

Aloha 'Āina Packet

**‘Ilima - Lei of Hope
Let's Navigate a Bright Future
Together!**

Aloha! ‘O _____
ko‘u inoa.
(*Hi, my name is...*)

No _____ mai au.
(*_____ is where I'm from*)

Manawa (date): _____

The purpose of this Aloha 'Āina Packet is to provide keiki with fun activities that can connect them to 'āina from home while we “shelter-in-place” during the COVID-19 crisis. We want to encourage our keiki to go outside and to open their senses to the environment around them in a safe and healthy way.

All activities in this packet can be done with your 'ohana!

The Aloha 'Āina Packet was brought to you by the Wai'anae Wellness and Place-Based Learning Alliance:

The Cultural Learning Center at Ka'ala
Hoa 'Āina O Mākaha
Mālama Learning Center
MA'O Organic Farms
PALS & PLACES, University of Hawai'i at Mānoa,
Searider Productions
Wai'anae Coast Comprehensive Health Center

The Wai'anae Wellness and Place-Based Learning Alliance is an informal association of community-based organizations that are dedicated to providing hands-on, place-based learning experiences and connections to healthy living for Wai'anae children and families.

Mahalo to Hoa 'Āina O Mākaha, Nānākuli Elementary School, Ulu A'e Learning Center, University of Hawai'i at Mānoa Cooperative Extension Service, PALS & PLACES, Corteva Agriscience, and all of our partners for making it possible to get these packets into the hands of our keiki.

Produced in May 2020

If you have any questions about this packet, please contact Mālama Learning Center at info@malamalearningcenter.org or 808-305-8287.



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Center

'Ilima - Lei of Hope

Why are Native Plants Important?

Native plants are important to Hawai'i's ecosystems. Native plants arrived to the islands naturally, arriving by one of the three W's: Wind, Wings (birds), and Waves. Native Hawaiian plants are either indigenous (occurring naturally in Hawai'i and other locations) or endemic (found only in the Hawaiian Islands). Native plants create habitat for other native species, recharge our groundwater aquifers, and provide resources to practice Hawaiian culture. Many native plants can be used for multiple purposes such as medicine, tools, canoe, hale building, and much more making their existence vital to our cultural identity. Today, native species are being threatened by invasive species, development, wildfires, and other human causes.



'Ilima is the flower of O'ahu.



'Ilima flowers are used to make beautiful lei. Photo Source:

<https://www.cultivatekauai.com/leis-of-hope/oahu-ilima-lei/>

Importance of the Native 'Ilima

Scientific Name: *Sida fallax*

Although very small, the yellow-golden flowers of the 'Ilima are very useful. 'Ilima's tender flowers can be used to make an incredible lei and has medicinal properties. The plant also is beautiful in your garden. 'Ilima, the flower of O'ahu, is a native Hawaiian plant that grows into either a small shrub or a beautiful ground cover ('Ilima papa). 'Ilima can be found growing from the coast to the dry mesic forests on all of the main Hawaiian Islands. It is a member of the hibiscus family (Malvaceae) and is indigenous (naturally occurring here and other locations) to Hawai'i. The flowers of the 'Ilima were strung into a beautiful lei that was given to ali'i (chiefs). As it takes about 1,000 of these flowers to make just one lei, if you receive an 'Ilima lei, you should feel very honored. Not only can the flowers be turned into a lei of royalty, they can also be used in lā'au lapa'au (traditional Hawaiian medicine). The 'Ilima flowers and sap can act a natural laxative; the flowers were given to new babies and the sap was given to adults. Also, the pounded flowers were made into a drink and given to women when they were in labor, it was believed to help ease childbirth. Never underestimate what a small pua (flower) can do!

Plant Information Source:

