

DLNR Virtual Field Trips: Kaniakapūpū

NGSS, Nā Hopena A'o , and 'Āina Aloha Competencies Alignment for Educators



Alignment Summary

The Kaniakapūpū virtual field trip offers an educational experience that explores some of Hawai'i island's protected ecosystems. The content presented with this field trip aligns with Next generation Science Standards (NGSS), the Nā Hopena A'o framework from the Office of Hawaiian Education (OHE), and the competencies from OHE's 'Āina Aloha pilot program. The field trip aligns with NGSS listed below, highlighting ecosystem behaviors and relationships, emphasizing topics such as erosion and the value of place. Within the Nā Hopena A'o framework, our field trips align with the goals of strengthening students' sense of Hawai'i and sense of belonging. Further, the videos found throughout the field trip correspond with 'Āina Aloha competencies, as the speakers educate young learners about how systems work, why conservation efforts are important for the 'āina, and human impacts on ecosystems. The tables below provide specific references to standards, goals, and competencies address by this field trip.

NGSS Alignment

The standard codes below have been hyperlinked to direct you to a description of the standard.

NGSS Code and Link	Discipline	Core Idea	Subitem	Relevant DCIs	Field Trip Connections to DCIs
K-ESS2-2	ESS: Earth and Space Sciences	2: Earth's Systems	2: Construct an argument supported by evidence for how plants and animals (including humans) can	"ESS2.E: Biogeology: Plants and animals can change their environment. ESS3.C: Human Impacts on Earth Systems: Things that people do to live comfortably	At Kaniakapūpū we can see changes that humans made to the environment to live comfortably, including clearing an area to build the house, and installing an 'auwai (ditch) to carry water to where they needed

			change the environment to meet their needs	can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things."	it to be.
3-LS4-4	LS: Life Sciences	4: Biological Evolution: Unity and Diversity	4: Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.	"LS2.C: Ecosystem Dynamics, Functioning, and Resilience When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (secondary) LS4.D: Biodiversity and Humans Populations live in a variety of habitats, and change in those habitats affects the organisms living there."	There have been many changes to the environment around Kaniakapūpū, including the introduction of invasive species. As a result, the land snails that are referenced in this site's name are no longer abundant. Students can discuss the merits of snail conservation and/or invasive species control in Hawai'i. Will snails one day be abundant once more at Kaniakapūpū?
MS-LS2-4	LS: Life Sciences	2: Ecosystems: Interactions, Energy, and Dynamics	4: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	"LS2.C: Ecosystem Dynamics, Functioning, and Resilience Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations."	There have been many changes to the environment around Kaniakapūpū, including the introduction of invasive species. As a result, the land snails that are referenced in this site's name are no longer abundant. Students can discuss the merits of snail conservation and/or invasive species control in Hawai'i. Will snails one day be abundant once more at Kaniakapūpū?
MS-LS2-5	LS: Life Sciences	2: Ecosystems: Interactions	5: Evaluate competing design solutions for maintaining biodiversity and	"LS2.C: Ecosystem Dynamics, Functioning, and Resilience Biodiversity describes the variety of species found in Earth's	The name Kaniakapūpū refers to "singing" tree snails. These snails are no longer found at this site due to climate change and the introduction of invasive species.

		s, Energy, and Dynamics	ecosystem services.	terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health. LS4.D: Biodiversity and Humans Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. (secondary) ETS1.B: Developing Possible Solutions There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (secondary)"	Students can discuss how these native snails might be protected and returned to this site one day.

Alignment with [Nā Hopena A'o Statements](#)

<u>Hopena</u>	<u>Statement</u>
1. Strengthened Sense of Belonging	a. Know who I am and where I am from
	b. Know about the place I live and go to school

2. Strengthened Sense of Hawai'i	b. Use Hawaiian words appropriate to their task
	c. Learn the names, stories, special characteristics and the importance of places in Hawai'i
	d. Learn and apply Hawaiian traditional world view and knowledge in contemporary settings
	e. Share the histories, stories, cultures and languages of Hawai'i
	g. Treat Hawai'i with pride and respect
	h. Call Hawai'i home

'Āina Aloha Competencies:

This link will direct you to the Office of Hawaiian Education (OHE) 'Āina Aloha competencies.

<https://sites.google.com/k12.hi.us/ohehub/hawaiian-studies-program-hsp/%CA%BB%C4%81ina-aloha-a%CA%BBa-choice-board?authuser=0>

Competency	Sub Competency	Competency Highlight
Aina Ulu: Growth Cycle	Kupu	Young and fresh learner
Kuana'ike: Mo'olelo	Hua Kupu	Applies understanding of Mo'olelo to advocate for 'āina stewardship Understands significance of inoa

Honua: Pono	Hua	Advocates for living pono
‘Ōlelo Hawai‘i	Kupu	Understands the importance of language
Kuana‘ike: Mahalo & Hō‘ihi	Pua	Applies appropriate protocol to show akua, kanaka, and ‘āina mahalo and hō‘ihi