UPPER ELEMENTARY:
OCEANIC CONNECTIONS
PROGRAM OVERVIEW

Key Concept: Understand the intricate relationships between marine debris, coral reef ecosystems, and huma impacts.

Goals: To foster an awareness, appreciation and understanding of coastal ecosystems and promote a sense of stewardship for these special places.

Objectives: Students will be able to explain why the coastline is the part of the island most impacted by the ocean and by people; explain why human impacts can have serious consequences on the coastal and marine ecosystems; learn how pollution (marine debris), global warming, and invasive species are three of the largest threats to ocean and human life.; identify five coastal plants and/or animals and if they are introduced, native, or invasive; suggest several ways they can help care for coastal areas.

PROGRAM SCHEDULE

9:00 - 9:30	Introduction
45 minutes	Coral-lations
45 minutes	Garbology
1-hour	Coast Guides
Noon- 12:15	Clean up, Wash hands, Get lunches
12:15 - 12:45	Lunch
12:45 - 12:55	Summary
12:55 - 1:00	Board bus

INTRODUCTION

Key Concept: The coastline is the part of the island most impacted by the ocean and by people

Objectives:
Students will:

1. Learn how human impacts can have serious consequences on the coastal and marine ecosystems and how pollution (marine debris), global warming, and invasive species are three of the largest threats to ocean and human life.
2. Discuss how materials produced today are not biodegradable so small changes in how much we can reduce or reuse items make a big impact
3. Explain the concept of mālama ʻāina, how it is practiced by Hawaiians, and how it continues to have relevance today.
4. Learn how we can help care for and respect the land, which includes the coastal environment. Mālama ʻāina goes two ways: if we take care of the land, the land will take care of us.

HUMAN IMPACT HIKE

Key Concepts:

The Hawaiian coastlines have undergone massive change since the arrival of humans. From native flora and fauna, they have transitioned to a mix of mostly introduced and/or invasive species predominating the landscape. Native birds face new and harsh challenges as a result.

Objective: Students will be able to share two examples of some of the changes to the coastal wildlife/plant life that came about from human impact.

ADVANCED GARBOLOGY: Marine Debris Affects You and Me

Key Concepts:
1. Marine Debris is a global problem, especially for marine wildlife.
2. The Pacific Garbage Patch is an area of floating garbage 2-3X the size of Texas.
3. The debris found on Hūnānāniho Beach washes in from all over the Pacific.
4. What we do here in Hawai'i affects not only our beaches but also those of uninhabited islands that are wildlife refuges.

Objectives:
Students will be able to:
1. Explain how marine debris affects wildlife.
2. Collect and sort most of the debris in a specified area and determine what is most plentiful.
3. Determine whether the debris on Hūnānāniho Beach originated mainly from land or sea.
4. Explain how they personally can make a difference in lessening the impacts of marine debris.

Coral-lation

Key Concepts:
1. Corals are living organisms formed from a symbiotic relationship.
2. Coral reefs are some of the most biodiverse ecosystems in the world.
3. Coral reefs are found mainly in nearshore ecosystems and are stressed by pollution and runoff.
4. Global warming and increasing ocean temperatures can cause coral bleaching and reef death.
5. Scientists monitor the health of reefs by performing assessments using various methods including quadrats.

Objectives:
Students will be able to:
1. Explain what coral is.
2. Elaborate on the connection between coral bleaching and global warming.
3. Understand how scientists determine the health of corals.
4. Explain how they can make positive lifestyle changes to protect coral reefs.