<https://www.mauimagazine.net/hawaiian-plants/5/>

‘Āina Activity - Grow Your Own ‘Ilima Plant

How to Plant ‘Ilima Seeds

1. Collect dry star-shaped capsules. Keep seed capsules in a paper bag until ready to plant.
2. Separate ‘ilima seeds from the capsule by using a strainer or paper towel and gently rubbing the seeds with your fingers.
3. Put the seeds in a glass bowl.
4. Boil a cup of water.
5. Pour hot water on the seeds and soak for 24 hours to soften the seed coat.
6. The next day, get a small pot or make one (see next page).
7. Fill $\frac{3}{4}$ of the pot with loose soil that you can find around your house.
8. Sprinkle your seeds over the soil.
9. Lightly cover the seeds with a layer of soil so that they're covered.
10. Try to make sure the seeds are close to the surface of the soil. You don't want the seeds to be buried too deep where they are unable to break through the soil.
11. Once you've planted your seeds, say "E Ola! E ulu e!" (Live and grow!)
12. Carefully water your plant everyday, sprinkling water with your fingers so that it is like a gentle rain. Provide enough water so that all of the soil is moist, but be careful not to overflow your pot. Don't let the soil dry out.
13. Wait for ‘ilima seeds to germinate. The seeds may take a few weeks to germinate -- be patient!
14. Take care of seedlings by watering and giving them sunlight.
15. Gently move seedlings to bigger pots once they outgrow the original pots. Eventually, you can put the plants in the ground if you have a yard.



Use a strainer or paper towel to separate seeds from the capsule.



Seeds of the ‘ilima plant.



Move your seedling into a bigger pot to allow it to grow bigger.



‘Āina Activity:

Make a Milk Carton Planter ...and save the world!

Save your empty milk cartons and make these fantastic planters! Whether you're planting herbs to grow in your window or native plants to later transplant into your yard, a milk carton makes great a planter, and it's one less thing in the landfill!

Instructions:

1. Wash out milk carton(s) well. You can cut your milk cartons in one of two ways:

1) Using an exacto knife, cut the top half off the up-right milk carton. Leave the wall on one of the four sides to remain 3 inches higher than the three other walls. This area will be used to write the name of the plant planted in your carton. OR

2) Lay milk carton on its side and cut out a rectangle leaving a half-inch lip along the perimeter. If your milk carton has a plastic cap, leave the cap on.

2. With a sharpie, write the name of the plant/seeds you are going to plant in your planter.



3. In a container, mix potting soil and enough water to moisten soil so that the mixture releases water when squeezed, but is not soupy. Mix enough to fill milk carton containers one inch from the top. Plant seeds according to instructions on the package. Water as needed and watch your plants grow!



What You Need



Milk Carton(s)



Black Sharpie



Exacto Knife



Potting Soil or other soil source



Bucket or other container to mix soil



Trowel or other tool to mix soil



Water



©Imiloa Astronomy Center

‘Āina Activity: Leaf Printing

Materials:

- Plant leaves (that have a veiny/textured underside)
- Cardstock paper
- Acrylic paint
- Paint brushes
- Newspaper (to cover workspace)
- Blank canvas bags (if you have)

Directions:

1. Collect leaves of plants from your garden or yard that have a veiny underside (example: ma‘o, kukui, ‘ulu, kalo, wiliwili, ‘āweoweo)
*Be sure they’re in your own yard or an area where you’re allowed to collect from.
2. Gently paint the entire underside of your leaf with an even, thin layer of paint.
*Less is more! Don’t use too much paint or the detail of the leaf will not show and will look like a blob on the paper.
3. Carefully place the painted side of the leaf on the cardstock paper (or canvas bag) and use your fingers to place light, even pressure on the top side of the leaf rubbing the paint onto the paper (like a stamp).
4. Carefully peel the leaf from one end to the other revealing the leaf print.
*If desired, repeat process of printing using different leaves or use the same leaf multiple times.
5. Label your card with the plant name and date and let dry.
6. You can make a greeting card or place it in a picture frame and give it as a gift!



‘Ōlelo No‘eau

(Hawaiian Wise Saying/Proverb)

‘Ōlelo No‘eau:

He ali‘i ka ‘āina, he kauwā ke kanaka.

The land is chief, man is its servant.

Our ‘āina provides us everything we need to survive (food, shelter, water, medicine), it’s our kuleana (responsibility) to care for the land and sea so that it can continue to provide those necessary resources for us.

Source: ‘Ōlelo No‘eau: Hawaiian Proverbs and Poetical Sayings by Mary Kawena Puku‘i.

What does this saying mean to you? What commitment will you make to mālama ‘āina (take care of the land and sea) now and in the future? Write your answers below.

Kilo 'Āina

(Observing our Environment)

Take 15 minutes everyday to observe natural phenomena (wind, sun, moon, rain, clouds, plants, animals, ocean, etc...) and describe what you see, hear, and feel. You can also draw pictures. Try to do this in silence so that you can really connect to your place. You can also show progress of the seeds that you've planted!

