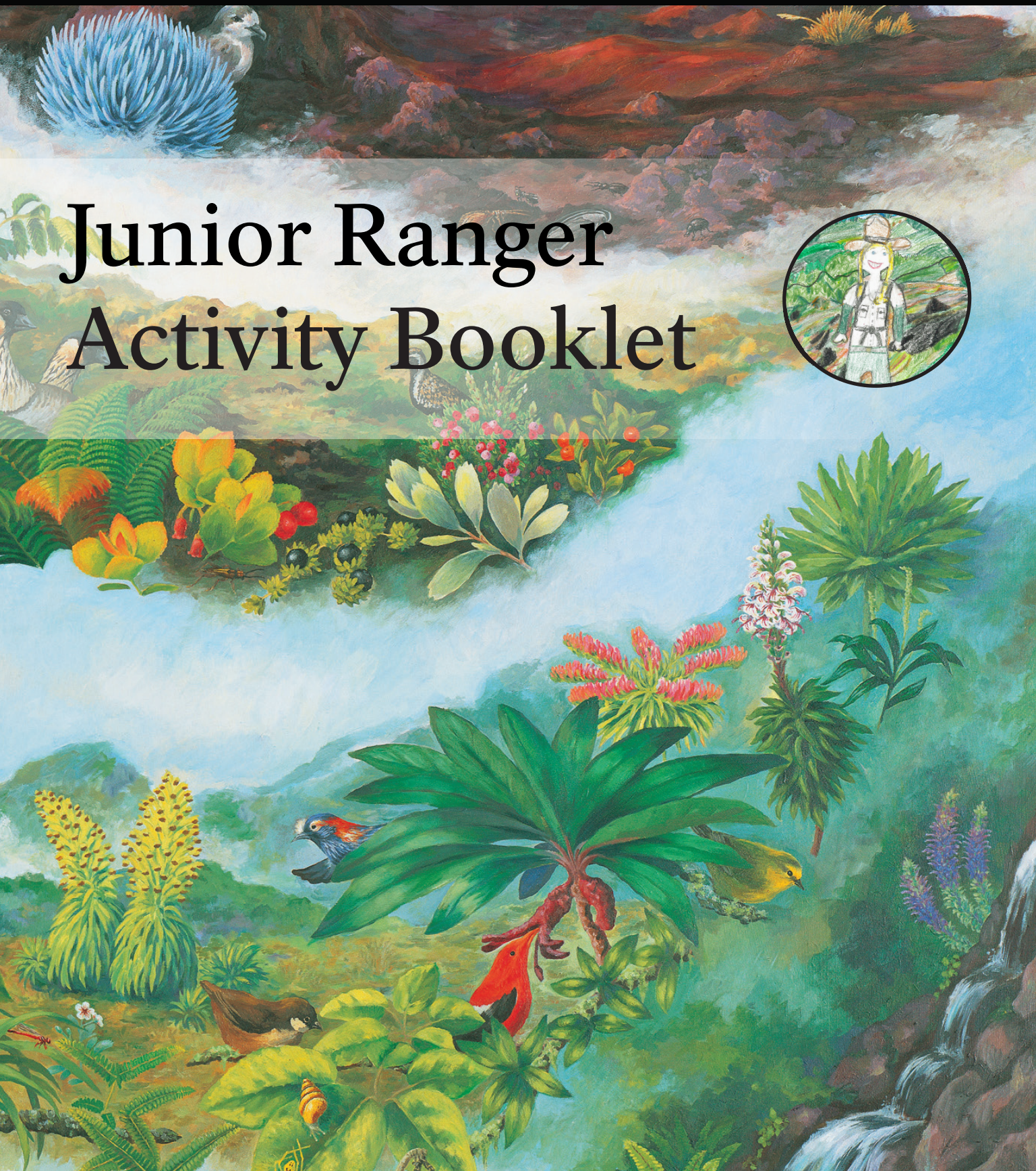
Haleakalā

National Park Service
U.S. Department of the Interior
Haleakalā National Park
Maui, Hawai'i

Junior Ranger Activity Booklet



Become a Haleakalā Junior Ranger!

My Name: _____ My Age: _____

To become a Junior Ranger, you will need to complete all 4 steps on the next page. You will also need a park brochure and a hiking map.

Welcome to Haleakalā National Park! Haleakalā protects the last or only home to plants and animals found nowhere else on earth. The stories, sights, and traditions of Haleakalā are sacred to Native Hawaiians. You will discover these natural and cultural treasures as you complete this booklet.

Each activity in this booklet is labeled at the top with badge points. Activities can be worth:

= 1 badge point

= 2 badge points

= 3 badge points

Use this guide to determine how many badge points to earn:

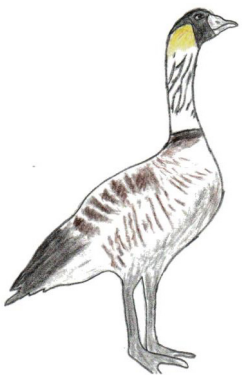
Ages 5 and under: 2 or more badge points

Ages 6-8: 4 or more badge points

Ages 9-12: 6 or more badge points

Ages 13+: 10 or more badge points

When complete, take your booklet to any visitor center. A ranger will review your work and award your badge. You should be able to complete the requirements in one day's visit. Please come to the visitor center at least 1 hour before closing time (posted on the door).



Hawaiian Pronunciation Guide

The English alphabet has 26 letters: 5 vowels and 21 consonants.
The Hawaiian alphabet has 13 letters: 5 vowels, 7 consonants, and the ʻokina.

Vowels

A = "ah" E = "eh" I = "ee" O = "oh" U = "oo"

Consonants

H K L M N P W (V)

Helpful Hints

- = **kahakō**, or line, over the vowel. Hold the vowel sound under the line longer.
The vowel sound itself does not change.

