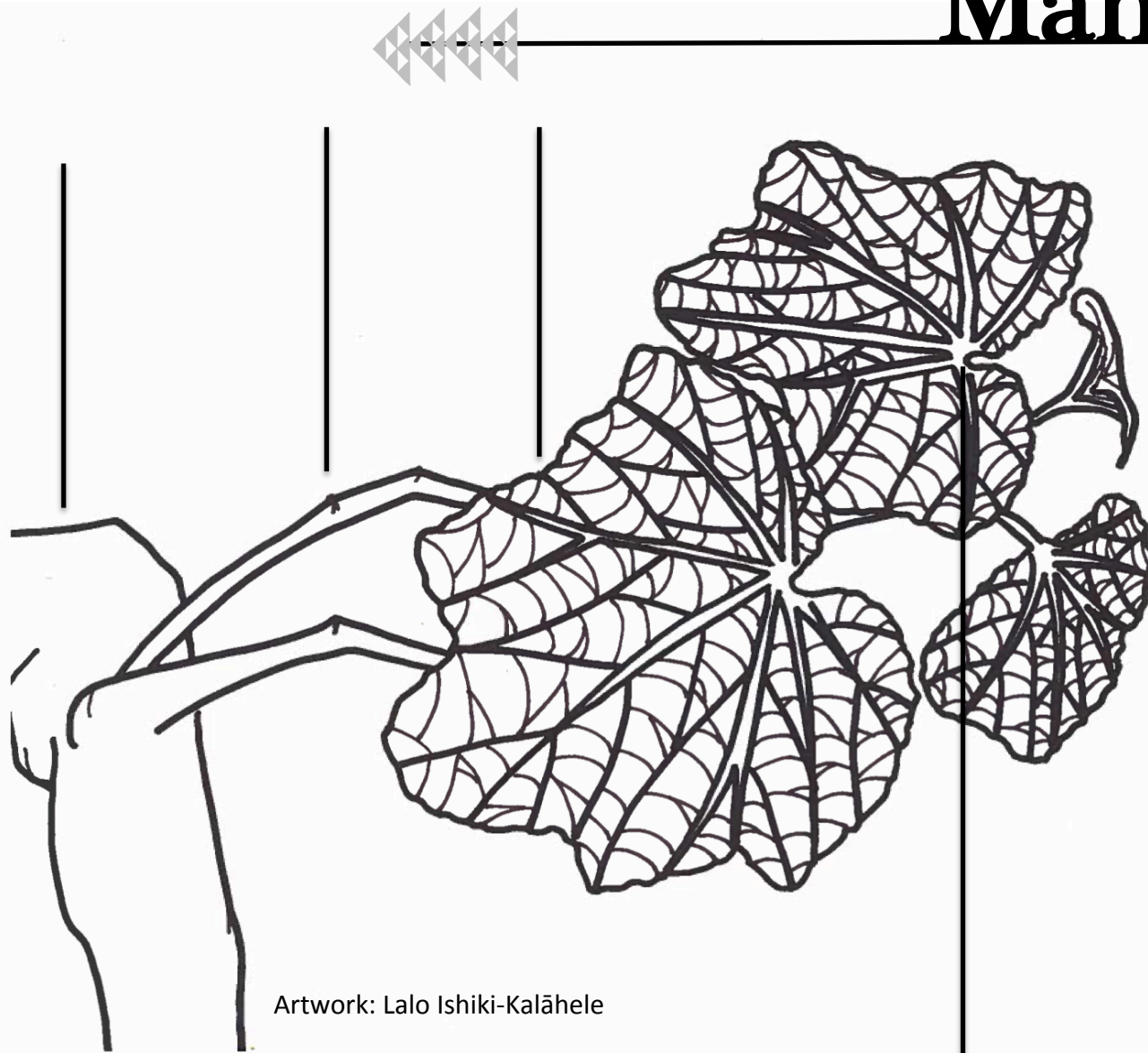
Kalunopalaena

community garden



Can you name the parts of the laupele tree? Use color pencils to color and label it.

gratitude
Mahalo



Artwork: Lalo Ishiki-Kalāhele

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Connect

The mahalo circle brings community together. It creates a vibration of gratitude and encourages community to reflect on their experience and share it with others in the circle.

At Kaluaopalena, we always open our day with an aloha circle and close with a mahalo circle. In our circle, we provide a sacred, safe space for the collective to share deep thoughts and feelings about their engagement with the land. The circle provides a space for community to be vulnerable and to feel courageous.