Kilo Day 1

Manawa (date):

Mahina (moon):

Kilo (observation):

Kilo 'Āina

Kilo Day 2

Manawa (date):

Mahina (moon):

Kilo (observations):

Kilo Day 3

Manawa (date):

Mahina (moon):

Kilo (observations):

Kilo 'Āina

Kilo Day 4

Manawa (date):

Mahina (moon):

Kilo (observations):

Kilo Day 5

Manawa (date):

Mahina (moon):

Kilo (observations):

Kilo 'Āina

Kilo Day 6

Manawa (date):

Mahina (moon):

Kilo (observations):

Kilo Day 7

Manawa (date):

Mahina (moon):

Kilo (observations):

‘A‘ole Invasive Species!

The CRB damages our niu (coconut tree)

The Coconut Rhinoceros Beetle (CRB)

The Coconut Rhinoceros Beetle (CRB) was first detected in Hawai‘i (on O‘ahu) in December 2013. CRB is considered a highly invasive species in Hawai‘i due to the damage they cause to our palm species including our native Loulu palm.

Damages caused by CRB

Adult beetles bore holes (a sign of CRB damage) into the crowns of niu (coconut) palms and other palms to feed on sap. Damaged crowns cause damaged leaves to eventually emerge from the crown, they have v-shaped cuts in them (another distinctive sign of CRB damage). If the CRB continue to bore into the trees, the trees will eventually die.



Why should we care about niu?



Well first of all, you can eat and drink niu! Niu is very nutritious & comes in handy in times of survival! It's said, "one can survive on niu (coconut) and i'a (fish)". It is also said that it's one of the most useful trees in the world. Besides drink, food and shade; niu offers the possibilities of housing, thatching, hats, baskets, furniture, mats, cordage, clothing, brooms, fans, musical instruments, shampoo, fuel, ointment and more. Niu is also the kinolau (one of the many body forms) of one of the four main Hawaiian gods - Kū. Niu is a very useful and important plant to our culture and that is why we need to keep our eyes out for signs of CRB damage to niu and other palm species on our island.



If you see any CRB or suspected damage (V-shaped cuts or bore holes) caused by CRB, please report it to the State PEST HOTLINE – 643-PEST (7378). Please ask an adult before calling. Please DO NOT kill or collect any CRB specimens. Report it to the PEST HOTLINE and take pictures!

*Information & pictures provided by the Hawai‘i Department of Agriculture (HDOA)
<http://hdoa.Hawai'i.gov/pi/main/crb/>*



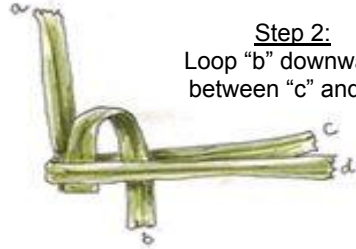
'Ohana Activity



Make a fish using coconut fronds!



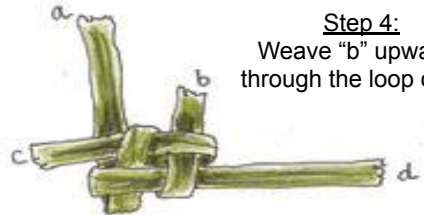
Step 1:
Fold the fronds and
make an "L".



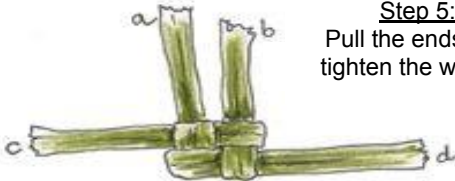
Step 2:
Loop "b" downwards
between "c" and "d"



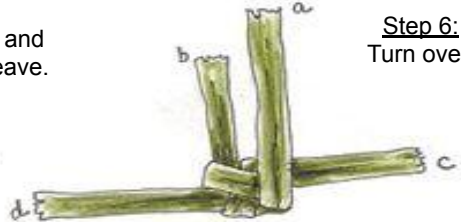
Step 3:
Weave "c" across
through the loop of "b".



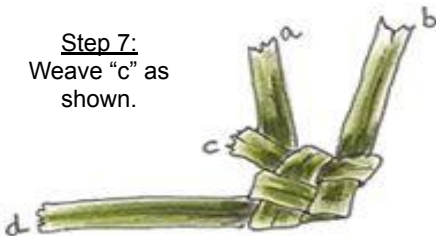
Step 4:
Weave "b" upwards
through the loop of "c".