ʻ = ʻ**okina**, or glottal stop. This sound is much like a pause or "hiccup," as in "uh-oh" in English.
The ʻokina is the symbol for the missing sound.

Haleakalā is pronounced: ha leh ah kah lah
Meaning: house of the sun

1 ☐ **I know that following the national park rules will help everyone stay safe: the plants and animals who live here, and me too! I have followed these rules:**

- Stay on designated trails
- Pack lots of water and sun protection
- Pack out what you pack in
- Leave things as you find them
- Clean boots of dirt and seeds before you start your hike
- Help keep nēnē wild, do not approach or feed them

2 ☐ **Add up your badge points using this guide:**

_____ activities worth 1 badge point = _____ badge points

_____ activities worth 2 badge points = _____ badge points

_____ activities worth 3 badge points = _____ badge points

The grand total of all my badge points comes out to: _____

3 ☐ **I have hiked a trail OR attended a ranger program:**

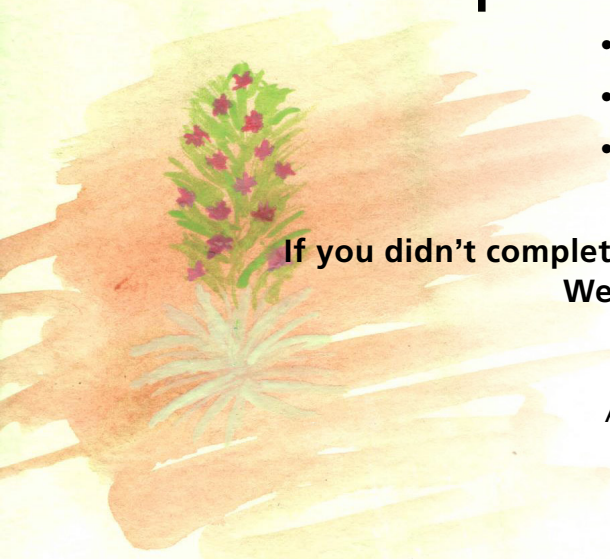
Trail name_____

OR

Ranger initials _____

4 ☐ **I have completed all three required activities:**

- What is a National Park (p. 4-5)
- Climate Friendly Family (p. 24, do together as a family)
- About Me (p. 25)



If you didn't complete your booklet in time, you can mail it to us. We will mail you your badge!

Address:

Haleakalā National Park
Attn: Junior Ranger Program
PO Box 369
Makawao, HI 96768

What is a National Park?

National parks are special places that are important to everyone in the United States. We can tell what national parks protect by looking at the arrowhead, which is the symbol of the National Park Service.

- The shape represents culture and history
- The bison represents wildlife
- The tree represents plants
- The mountain represents the beautiful scenery
- The lake represents natural resources (like clean air and water)

The mission of the National Park Service is to protect these special places for future generations (you, your children, and your grandchildren).

Now it is time to learn some Hawaiian words that relate to the National Park Service mission:

Kōkua: To help

Mālama: To care for

ʻĀina: The land

In traditional Hawaiian culture, helping one another and caring for the land are central values. This is how one honors their ancestors and takes care of future generations. Now, put those Hawaiian words together into a sentence. Say the sentence out loud to your family or a friend. Then answer the question below.

All people should _____ (help) to _____ (care for) the _____ (land).

How are these traditional Hawaiian values similar to the National Park Service mission?

_____

_____

Remember: This activity is required. Part 2 of activity on next page>>>>

Now it's your turn! Fill in the arrowhead with symbols that are unique to Haleakalā. What plants and animals could you use? What cultural symbols could you use?

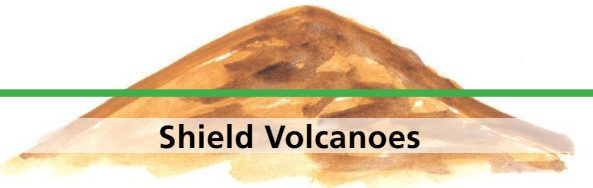
Life of a Volcano

Volcanoes erupt (send out lava) when the heat and pressure inside of them build up and there is nowhere for the magma to go but OUT. There are 2 different types of volcanoes:

Composite Volcanoes

Volcanoes that explode thick lava. Composite means 'a mix of stuff' (lava, gases, and ash). This mixture is too thick to flow very far so the volcano looks like a tall steep cone.

Fun fact: About 95% of the volcanoes are this type.



Shield Volcanoes

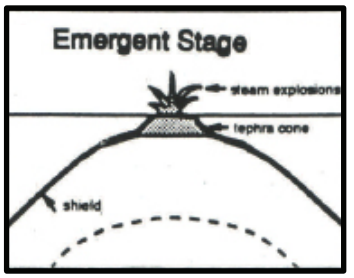
Volcanoes that flow thin lava. The thinner lava flows over a big area (the ocean floor) so the volcano looks like a shield. All of the Hawaiian islands are shield volcanoes.

Fun fact: About 5% of the world's volcanoes are this type.

A Hawaiian shield volcano forms on the ocean floor and keeps building until it emerges from the ocean. It keeps building up, layer upon layer, making a big shield. Over time, eruptions slow or stop and the island slowly starts to **erode** (wear away). After a quiet period, eruptions could begin again.

Use the numbers 1-5 to order the stages of this Hawaiian shield volcanoes life.

