

"We are all part of the problem, we are all part of the solution."

-Kumu Barbara

Second Grade – Marine Life: Whales, Sea Turtles, Fish, and Coral Reefs

Students studied the behavior of marine life, focusing on whales, sea turtles, fish, and coral reefs. Through huaka'i that included whale watching and sea turtle study, haumāna had an all around experience of the magic and beauty of these amazing creatures who we share our environment with. Second Graders felt very deeply that the marine environment must be protected, and that there is a lot we can do to help. They created artwork to reflect ancient Hawaiian 'ike (knowledge) about reading weather patterns in the rainbows, to keep safe while navigating without instruments like on the wa'a. Their marine life mural gives expression to their love for all life under the sea.

SOLUTIONS FROM THE SECOND GRADERS:

- Keep at least 50 feet away from Hawaiian monk seals, 10 feet away from sea turtles, and 100 yards away from whales.
- Ships should stay in shipping lanes, slow down and put engines on idle if they come near whales.
- To protect the coral reef, wear rash guards or use reef safe sunscreen that you apply when you get out of the water.
- Keep lights off in parking lots and houses that are near the beaches with sea turtle nests – hatchlings follow the moon and starlight.
- Use the red light in headlamps at night to stop light pollution.
- Follow fishing rules – don't overfish.
- Don't eat sea turtles or marine animals that clean the ocean, like lolli (sea cucumbers).
- Stay out of the ocean when coral are spawning.
- Hotels should not shine lights onto the ocean at night.

Links for further information:

Reef-Safe Sunscreen:

<https://kohalacenter.org/reef-etiquette/sunprotection>

NPR story on How scientists are using fish music to protect coral reefs:

<https://one.npr.org/i/1187992889:1187992890>

NPR story on What is oppressive heat doing to coral?

<https://one.npr.org/i/1194562321:1194562322>

Civil Beat article: Should Hawaiians eat sea turtles?

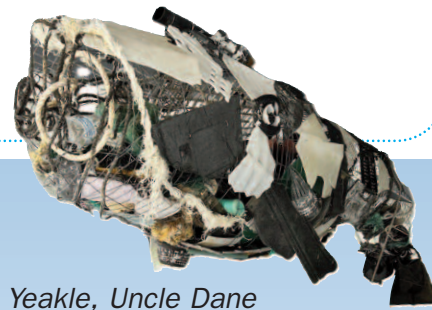
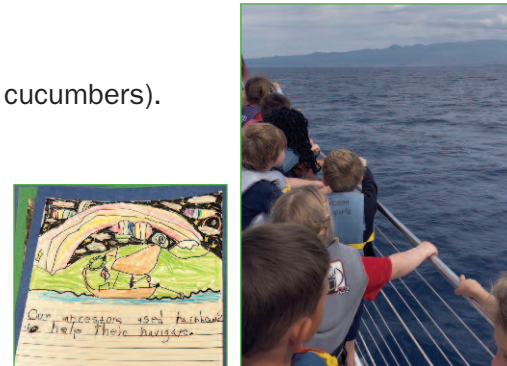
https://www.civilbeat.org/?p=1742746&utm_source=Civil+Beat+Master+List&utm_campaign=889d1a0f7a-EMAIL_CAMPAIGN_2025_05_12_05_31_COPY_01&utm_medium=email&utm_term=0_-ec21c6ffa7-402193051&mc_cid=889d1a0f7a&mc_eid=a5a28fcef3

Recommended Books:

Science Comics: Coral Reefs, by Maris Wicks

Science Comics: Whales, by Casey Zakroff

"Mana'olana" marine debris whale installation designed by Laisani Kivuyo, 9th Grade, VSAS.



MAHALO NUI to all of our partners:

Native Skywatchers – Dr. Annette Lee

Volcano School of Arts & Sciences – Kalima Kinney, Chris King-Gates, Joan Patton,

Anna Aoki, Christine Yasuhara, Leona Matsueda, Taylor Hamilton, Erica Jensen, Travis Yeakle, Uncle Dane

Something Good in the World – Barbara Sarbin, Sherri Young, Elizabeth Colquhoun

Mokupāpapa Discovery Center – Justin Umholtz, Andy Collins, Virginia Branco

NOAA – Ocean Guardians Schools – Māhealani Bambico

The Kohala Center – Brienne Lauro

Volcanoes National Park – Jody Anastasio

Hawai'i Wildlife Fund – Nohea Ka'awa

Ocean Sports – Claire and D.J.

'Imiloa Astronomy Center – Mohala Aiu

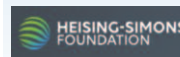
Heising-Simons Foundation

OSPAPIK (Ocean and Space Pollution, Artistic Practices and Indigenous Knowledges)

McCall's Farm – Jeff McCall

For more information on Native Skywatchers and the Hawaiian Star Compass with Kālepa Baybayan:

<https://nativeskywatchers.com/two-eyed-nasa-hawaiian.html>



Hawaiian Star Compass – Mahalo Sea and Stars!

Native Skywatchers and the Volcano School of Arts & Sciences present the artwork of the Kindergarten, First and Second Graders at Mokupāpapa Discovery Center, in response to a 7-month process of learning about the interconnectedness of our 'āina (land) and kai (marine) environment.

Using the Hawaiian Star Compass, as taught and gifted to us by Hōkūle'a Pwo Navigator, Kālepa Baybayan in 2020, VSAS haumāna (students) discovered how to practice kilo (observation) using the whole of their body and all of their senses. Each grade chose their own theme to focus on: Marine Debris (Kindergarten), Native Birds and Plants (First Grade), and Marine Life (Second Grade).

