

## Caring for natives

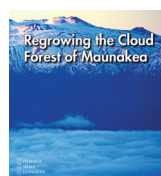
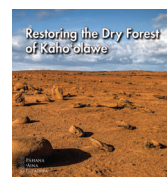
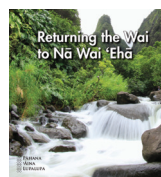
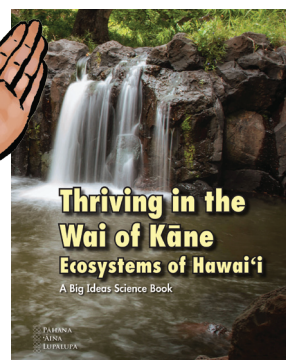
Answer the questions below.

1. In Hawaiian culture, many native plants are kinolau, or body forms, of the gods. How might this affect the way you treat native plants?
2. "Wao akua" is the upland forest where native living things can still be found. Its name means "region of the gods." How might this affect the things you would do, or not do, in the forest?
3. To mālama Hawai'i's precious living things, some people plant endemic plants. Others create laws to protect Hawai'i. Others teach about preserving native living things. What can you do to kōkua?

### Design a sign

Sometimes people dump their unwanted pet fish in a nearby stream. This can cause harm to native stream fish. Design a sign you could make to protect native streams and fish.

### Learn more about alien and native living things in these fun books!



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# ke Akeakamai

FOR THE LOVE OF 'IKE

## Aliens sighted in Hawai'i...



### pulehua Kamehameha

People mistake me for the monarch butterfly, but I was here first! And unlike them, I've got nowhere else to go.

### naonao

I was originally brought here by people ... so I don't know why they're always trying to get rid of me!



### piha'ekele

Namaste! I'm so glad people brought me to Hawai'i from India. This place has 'ono insects!



### āholehole

Look into my eyes and fall in love! I am an endemic Hawaiian fish that's been used for love magic.

### puā'a

I am an expert canoe rider. But I think Polynesians were more interested in bringing me here for food and religion.



### 'ōhi'a lehua

I like to consider myself versatile. I can grow in dry and wet places from sea level to mountaintop. But I'm found only in Hawai'i.

...and natives too!  
Can you spot the natives from the aliens?



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IMAGE CREDITS: Page 1: Piha'ekele\* - Forest & Kim Starr, aholehole\* - Hawaii Biological Survey, puā'a\* - Allary/Flickr, naonao\* & pulehua\* - William Haines, lehua\* - Kekaiāni Irwin. 2: American cockroach\* - Alex Wild/Insects Unlocked/Flickr, fire ants\* - Scott Bauer/USDA, Agriculture Research Service, māmaī\* - Forest & Kim Starr, ama'ama - H'ilili Kawelo. 3: 'Aka pōā au - Jack Jeffrey, side-view mosquito\* - James Gathany/CDC, top-down view mosquito\* - Judy Gallagher/Flickr, top rat\* - Hans Jörg Hellwig/Wikimedia Commons, left rat\* - Sarah Gould/Flickr, middle rat\* - CSIRO/CSIRO Science Image, bottom rat\* - Pete Beard/Flickr. 4: Boy\* - Eve Furchgott/Hale Kuamo'o. \*Image modified from original.



# Hawai‘i, pre-aliens

What’s a Hawai‘i home without ants, termites, and cockroaches? It’s hard to imagine, but there was a time when these insects did not exist in Hawai‘i. In fact, there was a time when there were no houses or humans in Hawai‘i. And before that, there were no insects, animals, or plants.

When the Hawaiian Islands were born from the matings of Papa (Mother Earth) and Wākea (Sky Father), they were like all newborns—naked. And they were surrounded by ocean, far away from the nearest sizable land mass. So every living thing that arrived in Hawai‘i had a long and dangerous journey.

To survive in Hawai‘i, many living things had to adapt. Their bodies changed over time to be better suited to their surroundings. These changes made them different from their **kūpuna** that first arrived in Hawai‘i. They became endemic to Hawai‘i.

Some plants, animals, insects, and i‘a that arrived in Hawai‘i did not need to adapt to their new home. They could survive without changing. Living things that survived here and did not change are indigenous to Hawai‘i. For example, the ‘ama‘ama fish can be found here and in waters around the world, though it may not go by the same name.

Living things that are endemic or indigenous to Hawai‘i are **native** to this place. They arrived without the help of humans. Of Hawai‘i’s native living things, more than 90 percent are endemic.

Endemic and indigenous things of Hawai‘i live in balance with each other. That’s why, in a native forest, you’ll often find many kinds of trees, without any one kind that dominates the others. Also, many native living things depend on each other for food, shelter, or to reproduce.



The māmaki is endemic to Hawai‘i. It is harmless...but you wouldn’t want to run into its kupuna, the stinging nettle, which lives up to its name!