☐



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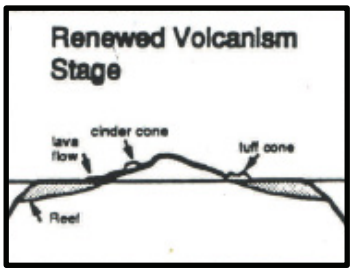

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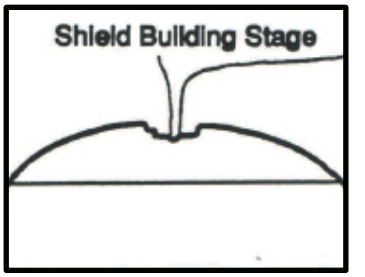

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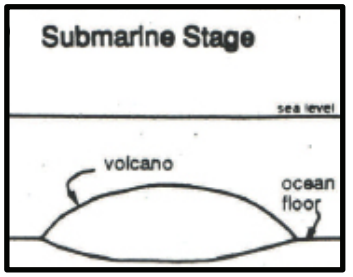

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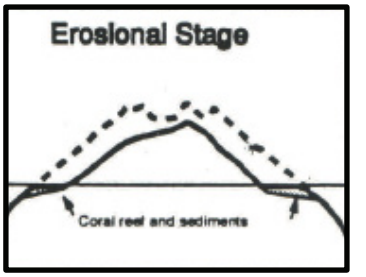


Guess what stage Haleakalā is in right now? _____

To discover the true order, ask for a geology brochure at any visitor center.

Looking into the Erosional Valley

When writer Mark Twain first came to Haleakalā in 1866, he described the sunrise:

A growing warmth suffused the horizon,
and soon the sun emerged and looked out over the cloud-waste,
flinging bars of ruddy light across it,
staining the folds and billow-caps with blushes,
purpling the shaded troughs between…
It was the sublimest spectacle I ever witnessed,
and I think the memory of it will remain with me always.

Now it's your turn to be a writer!

- **Go to an overlook.**
- **Stand quietly for at least one full minute and look** around.
- **Write a poem. Watch it appear as you fill in the** ovals.

When I look deep down into the valley, I see

I see lots of colors, too, like

When I stand quietly, I hear

If I were to choose one word to describe the valley, I would say it is

Wind, Wings, Water

The Hawaiian Islands are some of the most remote islands in the world. They are about 2,000 miles from the nearest continent. When humans first arrived thousands of years ago, Hawai‘i was already populated with unique plants, bugs, birds, and even some mammals. How do you think these species got here?

Some animals could fly to the islands using their _____.

Tiny seeds or insects without wings could blow on the _____.

If they could survive the salt water, some things could float on the _____.

Draw a line from each species through the wind, bird, or ocean waves to the map of the islands on the next page. This line will show how you think each species got to Hawai‘i.

Hāpu‘u
(Fern)

Pūkiawe
(Shrub)

Pūpū kani oe
(Tree Snail)

Nananana makaki‘i
(Happy Face Spider)

Pueo
(Short-eared Owl)

‘Ōpe‘ape‘a
(Hawaiian Hoary Bat)

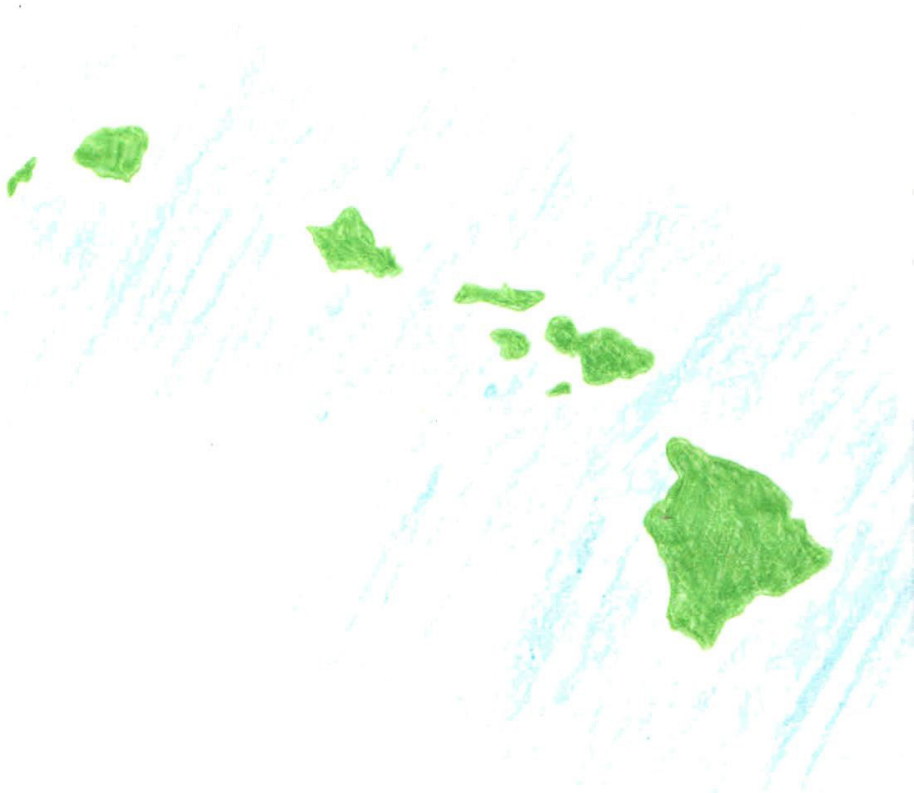
‘Īlioholoikauaua
(Monk Seal)

Pulelehua
(Kamehameha Butterfly)

This is a 2 page activity

A **Native** species is a plant or animal that got to Hawai‘i without the help of people. In ancient times only one new species successfully made it to the islands every several thousand years. The Hawaiian islands only have one native land mammal— a bat, which flew here.

A **Non-Native** species is a plant or animal that was introduced to Hawai‘i by people. All land mammals (except the bat) were brought here by people via boats or planes. Some of these mammals, like mongooses and rats, can hurt native species by eating their eggs. Others, like goats or pigs, destroy **habitats** (homes) or food sources by eating native plants. Now that we have things like airplanes to carry us here quickly, a new species is introduced at an average of about 20 per year. **Invasive** species are non-native species that compete with native species for valuable homes and food.



Here are ways you can help protect the native species that call Haleakalā home:

- If you see any large mammals in the park, tell a park ranger immediately.
- Non-native plants can enter the park in a sneaky way: on our shoes! Please brush off the soles, between the tongue, and the laces of your shoes before you go hiking.