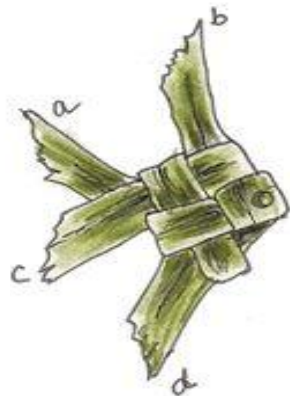
Step 5:
Pull the ends and
tighten the weave.



Step 6:
Turn over.



Step 7:
Weave "c" as
shown.



Step 8:
Tighten the fronds and trim the fish tail.
You can draw or punch a hole for the eyes.
All pau!

Hana No'eau Activity

Rat Lungworm Word Search

Snails carry the parasitic nematode- *Angiostrongylus cantonensis* (Rat Lungworm). This parasitic nematode is what causes Rat Lungworm Disease. Rat Lungworm Disease can easily be prevented by thoroughly washing your fresh produce, not drinking from outdoor faucets/hoses, and by not touching snails with your bare hands.

Z	E	I	N	J	V	V	V	E	W	R	N	W	P	M
D	C	V	P	A	R	F	O	J	A	E	R	A	B	O
F	Y	E	I	Z	T	Q	J	T	J	S	D	S	D	G
V	S	R	B	S	B	I	L	T	S	A	D	H	K	G
T	Y	X	N	A	A	U	V	E	Q	E	T	A	R	A
V	K	W	F	T	N	V	I	E	I	S	B	B	C	X
V	Q	G	F	G	Y	G	N	E	Z	I	D	Y	D	N
M	K	M	W	N	G	K	Y	I	E	D	U	A	H	X
R	I	O	N	E	S	N	A	I	L	S	D	K	G	T
K	R	W	V	G	X	V	J	T	T	U	G	A	H	A
M	U	O	K	Z	N	E	N	B	M	W	S	Q	E	P
E	D	O	T	A	M	E	N	G	A	I	M	X	Q	E
C	W	P	X	F	X	N	I	R	P	L	W	M	Y	C
U	G	H	N	P	V	D	U	S	B	T	X	N	G	Q
H	N	E	J	B	U	Y	O	Z	Q	X	L	J	Q	Q