Inform

We are grateful for the knowledge our kūpuna held and shared with 'ohana. Planting and growing food must be intentional and our kūpuna understood that. They studied the phases of the moon and its relationship to producing food and medicine. This knowledge was handed down through generations reflecting the intimate knowledge the farmer had with his plants.

gratitude Mahalo

Our farmers here at Kaluaopalena try to perpetuate the practice of planting by the moon. As the moon waxes or begins to grow, water from the plant moves from its root to its trunk. During the bright full moon, water is pulled into the leaves of the plant. The best time to harvest lā'au lapa'au or Hawaiian medicine is during the full moon when the leaves of the plant is at its highest potency. Planting huli during the full moon also helps to maximize the growth potential of the kalo plant, producing large beautiful tubers.

As the moon wanes, water begins to move toward the root of the plant. Generally this is not a very good time to plant or harvest. However, one exception is planting root crops. Gravity pulls the tap root down, helping to germinate the seed. 'Uala and other root crops do well planting under a waning moon.

This is also a good time to for the farmer to do general maintenance in the māla. Pulling weeds, mulching and amending the soil are just a few ways we can maintain the integrity and keep our plants happy and grateful.

Kaluapalena

community garden



During the final phase when the moon is new and dark, the water in the plant returns to its roots. We use this time to continue caring for our plants, but we also use it as a time to begin planning and organizing the work for the next moon phase.

At Kaluaopalena, we acknowledge the practices set forth by our kūpuna and try to blend kūpuna wisdom with contemporary methods of planting and harvesting. As we begin to grow more food, we are not only feeding the land but feeding our community.

One plant that is a favorite of families is laupele or the edible hibiscus. The laupele leaf is a nutritious, green vegetable that is rich in protein, calcium, fiber, and other minerals. It's easy to grow and considered a super food. Many Pacific Island groups propagate laupele since it's a hardy, fast growing crop that is high in nutrients.

Laupele is also known for its medicinal value. The plant contains musilage – a gelatinous secretion. Practitioners will often use the leaves to prepare a meal or harvest the flowers to prepare a tea for pregnant women. The slimy solution when ingested helps prepare the mother's birth canal for baby. Any type of plant that has musilage should be given to a woman in her final month of pregnancy. Not before!

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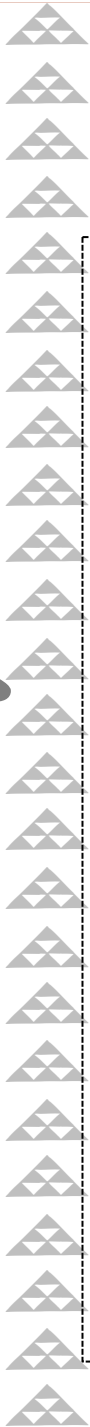
gratitude Mahalo

Practice

The beautiful small yet abundant garden space at Kaluaopalena allows us to grow a variety of plants. From 'ulu to kalo to kale to medicinal lā'au – all are available for the community to access.

Laupele is grown at Kaluaopalena, but if you have a small plot outside your front door or a lānai with plenty of sunlight, you can plant laupele. We have included instructions on how to propagate laupele and also included a wonderful chicken papaya laupele recipe for your 'ohana to try. You don't have to be pregnant to enjoy it!





Growing Laupele

Materials:

- Laupele stalks at least 1 ha'ilima (12" to 18" long)
- 10 gal. pot
- Soil
- Soil amendments

Preparation:

- Prepare your soil with amendments.
- Your laupele stalks should be about 12" in length. Remove all the leaves except for the ones at the tip of the plant.
- Plant the laupele slip vertically in the soil at least one nodule deep and at least 2-3 feet apart from each other. This will provide enough space for the laupele to expand.
- It takes anywhere from 3 to 4 months for the laupele to yield leaves ready to harvest
- Once the plant is ready, gather the younger leaves. The older ones are a lot more fibrous with woody stems. This makes the leaves tough and stringy and not very edible.
- Express mahalo for the food you are gathering through oli or pule.
- Harvest enough laupele so that you can share with kūpuna and others in the community.
- If there are 'ohana you know of who have space to grow food, share laupele stalks with them. Growing food and sharing it with others will help widen our circle of connection to land and community.



Mahalo

Chicken Papaya Recipe

Ingredients

- 4 T. of oil
- 4-5 cloves of garlic
- 1 onion
- 6 chicken thighs (bone-in) OR 4-5 pieces of boneless skinless breasts
- 2-3 green papaya
- 4-5 slices of ginger
- 4-5 slices of 'ōlena (turmeric)
- 1 package dried shiitake mushrooms (optional)
- 2 cups laupele
- Salt to taste
- Chicken broth

* This meal will feed an 'ohana of 5-6 people.

Preparation

- Soak mushrooms in water about 5 minutes
- Dice garlic and chop onion.
- Cut chicken into bite-size pieces.
- Peel papaya, remove seeds, and cut into bite-size pieces.
- Add 4 T. of oil to a large soup pot and heat on medium fire.
- Place garlic and onion into pot and brown. Stir frequently (you don't want it to burn).
- Once onions are translucent, add chicken and brown. Add salt.