Mahalo *(thank you) for helping to keep Haleakalā unique and wild.*

Wilderness

Mohala i ka wai ka maka o ka pua.

Unfolded by the water are the faces of the flowers. -Hawaiian proverb

Over 80% of Haleakalā National Park is Wilderness. Wilderness is federally protected, undeveloped land where nature is left alone. The Wilderness of Haleakalā includes the erosional valley and the Kīpahulu Biological Reserve. Find them on your park map! Wilderness provides homes, food, and water for rare and endangered species that are found at Haleakalā and nowhere else on earth. There are no buildings, cars, roads, electric lights, or other human-made objects in Wilderness. People can visit and explore Wilderness but cannot live there.

"Wilderness is not only a haven for native plants and animals,
but it is also a refuge from society.
It is a place to go to hear the wind
and little else, see the stars and galaxies…
and realize why it's good to go outside of
the city and the suburbs."

-John Muir,
Wilderness champion

"The wilderness that has come to us
from the eternity of the past
we have the boldness to project into
the eternity of the future."

-Howard Zahniser,
writer of the 1964 Wilderness Act

Find a quiet place to sit away from people, buildings, and cars. Sketch or write your answers to the questions below.

Why is Wilderness important to plants and animals?

Why is Wilderness important to people?

Why is Wilderness important to you personally?

Let's Hit the Trail!

Going for a walk or hike is a great way to get to know Haleakalā National Park. Don't forget to clean your boots of dirt and seeds before hiking! (Brush available at any visitor center).

Enjoy the experience and then fill in the journal below.

Which trail(s) did you hike?

Look at your trail map and write down how many miles you walked.

Did hiking in this area of the park make you think of any questions? What are they?

What have you seen or experienced during your time at Haleakalā National Park that you want to bring home with you in your heart? It could be an image, a feeling, an idea. Draw or write what is special to you here.

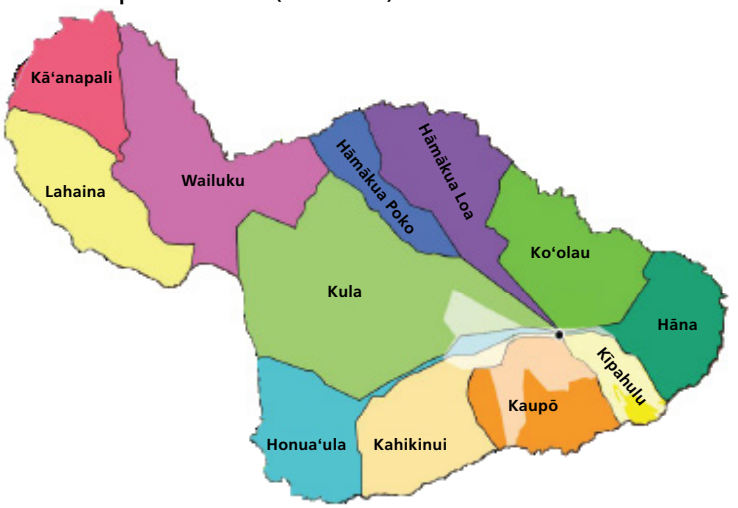
Would you call the area you hiked in "Wilderness"? Why or why not?

People who go off trail in the crater leave footprints in the cinders that can last for years. How could you help the park when you are on a trail?

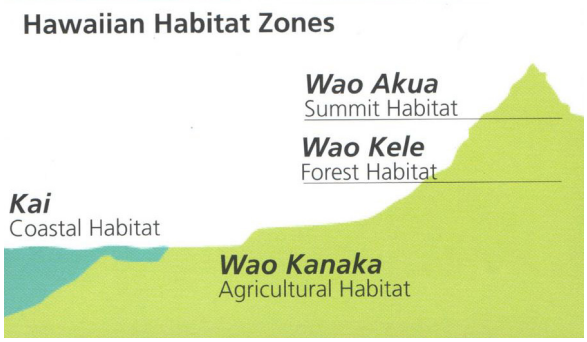
Which Moku Are You In?

Hawaiians divide land based on the availability of **wai ola** (life-giving water). This system, called **‘Aha Moku**, divides each island into **moku** (districts). **Ahupua‘a** are even smaller divisions within a **moku** that stretch from mountains to sea. **‘Ohana** (families) who live in an **ahupua‘a** have everything they need for survival, such as fish, crops, and fresh water. ‘Ohana share and trade resources from mountains to sea and know it is their **kuleana** (responsibility) to **mālama** (care for)the **‘āina** (land).

A map of **moku** (districts) on Maui:



Each moku on Maui includes all 4 of these habitats:



Every one of our families comes from a place. Knowing where we are from connects us with our ancestors. If your grandparents are from a moku, which one is it? If they didn’t grow up on Maui, what moku or place are your grandparents from?

Using the pictures above, answer these questions:

If you are in the summit area you are either in the **Honua‘ula** or the **Kula moku**.
If you are in Kīpahulu, you are in the **Kīpahulu moku**.

What habitat of the moku are you in right now?

What is special about this habitat?

What is your kuleana to this moku?

Please read your park brochure to learn more about the ‘Aha Moku system.

Ways of Remembering

I ka nānā no a ʻike.

By observing, one learns. –Hawaiian proverb

Native Hawaiians are incredible scientists. Scientists learn best by just watching, hearing, and feeling how things around them interact. They observe many things: rocks, plants, birds, air, sun, stars, and much more. Pre-European contact Hawaiians did not have a written language. They had to memorize everything that they learned.

1. **Think of ways you can help yourself memorize things without writing them down.**

2. **Memorizing was one way that pre-European contact Hawaiians remembered their great scentific discoveries and passed them on to others. What are some other ways? How could their discoveries still be "recorded" and passed on?**
   Hint: the pictures will give you some ideas.