Snails
Native
Veggies

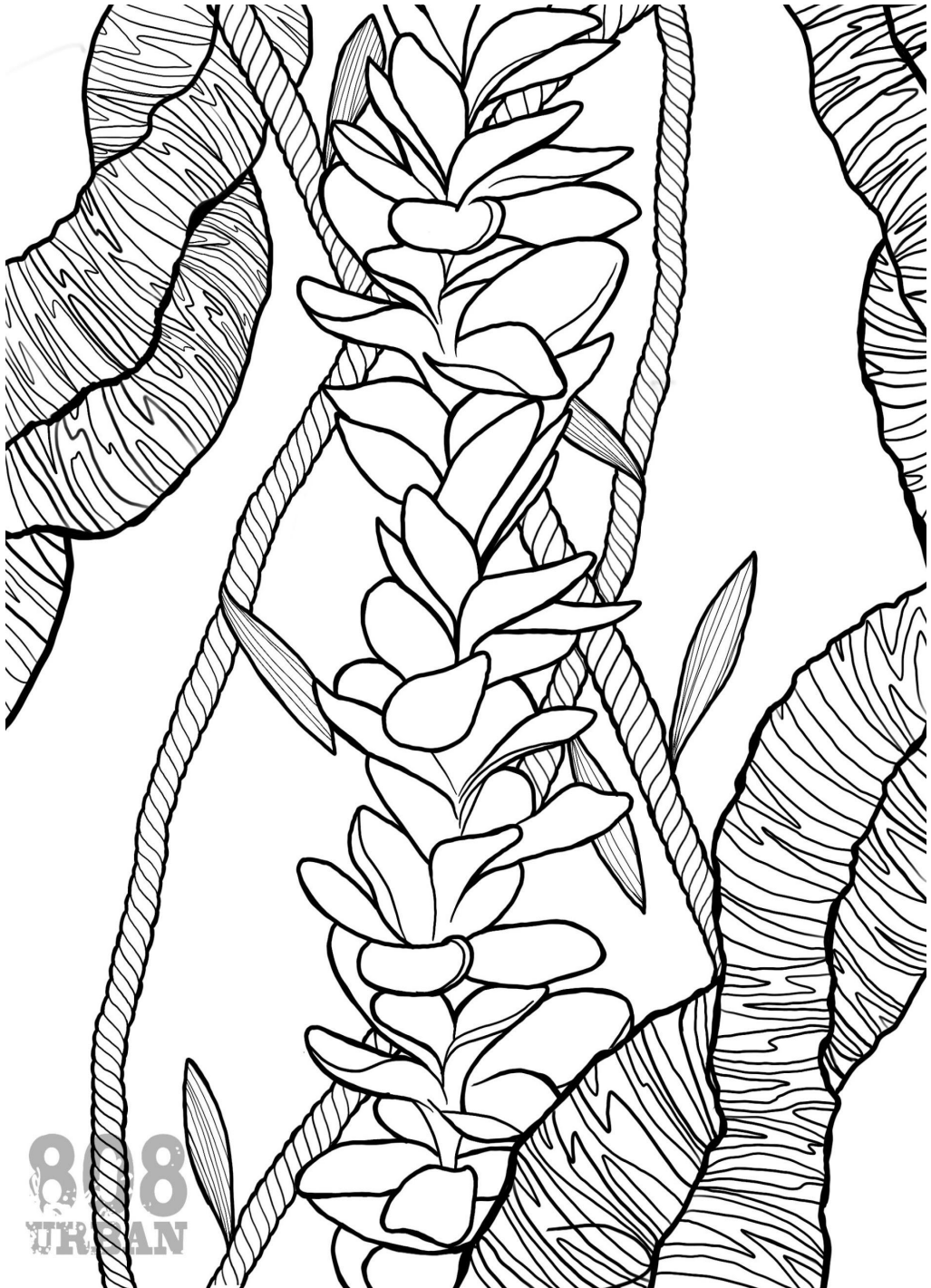
Rat
Invasive
Wash
Nematode

Rat Lungworm
Pest
Disease

Hana No'eau Activity

Color the different lei of Hawai'i. Here we have the 'ilima, plumeria and tī leaf lei.

Coloring Page Source: [808 Urban](#) A Hawaiian Non-Profit Arts Organization

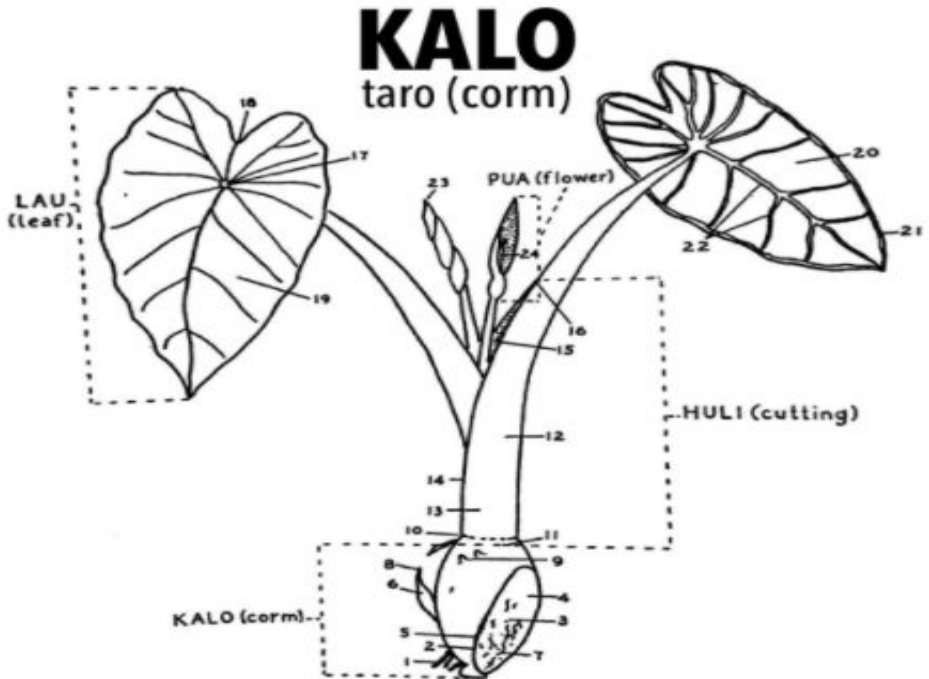


Hana No'eau Activity

Can you name the different parts of the kalo plant?

Kalo (taro) is a staple to the Hawaiian diet that has been passed down for generations to feed people and perpetuate Hawaiian culture.