The ‘ama‘ama is indigenous to Hawai‘i and many other parts of the world, like Albania, Algeria, American Sāmoa, Angola, and Australia, just to name the countries that start with “A”!

## COMING TO TERMS

**kūpuna:** grandparents, ancestors

**native:** a living thing that arrived at a place on its own and has remained there for generations

# Hawai‘i, post-aliens

Humans arrived in Hawai‘i about 1,700 years ago. From then until today, we have been bringing living things with us to Hawai‘i, sometimes on purpose and sometimes by accident. Whatever we bring that wasn’t here before is called **alien**, or introduced. An alien is non-native.

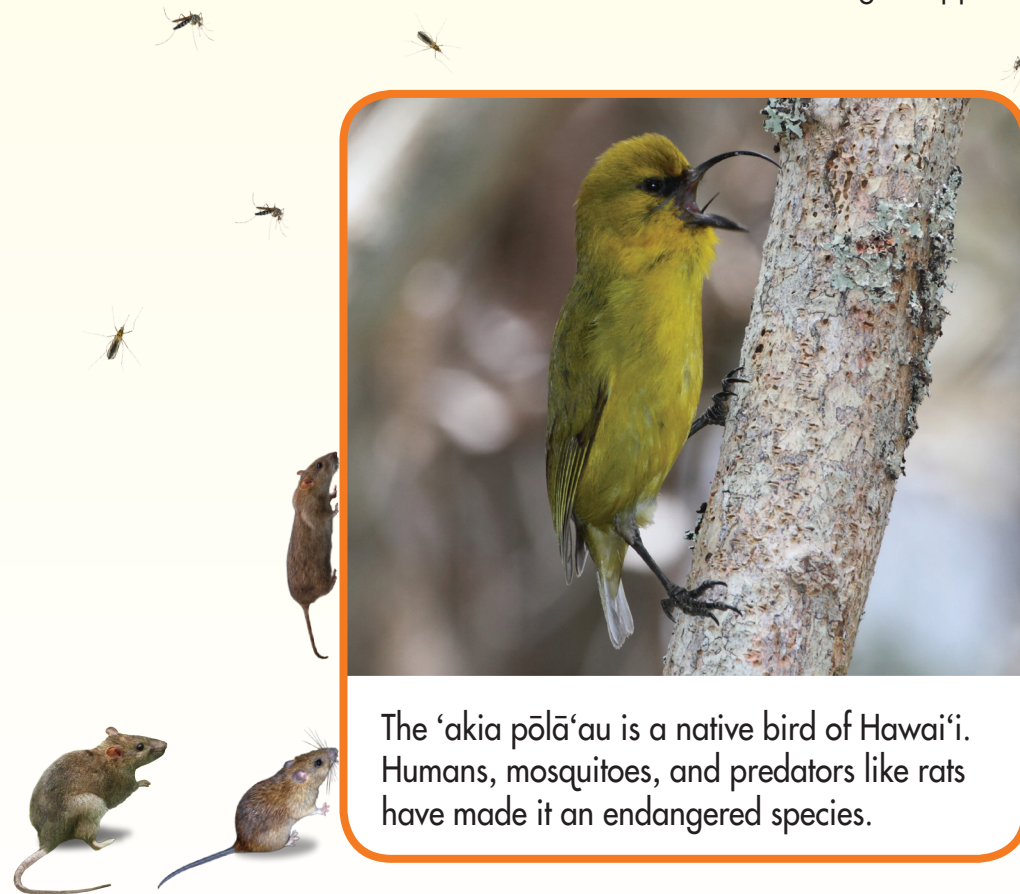
Sometimes aliens compete with natives for the same food and space. Some aliens find native things very tasty. This is not good for native life forms!

Without **predators** to keep the number of aliens in check, some kinds of aliens can grow fast and spread far. They can take over entire **ecosystems** and change the balance. A living thing that greatly changes or disrupts an ecosystem is called invasive. It invades a place.

Can you guess which living thing is really good at being invasive? Here’s a hint: It walks on two legs and can talk. That’s right . . . humans! With our large farms, machines, and cities, humans have changed, disrupted, and even destroyed ecosystems.

Over time, invasive living things move in and can take the place of natives. Because Hawai‘i has a small land mass surrounded by ocean, native living things have nowhere else to go.

Sadly, aliens—and humans ourselves—can cause so much harm to native living things that they become **endangered**. Eventually, they may no longer exist. And if an endemic living thing becomes extinct, the things that depend on it can also become endangered or **extinct**. Once a living thing disappears, it is gone forever.



The ‘akia pōlā‘au is a native bird of Hawai‘i. Humans, mosquitoes, and predators like rats have made it an endangered species.

## COMING TO TERMS

**alien:** a living thing brought to a place by people

**predator:** an animal that kills and eats other animals for food

**ecosystem:** all the living and nonliving things of a place and the ways they interact

**endangered:** close to no longer existing

**extinct:** no longer existing

Go back to the first page. Circle the things that are native, and draw an “X” through the aliens.