3. **Imagine you have no written language. Think of something you experienced today. Now, think of a way (perhaps a song, poem, dance, etc.) to remember your experience at Haleakalā.**

☐ **Have an adult initial this box to show that you have performed your song, poem, dance, etc.**

Discover Your Dream Job

There are many types of park rangers who work to protect the park and visitors. Rangers work as a team with other park employees and are dedicated to preserving Haleakalā into the future for children like you.

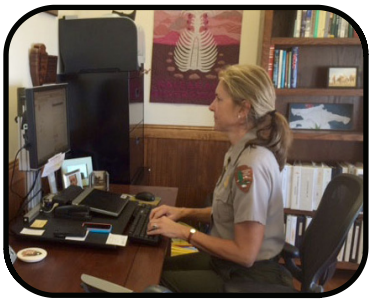
Draw a circle around the jobs that excite you based on your interests, then answer the questions below.

Education

I help visitors connect with their park. I answer questions, lead walks, and share programs that help people learn and care about Haleakalā.

Law Enforcement

I protect the park and visitors by enforcing the rules and helping visitors who get lost or hurt.



Administration

I like to lead other people and think of ways to help the park run at its best.

Resource Management

I like to research and take care of plants and animals.

Maintenance

I build trails, take care of park buildings, plow roads, and repair things.

Which type of ranger would you like to be and why? _____

_____

What would be your favorite part of the job? _____

_____

National Park Service rangers wear all different hats. If you like being outside and with people, a National Park Service job may be perfect for you!

Gifts from the Land and Sea

From ancient times to today, the land and sea provide the groceries, tools, arts, and crafts for people who live in the Hawaiian Islands. Below you will find some images of things made from local, natural resources. Draw a line to how it is used.

Lauhala
(Hala leaves)

I‘a
(Fish)

Pōhaku ku‘i ‘ai
(Poi pounder)

Kalo
(Taro)

Makau
(Fish hook)

Ipuheke
(Drum)

Ipu
(Gourd)

Moena
(Lauhala mat)

There are lots of ancient artifacts at Haleakalā. Help save the stories they tell by leaving them where you find them. They are here for the benefit of current & future generations. Please do not remove anything.

Flight of the Nēnē Board Game

Nēnē and Canada Geese share an ancient ancestor that probably flew here hundreds of thousands of years ago. Nēnē are very curious and when they talk they sound like a cow mooing! When you enter the park, you will be in shrubland. This is where nēnē live and eat a variety of plants, including berries and grasses. Nēnē almost became extinct in the 1950's . They were reintroduced to Maui in 1962. With careful stewardship (caring for something), their population remains stable. Nēnē are one of the rarest geese in the world.

Pretend you are nēnē! You need food and water to survive and raise your young. "Fly" around Haleakalā National Park's native shrubland gathering the berries you need to keep you and your family healthy. Watch out for predators!

- Flip a coin to see how many spaces you move for each turn
- Heads is 3 spaces
- Tails is 2 spaces
- Use a dime or small object as your player

START

Lots of rain! 3 berries

Hungry wild cat! Lose a turn

Ripe berries 2 berries

Mist & dew to drink 3 berries

Hungry mongoose! Lose a turn

Visitors drive slowly 2 berries

Nēnē Crossing

Ripe berries 2 berries

No rain! Lose a berry

Lots of rain! 3 berries

Speeding driver! Lose a turn

BERRY TALLY BOX
(use dots or slashes)

Player 1

Player 2

FINISH

Helping Each Other

An endemic species is a one-of-a-kind creature that only lives in a certain part of the world and nowhere else. Over the generations, endemic plants and animals **adapted** (changed to fit in) to the special place where they live. For example, the ancestor of birds like the **ʻiʻiwi** (a Hawaiian honeycreeper) came to Hawaiʻi as the Eurasian rose finch. Through the generations rose finches filled certain **niches** (jobs) on the Hawaiian islands and adapted to become Hawaiian honeycreepers. Honeycreepers have special beak shapes that help them drink from flowers or eat seeds. Many living things adapted together to form **symbiotic** (helpful) relationships with each other.

Name one way you and another person help each other?

_____

Draw a line between these endemic species and their **symbiotic** (helping) partner.

Pūpū kani oe (Tree snail)

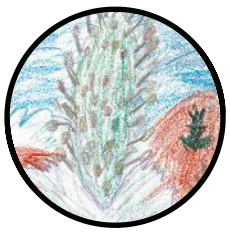
I have a bright shell and love to eat fungus off of tree leaves.

Māmane (Pea)

I have yellow flowers that are shaped like little drinking cups.

ʻIʻiwi (Honeycreeper)

I am a brightly colored bird. I use my long curved beak to drink nectar from flowers.



ʻĀhinahina (Silversword)

Haleakalā is my one and only home. I flower just once in my life. To reproduce I need a helper to pass the pollen from flower to flower.

Nalo meli (Yellow-faced bee)

I drink nectar, and am one of the native pollinating insects that live in the summit area of Haleakalā National Park.

Koa (Acacia tree)

I am a type of acacia tree. Small animals with shells are found cleaning my sickle shaped leaves.

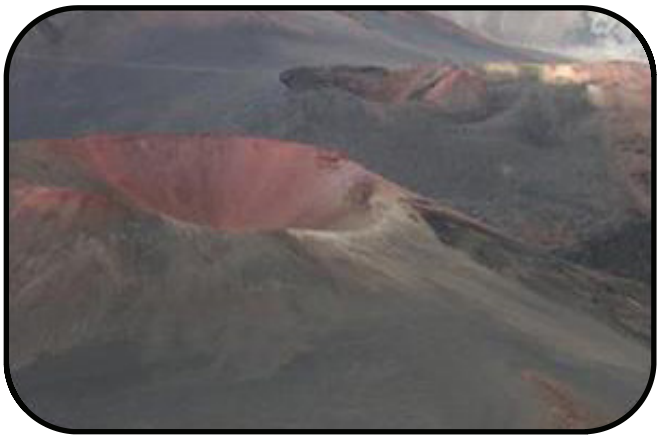
Lava Rocks!

