

A Kīpuka for Every School

Lesson 3: Native Plants in a Kīpuka

Lesson Objective(s):

- Define the term native species
- Identify the methods native species arrived to Hawai'i
- Understand Hawaiian cultural practices in a forest

Learning Standard	
NGSS 4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
LA 4.RI.3	Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
SS.4.3.15.2	Differentiate between native and non-native plants and animals used by early Hawaiians.
SS.3.4.9.1	Compare ways that people are addressing the issue of limited natural resources

Lesson Launch Notes:

Class reading and journal reflection

Lesson Closure Notes:

Practice oli for upcoming huaka'i and super seed homework assignment.

Native Plant in a Kīpuka (Total: 120+ minutes)

Activity 1: What's a Native

1. As students enter the classroom, have them read a short write-up from Bishop Museum on defining a native species. After reading them, have them share 3 new things they learned from the text.
https://blog.bishopmuseum.org/culture/plants-of-hawaii-2/?_ga=2.53508143.621669231.1680568244-612022884.1680568244
2. Ask students to share what 3 new things they learned from the text
3. Explain to students that the class will be going on a huaka'i soon to visit a kīpuka. The kīpuka is home to many native species. To help us prepare for this huaka'i, we will review what it means to be a native Hawaiian species.

Activity 2: He 'Ōiwi 'Oe? (Are you native)?

1. Explain to students that we are going to play a game to share what we already know about what plants are native and what are non-native species to Hawai'i.
2. To play, all students should stand up. The teacher will read the name of a plant or animal. If the player believes the plant or animal is native to Hawai'i (arrived to Hawai'i without the help of humans) students, gently tap their shoulders. If the name read is not native to Hawai'i (was introduced to Hawai'i with the help of humans), players will tap their opposite elbows. Have students practice each motion when the teacher says the name native and non-native.
3. When students are ready to play, read the names of the following species. Tell students what the answers are after each species is read. Have students keep track during the game of how many they get correct.
 - a. 'Ōhi'a: native
 - b. Kalo: non-native
 - c. Hapu'u: native
 - d. Lilikoi: non-native
 - e. Myna bird: non-native
 - f. Kōlea: native
 - g. Kamehameha butterfly: native
 - h. Ant: non-native
4. Have students share how many they got correct. Review with students what makes a species native or not!

Activity 3: Indigenous vs. Endemic Explain that all native species in Hawai'i fall into two categories. Ask students if they know the categories, remember these were shared in the reading!

5. Explain the two categories are *endemic* and *indigenous*. Return to the Bishop Museum text and have students volunteer to read the sentences that reviews what the two terms mean.
 - a. Highlight from the text:
 - i. Hawai'i, now, has a high number of endemic biodiversity species, were these species always endemic? If not what made them change from indigenous to endemic?
 - ii. Can endemic species in Hawai'i be found growing naturally in California or Australia? -No, endemic species only grow at one specific location.

Activity 4: Oli Practice & Huaka'i Prep

1. Share with students details about the huaka'i with Three Mountain Alliance Watershed Partnership.
 - a. date/time/what to bring
2. Watch this short video created by Three Mountain Alliance to help prep students for the experience. <https://youtu.be/h4nigP7GibA>

3. Ask students if they have any questions about the video. Ask if they saw the kīpuka at about the 5:40 minute mark! Share that we have a lot to learn about how to grow a kīpuka from these folks.
4. Have students think about one to two questions they have about Keauhou that they can ask staff. The question should relate to restoration, native plants, cultural connections, or how to grow a kīpuka.
5. Practice an oli komo with students to help prepare to enter the space.

Activity 5: Super Seed (Homework)

1. Give students a blank piece of paper. Explain that their homework tonight is to create a super seed that is an expert and traveling and defending itself. How can the seed utilize all of the 3Ws (wind, waves, wings) to travel and still defend itself from the elements and predators. When creating the super seed, label its super power parts.

Evidence of Success:

By the end of the lesson students will be able to:

- Identify what makes a species native or not based on text
- Describe the difference between indigenous and endemic species based on text
- Comprehend community organizations that support native species.
- Develop a question to ask an expert in the field to support their learning of a kīpuka.
- Recognize the behavior expectations when on a huaka'i and cultural practices when in these spaces.

Vocabulary:

Native

Non-native

Canoe plant

Indigenous

Endemic

Oli

Resources:

- 1 Paper/ Student
- 1 set Colored Pencils/Student
- 1 Journal/ Student
- 1 Pencil/ Student
- Internet access/ for class

Homework:

Activity 5-Super Seed Drawing