Different soils, climates, and methods of farming across Hawai'i created many varieties of the plant. Our kūpuna had uses for every part of the kalo from root to leaves.



1 *huluhulu*: roots; 2 *'ili kana*: cortex; 3 *iho kalo*: core of corm; 4 *i'o kalo*: flesh of corm; 5 *'ili kalo*: skin of corm; 6 *'oha*: bud of corm; 7 *a-a'a*: vascular bundles; 8 *'omu'omu'o*: bud stalk; 9 *makamaka*: buds; 10 *a'a*: root; 11 *kohina*: line of cutting; 12 *ha*: petiole; 13 *kumu ha*: petiole base; 14 *'ili ha*: epidermis of petiole; 15 *mawae*: petiole sheath; 16 *lihi mawae*: margin of petiole sheath; 17 *piko*: junction of petiole and blade; 18 *mahae*: basal indentation; 19 *ke alo o ka lau*: upper surface of leaf; 20 *ke kua o ka lau*: lower surface of leaf; 21 *ka'e lau*: edge of blade; 22 *a'a lau*: midrib and veins of leaf; 23 *ao lu'au* or *mohola*: unexpanded leaf blade; 24 *iho* or *'ikoi-pua*: spadix;

Kalo Information Source: Office of Hawaiian Affairs

Kalo Drawing Source: Native Planters in Old Hawai'i, Authors E.S. Craighill Handy and Elizabeth Green Handy in collaboration with Mary Kawena Puku'i

Hana No'eau Activity

Hawaiian Cardinal Directions

Do you know your directions in Hawaiian? Let's Learn!

Hikina

Arriving or coming; or East where the sun and stars "arrive" at the horizon.

Komohana

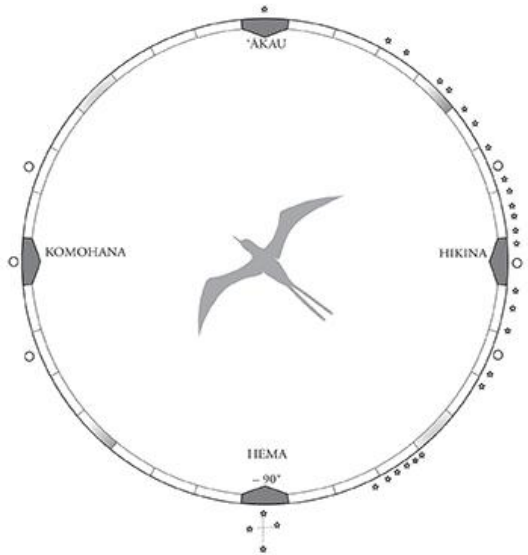
Entering; or West where the sun and stars "enter" into the horizon.

'Akau

Right; or North as one is facing west.

Hema

Left; or South as one is facing west.



Use the Hawaiian star compass (above) to locate each direction from where you are. Discover which direction is Mt. Ka'ala, Hanauma Bay, Waimea, and Pu'uloa (Pearl Harbor).

Now, choose your favorite place on O'ahu and describe where this place is located from your current location using Hawaiian directions. Write your answer below.

Image Source:

<https://www.nlm.nih.gov/exhibition/avoyagetohealth/education/online-star-cardinal.html>

Credits: Hawaiian Star Compass, Copyright by C. Nainoa Thompson

Hana No'eau Activity

Compare and contrast the anatomy (body structure) of the Pueo (Hawaiian Owl) and the Mōlī (Laysan Albatross). Why do you think these differences exist?

Compare & Contrast



My wings are ...

My beak is ...

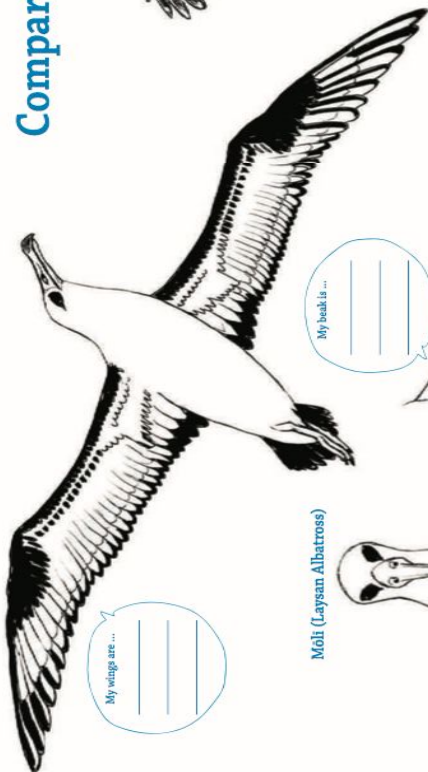
Pueo (Hawaiian Owl)



My foot is ...