Look into Haleakalā "crater" from the summit area. Did you know Haleakalā used to be 3,000-6,000 feet taller than it is today? The "crater" is actually a valley created by **erosion** (wearing away by wind, rain, ice, and snow). A true crater is a bowl shape with a complete wall. Haleakalā does not have a complete wall because two **gaps** (breaks in the wall) have formed.

What are those small hills inside the erosional valley? Those hills are **pu'u** (cinder cones) where lava came out. The colors are caused by different elements in the cinders. For example, the iron in the rocks gets rusty red after it sits outside for a long time. Can you find any red lava rocks?

Lava rocks

Pu'u



Use your park map as you stand at the rim of the crater. Look for features that you can see below you in the crater, and also on your map.

-Draw a circle on features on your map that you think were caused by eruptions.

-Draw a star on features you think were caused by erosion.

It is against the law to remove anything from a national park. Even rocks! They are here for the benefit of current & future generations. Please do not remove anything.

Stump the Ranger

Find a secret animal or plant (hint: there are plants labeled at Hosmer Grove and the Headquarters Visitor Center). Fill out the "Stump the Ranger" form and take it to one of the visitor centers. Read the form to the ranger, including the date, time, and location, but don't tell the ranger what you saw! The ranger can only ask you three questions and gets one guess. If you need help finding out the name of the plant or animal you have chosen, you can ask a different ranger before you present your challenge.

Haleakalā National Park
Stump the Ranger Form

Secret animal or plant you saw: _____

Date: _____ Time: _____

Location: _____

Ranger Question #1:

Ranger Question #2:

Ranger Question #3:

Ranger's Guess:_____

*Whether you stumped the ranger or not, tell her or him why you chose this plant or animal. What about it caught your eye or captured your imagination?

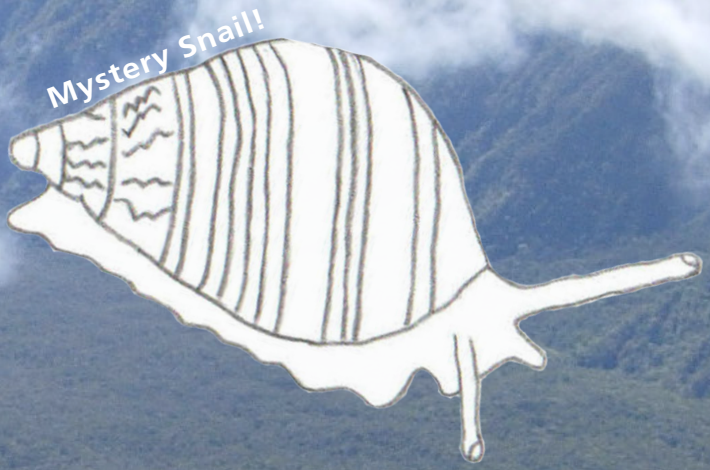
Snail Trail!

You are a park biologist studying tree snails in the Kīpahulu Biological Reserve. The reserve is part of the Wilderness of Haleakalā. When you find a tree snail, color its unique pattern for your research by matching its color to the color code key. How many snails can you find? One snail is a mystery snail. You get to color it however you want.

Color code key:

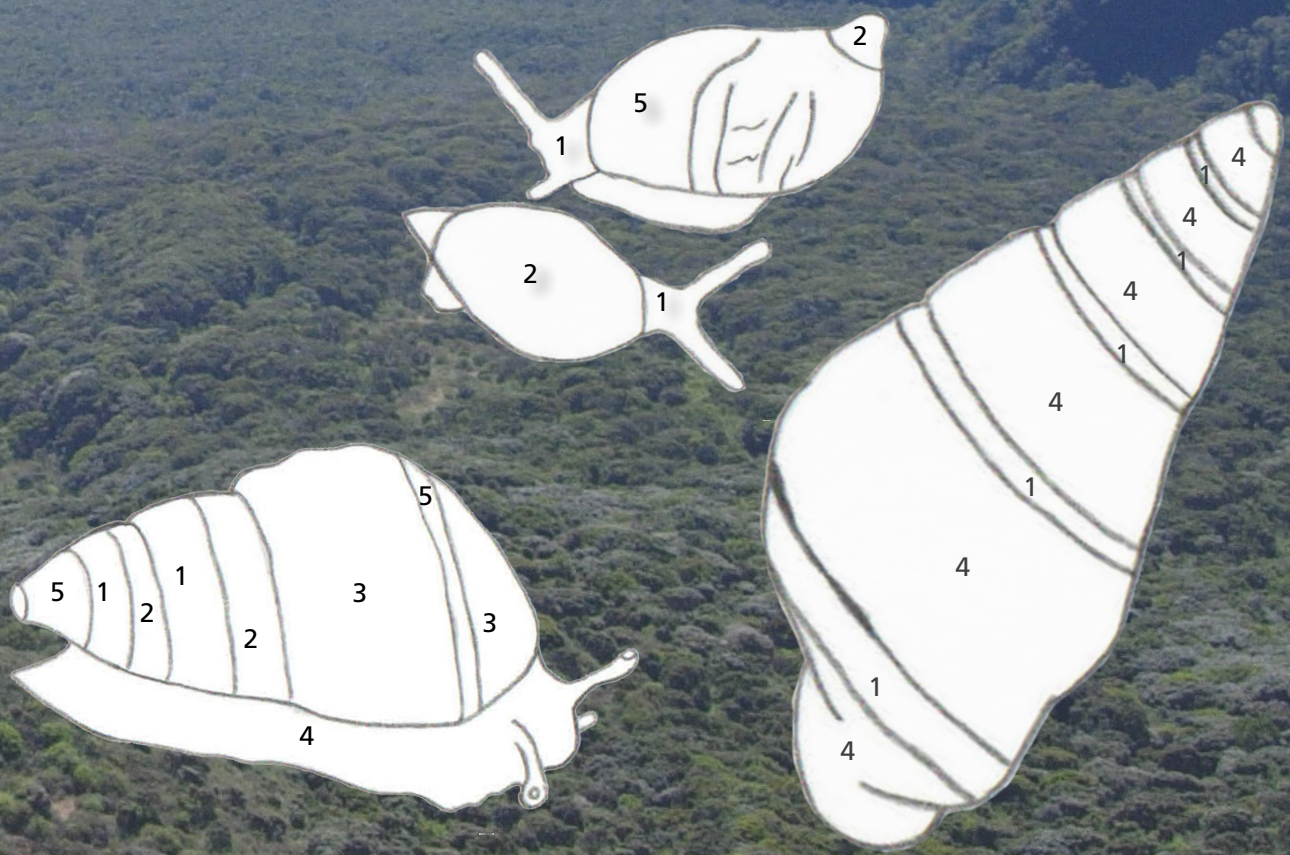
1 = Green	4 = Yellow
2 = Orange	5 = Purple
3 = Red	6 = Blue

