

Unit Plan



Content Area: Sustainability & the Environment

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Activating/Building the Background

Lesson 1: **Why Does Marine Debris Matter?**

Deepening the Understanding

Lesson 2: **Impacts of Marine Debris**

Lesson 3: **Data Retrieval Chart**

Applying the Learning (Social Action Plan)

Lesson 4: **What Will We Do?**

BUILDING THE BACKGROUND

Lesson 1 Starter Activity: Why Does Marine Debris Matter?

Overview: Brief narrative description of the purpose of lesson

The purpose of this lesson is to gather marine debris from the ocean by doing a net tow. Ask audience to predict what items the net tow might bring and how much. Ask them to think about where the items came from.

As the hōkūle`a nears land or a port, the net along with a weight would be attached to the vessel and lowered into the ocean. The net will scoop up any marine debris located in its path and along the surface. Once the vessel reaches the port the net should be lifted out of the water. The contents should be emptied into a bucket and carefully separated by size. The contents should be photographed and identified.

When the crew has gone ashore, they can use the images of marine debris as well as the actual artifacts to start a conversation with the local community. The focus of this conversation/discussion would be identifying what marine debris is and how it is problematic to marine life and society. All the locations that hōkūle`a will come into contact with could serve as possible locations to do a net tow. If marine debris is collected at each area, the crew can document their findings as well as observations to allow for comparison of different areas.

Lesson 2 Technology and Ocean Currents

Further discussion of this would focus on ocean currents as moving the debris toward a certain location and away from another location.

DEEPENING THE UNDERSTANDING

Lesson 3: Impacts of Marine Debris

Overview: Brief narrative description of the purpose of lesson

The purpose of this lesson is to raise awareness of the environmental problem known as marine debris. This lesson will involve informing and educating communities all around the world about what marine debris is and the biological impacts that marine debris has on the marine ecosystem. This lesson will focus on the impact that marine debris has on animals such as whales, fish, turtles, and sea birds. The lesson will provide hands on activities that will allow students to get a visual of the damage that marine debris can have on the marine life.

Re-using Marine Debris

Create artwork or invent items with marine debris as a reminder to NOT litter in the water.

Lesson 4: Data Retrieval Chart

This section will focus on gaining an understanding of the impacts that marine debris has on the environment, which further could impact human beings.

DATA RETRIEVAL CHART

	Marine debris in the oceans near our community	Biological impacts of marine debris on the marine ecosystem	Impact of marine debris on human beings
Criteria Question 1 How can we learn from one another to preserve resources?			
Criteria Question 2 What choices will help us to sustain/nurture our resources?			
Criteria Question 3 How can one person make a difference?			
Criteria Question 4 How can we use indigenous knowledge to sustain/nurture our resources?			

APPLYING THE LEARNING

Lesson 5: What Will We Do?

The purpose of this lesson is to work with communities to find solutions to the marine debris problem. Crewmembers of hōkūle`a would learn about the things that people in Hawaii are doing to get rid of marine debris such as beach clean ups or efforts to recycle and post on the Wikipedia. This knowledge will be shared with the visited community to foster a reciprocal exchange of a list of possible solutions. With the help of hōkūle`a's crew a solution that was discussed will be implemented in the community.

RESOURCES/REFERENCES

The following is a list of possible resources that can be used for each “sub-unit plan”

- Polynesian Voyaging Society: <http://pvs.kcc.hawaii.edu/>
- Hōkūle`a World Wide Voyage: <http://www.hokuleawwv.org/voyagers/blog>
- C-MORE (Center for Microbial Oceanography Research and Education) Marine Debris Science Kit:
http://cmore.soest.hawaii.edu/education/teachers/science_kits/marine_debris_kit.htm