Observation

Compare the anatomy of the Laysan Albatross and Hawaiian Owl. Why do you think these differences exist? Please write down your observations and conclusions.



My wings are ...

My beak is ...

Mōlī (Laysan Albatross)



My foot is ...

Activity Source: NOAA

Makani Ka Mōlī Mālama 'Āina Interactive Workbook

'Ohana Activity

Ka Ho'okele 'Ana – Navigation

'Ōlelo No'eau - Hawaiian Proverbs or Wise Sayings

Mai ka ho'oku'i i ka hālāwai lā.
From zenith to horizon.



'Ike Pono Hawai'i

He waiwai Hawai'i - A Hawaiian value

Hilina'i – Trust

Nā Hua'ōlelo Hou – New Vocabulary

'akau – north

hema – south

hikina – east

hōkū – stars

hōkū hele – planets

komohana – west

lā – sun

laulima – working together cooperatively

mahina – moon

mālama – to care for

manu o kū – fairy tern

noio – noddy tern

'ōlelo no'eau – Hawaiian proverb or wise saying

waiwai Hawai'i – Hawaiian value

'Ohana Activity Continued

Using the hua'ōlelo hou (new vocabulary) on the previous page, write your own creative story about navigation in Hawai'i.

You can draw a picture as well.

Share your story with your 'ohana!

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on its right side, suggesting it's resting on a surface.

'Ono Healthy Recipe

Enjoy this 'ono Kalo Poke recipe
with your 'ohana at home.

Ingredients

- Kalo pa'a (cooked and cubed kalo)
- 'Inamona (roasted kukui nut relish)
- Sesame oil
- Hawaiian salt
- Limu (seaweed) - optional

Instructions

- Combine all ingredients to your taste and flavor preference.

*Be sure to cook kalo thoroughly (~ 2-3 hours) as undercooked kalo can make your throat or hands itchy.



Recipe Source: [Ka'ala Farms](#)

Photo Source:

<https://www.staradvertiser.com/2016/05/24/food/taro-can-be-prepared-in-an-enormous-variety-of-ways/>

Weekly Mahalos!

Write or draw three things you're thankful for this week:

1.

2.

3.

Olakino (Healthy Body)

Here are some reminders to keep you and your 'ohana safe & healthy during the health crisis we are facing with COVID-19:

- Drink lots of wai (water) to stay hydrated.
- Be active. Work your muscles!
- Get a good night's rest everyday.
- Eat well. Limit fast foods that are high in fat and sugar.
- Wash your hands with soap frequently for at least 20 seconds.
- Avoid touching your face (eyes, nose, mouth).
- Clean and disinfect frequently touched objects and surfaces.
- Avoid hugs, handholding, and handshakes. Give the shaka!
- Spread aloha always.

What else can you do to keep your 'ohana safe and healthy?



Did you know? Accidentally eating food contaminated by infected snails can possibly give you Rat Lungworm (RLW) Disease. Symptoms of RLW Disease include meningitis, severe headaches, stiff neck, nausea, temporary paralysis of the face and can possibly lead to death.

**ALWAYS THOROUGHLY WASH YOUR HANDS & FRESH PRODUCE
BEFORE EATING!**

Share Your Progress!

Mahalo for completing our Aloha 'Āina Packet! We hope you enjoyed the activities! Please share your progress with us by taking photos of anything you'd like to share and posting to your social media (tag us). Or send your photos directly to us through email. We would love to see how you're doing! There is much hope for the future if we keep working together and loving our 'āina!

Mālama Learning Center

Social Media: #malamalearning #malamalearningcenter

**Hashtags for this project: #alohaainapacket
#growingseedsintimesofneed**

Email: info@malamalearningcenter.org



Mālama
Learning
Center

Mālama Learning Center is a private non-profit organization in West O'ahu that brings art, science, conservation, and culture together to promote sustainable living throughout Hawai'i.

www.malamalearningcenter.org

Mahalo Nui Loa to Corteva Agriscience for providing a donation to assist in producing the Aloha 'Āina Packets!



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