Hawaiian tree snails are related to other tropical and subtropical snails (like the ones in the Florida Everglades). They have adapted to native trees and have evolved different color patterns for every island—or even valley or ridge—that they live on. Tree snails don't destroy plants; they help the trees by eating fungus off of leaves and bark. When Europeans first came to Hawai'i, they found tree snails everywhere. Due to habitat loss, new predators, and shell over-collecting, Hawaiian tree snails are now **endangered** (not many are left). The Kīpahulu Biological Reserve is one of the last places on Maui where these snails are found.



Haleakalā National Park Map

Kīpahulu Biological Reserve



Sensory Stroll

Many park rangers are naturalists. They observe and study nature so they can help protect it. Wander through any trail at the Summit or in Kīpahulu. Practice your observation skills by picking 5 activities to complete.

START

- ○ Look closely at a plant. Describe its leaves. How do these leaves help the plant?
- ○ Smell the air. What does it smell like where you are?
- ○ Touch a cloud.
- ○ Hunt for colors. Find something yellow, then red, then blue.
- ○ Name one thing you have never seen before. Why do you think it is here?
- ○ Find a safe place to stand. Turn slowly around in a circle and tell your family everything that you see.
- ○ Touch the trail. Is it hot, warm or cold? Rough or smooth? Wet or dry?
- ○ Catch a raindrop or a sunbeam on your tongue.
- ○ Touch the bark of a tree. Find one that is rough and one that is smooth. How does rough or smooth bark help a tree?
- ○ Listen to a bird singing. What do you think it's saying?
- ○ Listen to the wind in the trees. If this wind had a color, what color do you think it would be?
- ○ Count how many birds you see.
- ○ Dance like a Kamehameha butterfly fluttering in the wind!

END

Small Wonders Guessing Game

Because Hawai‘i is in the middle of the Pacific Ocean, it has many **endemic species** (a one-of-a-kind plant or animal that only lives in a certain part of the world, and nowhere else).

Below you will find one-of-a-kind Hawaiian insects and spiders, and what makes them special. Draw a line to match the picture with the fun fact.

I live on the Koa tree and have shiny colors on my back.

Kamehameha Butterfly

I buzz around endemic plants such as the ‘āhinahina (silversword).

Wolf Spider

Instead of flying, I let myself be blown by the wind on top of Haleakalā.

Happy Face Spider

I have bright colors of red, black and white. I was named after a king.

Yellow-faced Bee

Looking at my body might make you smile.

Haleakalā Flightless Moth

I live at the summit of Haleakalā and I carry my babies on my back. I have 8 legs.

Koa Bug

The Climate-Friendly Family

Climate is an area's long-term temperature and weather. **Climate change** is a change in climate patterns, including temperature, rain, and wind. Rainfall can increase or decrease. In Haleakalā, the threatened **'āhinahina** (silversword) has adapted to certain rain and temperature conditions. Records show that temperatures in Hawai'i have gotten hotter in the past 20 years. Hotter conditions can lead to less rain. These changes affect the 'āhinahina. The hotter and drier conditions are thought to be caused by too much **carbon dioxide** (a type of gas) in the atmosphere.

In this activity you will see ways how your family could become more climate-friendly. Have a family discussion as you assign points to each of the following practices. Be real! Then, add up the scores to see how climate-friendly your family is:

_____ Reduce, reuse, recycle

_____Use only CF or LED light bulbs

_____Eat/use locally produced foods/products

_____Take reusable lunch containers

_____Use "high miles per gallon" vehicles

_____Enjoy non-motorized sports

_____Turn off the engine, no idling

_____Don't waste water; take shorter showers

_____Turn off lights and electronics when not in use

_____Walk, carpool, ride a bicycle or the bus

_____Carry your own water bottle

_____Grow a garden

_____Plan a "staycation" fly only when you have to

_____Buy items with less packaging

_____ **(5 Bonus Points!) Our plan to reduce our carbon footprint is to:**

Scoring:

0 Never do this
1 sometimes do this
3 usually do this
5 always do this

Our score: _____

60-80 pts	Earth's Best Friend!
50-60 pts	A True Pal
30-40 pts	A Good Buddy
10-20 pts	A Nice Acquaintance
0 pts	A Stranger to the Universe

Remember: This activity is required.

About Me

I live in: _____

A National Park site near my home is:

_____

Other National Park sites I have visited are:

_____

_____

Other National Parks where I am a Junior Ranger are:

_____

_____

Imagine returning to Haleakalā National Park in 50 years. Maybe your grandchildren are with you. What would you show them?

Why?