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- Add ginger slices to pot.
- Add mushrooms. Include water mushrooms were soaking in.
- Add enough chicken broth to cover chicken. Let simmer for 20-30 minutes.
- Wash laupele and chop into small pieces. Add to soup.
- Add papaya. Let simmer until papaya is firm but soft enough so that it can be easily pierced with a fork. You don't want it mushy.

Perform

At Kaluaopalena, we end our day with a circle of gratitude. As we hold hands, we create a vibration of mahalo and give time for our community to internalize their experience and thoughtfully share it with the collective.

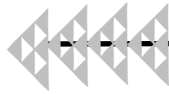
We acknowledge our kūpuna who stand behind us and who continue to guide and protect us even after our day has ended.

Share your own story of mahalo or gratitude through a poem, reflection, or drawing. Here are a few questions to inspire you:

- How do we show gratitude to each other? To my 'ohana? To my community?
- Is there a tradition or practice that my family shares when receiving a mahalo gift?
- Does your 'ohana have a special family recipe you make often?

Kalunopalenā

community garden



gratitude
Mahalo

Use this space to reflect, draw, or write a poem. What does mahalo mean to you?

Kalunopahala



Kalunopalaena

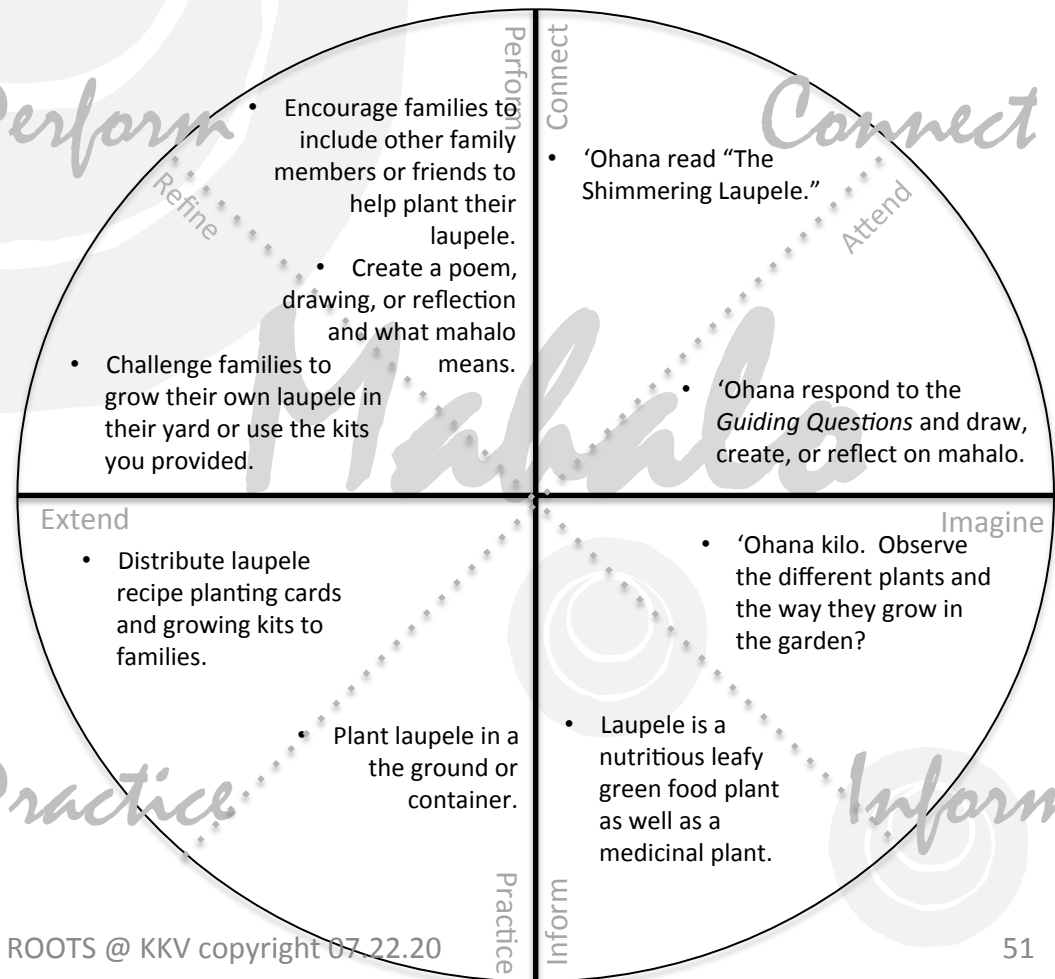
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gratitude Mahalo

Curriculum Design

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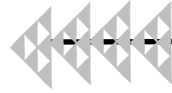


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Use this space to design your own curriculum 4MAT circle.



gratitude
Mahalo

Kalunopahala