Connections were made to the effects and meanings of the Hawaiian moon phases, star families, weather patterns and ānuenuē (rainbows), for the marine environment, and the use of non-instrument navigation on the traditional Hawaiian wa'a (voyaging canoe).

Monthly huaka'i (excursions) to visit and work with experts in the field, added greatly to the hands-on experiential learning process.

Under the guidance of Kumu Barbara Sarbin, lead educator and director of the nonprofit Something Good in the World, VSAS students practiced:

1. Gathering of facts and data about their subject.
2. Identifying the reasons for the problems to determine why these issues exist in our local environment, on Hawai'i Island.
3. Contributing their principles, which are the rules and laws that residents are responsible for following, based on traditional ecological beliefs.
4. Expressing how each feels personally about the issue through the arts.
5. Creating an art exhibit and presentation as a way of raising awareness about the issues and teaching others about the solutions.P



"The Pacific Garbage Patch is in the Pacific Ocean. We live in the Pacific Ocean. That means the Pacific Garbage Patch is close to us."
 -Ophelia and Richard, VSAS Kindergartners

Kindergarten – Marine Debris

Kindergartners gathered data on plastics in their classroom environment, and discovered the sources of debris in the Pacific Garbage Patch. Students created 3D art of the environment of our local honu (Green Sea Turtle), including limu (seaweed) and jellyfish. They added to the sculpture of a giant koholā (Humpback Whale) and her baby, using marine debris they collected from the beach at Ka Lae (South Point). Kindergartners also made the connection between the human tendency to leave rubbish on the ‘āina, which ends up in the ocean, with a similar problem of leaving debris in the space environment above our planet.

SOLUTIONS FROM THE KINDERGARTNERS:

- Don't leave trash anywhere. Clean up trash everywhere.
- Respect the sea turtles, monk seals, fish, and whales – clean up fishing gear, don't leave it behind.
- Plastic bags, bottles, and nets hurt marine life – reuse and recycle these.
- Try not to buy things made out of plastic.
- Create satellites and rockets that can be reused or are made out of natural materials that can burn up in the Earth's atmosphere.
- Cooperate with other countries so that we all share satellites.

Links for further information:

TED Ed video on How Big is the Ocean:
https://www.youtube.com/watch?v=QUW_Zv_jJb8

TED Ed video on Space Debris:
<https://www.youtube.com/watch?v=PN4moDNE-Kg>

Moriba Jah in National Geographic video on Space Debris:
https://www.youtube.com/watch?v=h8_PigluxKk

Moriba Jah TED Talk on Space Debris:
https://www.ted.com/talks/moriba_jah_the_world_s_first_crowdsourced_space_traffic_monitoring_system?subtitle=en



"In Hawaiian culture, everything is full circle. People can't live without the forest, and the forest can't live without the birds."
 -Aarona, Olinda Conservation Center

First Grade – Moon Phases, Native Plants, Native Birds, and Noise Pollution

Students learned the Hawaiian moons through chant and movement, to understand the significance of each phase on our ‘āina and kai, how these affect the behavior of all living things. First Graders planted native plants like Mā‘ahi‘ahi (mint), which produces flowers that the native ‘i‘iwi bird has a beak perfectly adapted for. They enacted a theater of the call and response of native birds and the koholā and the noisy human machinery that can disrupt these important communications. The haumāna created art to reflect their respect for the moon, sun, native birds and plants.

SOLUTIONS FROM THE FIRST GRADERS:

- Plant native plants, to help provide food and shelter for native birds and native insects, and help increase rainfall.
- Plant native plants to prevent erosion and run-off into our watershed, especially varieties that absorb excess nitrogen from fertilizers, like ‘ahu‘awa.
- Repair vehicles so they don't leak oil or gas onto roadways.
- Don't use any chemicals on your lawn or in your garden.
- Keep manure and waste from animals and humans away from the ocean.
- Dim streetlights so seabirds can migrate by starlight.
- Keep human-made noise low so animals do not get disturbed.
- Try not to buy products that have to be shipped.

Links for further information:-

HPR report on Limu:

<https://www.hawaiipublicradio.org/local-news/2026-01-28/marine-biologists-hope-limu-ark-will-protect-hawaii-seaweed-biodiversity>

Civil Beat article on Native Birds Protecting the Forest:

https://www.civilbeat.org/?p=1754219&utm_source=Civil+Beat+Master+List&utm_campaign=d2372a9887-EMAIL_CAMPAIGN_2025_05_12_05_31_COPY_01&utm_medium=email&utm_term=0_-ec21c6ffa7-402193051&mc_cid=d2372a9887&mc_eid=a5a28fcef3

Civil Beat article on How Seabirds Navigate by Starlight:

<https://www.civilbeat.org/2024/12/lawsuits-protect-hawaiian-seabirds-streetlights/>

SciShow video on How Noise Pollution is a Bigger Deal Than You'd Think:

<https://www.youtube.com/watch?v=i9qMbTba6qk&t=62s>

Cornell Lab article on Listening to the Coral Reef:

https://www.birds.cornell.edu/home/if-this-reef-could-talk/?utm_medium=email&hsenc=p2ANqtz-w1xINjGrfhkzGqipo_x48RMIxS3ZdwDYlwnG-i_F4BAZT0WwUJF7pP8jlg6rHJphgdzz1p9MYgE6XebVsZrAdoBCbQ&_hsmi=334024926&utm_content=334024926&utm_source=hs_email