_____

_____

_____

_____

_____

_____

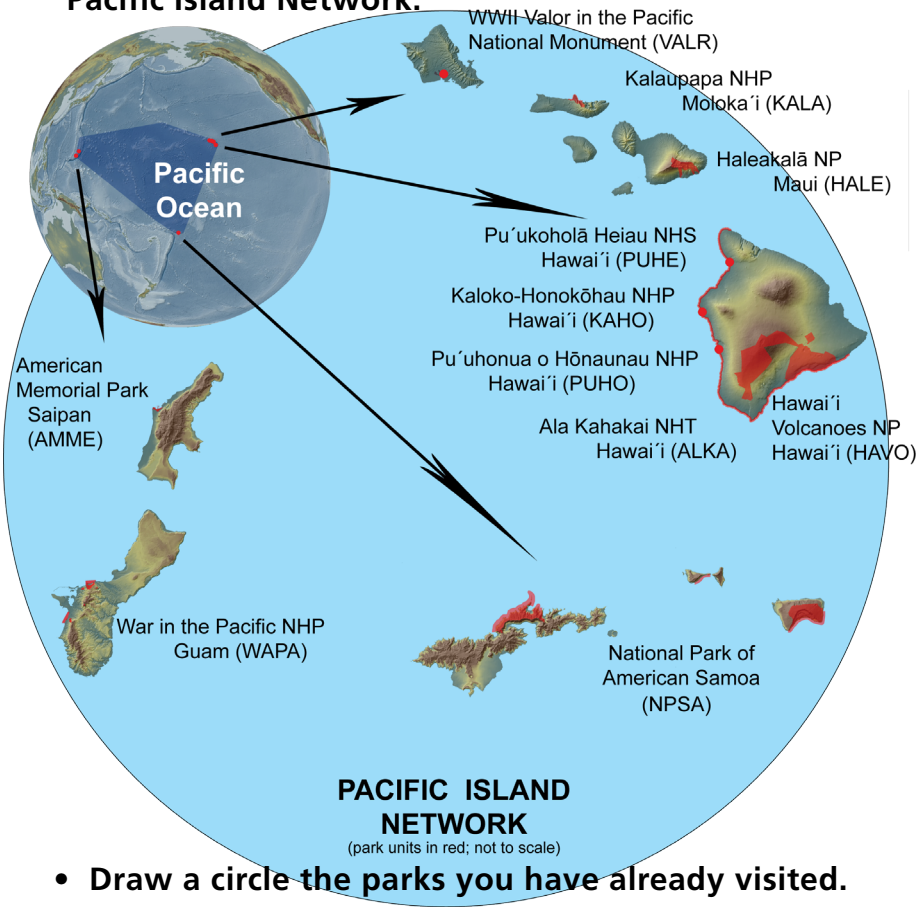
_____

_____

_____

_____

This map shows national park sites in the Pacific Island Network.



- **Draw a circle the parks you have already visited.**
- **Draw a square around parks you would like to visit.**

Remember: This activity is required.

THIS CERTIFIES THAT

_____

(your name)

HAS BECOME A

HALEAKALĀ JUNIOR RANGER

Date_____

Ranger Signature_____

Junior Ranger Signature_____

Ka ʻōlelo hoʻohiki o ke kiaʻi ʻōpio:

- E kōkua mai e mālama i nā mea o Haleakalā i ka ʻāhiu a me ka nani.
- E mahalo nō i nā lāʻau a me nā holoholona.
- E haʻi ma ka hoaloha a me ka ʻohana i nā mea i aʻo ʻia.
- E aʻo i nā mea maoli i kokoke ma koʻu hale a me ke kiaʻi ʻana i nā mea.
- E lilo me kekahi papakuhikuhi kiaʻi ʻōpio.

I pledge to:

- Help keep Haleakalā wild and beautiful.
  Lōkahi
- Respect the plants and animals.
  Mālama ʻAina
- Tell my friends and family what I learned.
  Alu like mai
- Learn about native species near my home and help protect them.
  Laulima
- Get involved in other Junior Ranger programs.

‘Ohe Kāpala (kapa stamp)
Keepsake Bookmark

Ua lehulehu a manomano ka ‘ikena a ka ‘ano o ka nohona.
Great and numerous is the knowledge of the environment. –Hawaiian Proverb

“Hawaiians believe that people are born with knowledge… called the bowl of light. Our bowl of light is filled with things we believe are important in our life. We need this knowledge. We need to practice this knowledge to make it stronger in our lives.”
-Auntie Nan, Hawaiian Kupuna

To decorate your bookmark, borrow stamps at any visitor center. Choose stamps that fill your “bowl of light”. When using your bookmark, remember what you learned at Haleakalā.

Cut your bookmark here

Printed July 2015
Created by Eliot & Lisa Carter, Volunteers & Katelyn Thomson, Education Specialist
Mahalo (thank you) to:
Haleakalā National Park staff
Natalie Gates, Superintendent
Polly Angelakis, Chief of Interpretation, for editing
Honeygirl Duman for translating ranger pledge to ‘Ōlelo Hawai‘i
Hawai‘i Pacific Parks Association staff
Kris Jolls (krisjolls.com) for guidance on graphic design
Art Credits:
Cover illustration - Sophie Cayless ©2000
Ranger cover drawing, nalo meli, māmane, & ‘āhinahina p.17 - Pacific Ricke
Ranger p.5 & 19 - ‘amakihi, p.25 - Emelie Gardanier
Nēnē, p.16 - Taylor Nishimura
‘I‘iwi, snail, & koa p.17 - Eliot Carter
Ranger, p.25 - Riley Satovich
Tree snails pp.20-21 based on images by Hank L. Oppenheimer
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All other photos, NPS
Hawaiian Proverbs p. 10, 13, 27 Pukui, Mary Kawena. ‘Ōlelo No‘eau: Hawaiian proverbs and poetical sayings. Honolulu: Bishop Museum Press, 1983.

Kukui nuts symbolize enlightenment because their oil is used to make light.

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