Lesson 5: Campus Debris Survey
Lesson 5 Presentation Content

Engage
– Litter and Albatross

Explore
– Litter on Our Campus

Explain
– Analyzing Results

Elaborate
– Our Litter and Albatross

Evaluate
– Spreading the Word
Marine Debris Definition

Any human-made persistent solid material that makes its way into the marine environment or the Great Lakes is termed Marine Debris.
Pop Quiz:

If these items went into the ocean …
which ones are NOT Marine Debris
Where do Albatross Find Floating Food and Trash?
Albatross Foraging Journeys

Data courtesy of Oikonos, HPU, USGS and partners
Adult Albatross Feeding a Large Chick
Plastic Ingestion
Skeleton of an Albatross Chick

Photo by Cynthia Vanderlip
WHERE DOES YOUR GARBAGE GO?
Imagine finding this in your food?

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Explore

Litter and Our Campus
Is there litter on our school campus?
Hypothesis

We predict that the most common types of debris on campus will be ?
Explain

Analyzing Results
Let's analyze our data

Campus Debris Items

Number of items

- Food wrappers
- Plastic bottles
- Plastic Caps/lids
- Plastic bags
- Beverage cans
- Straws & stirrers
- Cups & utensils
- Other
Elaborate

Our Litter and Albatross
International Coastal Cleanup

Each September, an international volunteer beach cleanup effort takes place.

Photo by NASA/Dimitri Gerondidakis
Data from International Cleanups:

TOP TEN ITEMS FOUND

1. Cigarettes
2. Caps / Lids
3. Plastic Beverage Bottles
4. Plastic Bags
5. Food Wrappers / Containers
6. Cups, Plates, Forks, Knives, Spoons
7. Glass Beverage Bottles
8. Straws, Stirrers
9. Beverage Cans
10. Paper Bags

80% Total debris items worldwide made up of top ten items.

Data Credit: Ocean Conservancy.org
How can we tell which Marine Debris Items can have Ecological Impacts?

**Type:** Some items (like nets and plastic bags) can entangle animals

**Size:** Small items can be eaten by birds, fish, and marine mammals

**Longevity:** Some items will last a lot longer in the ocean. As items age, they break down into smaller pieces
Pieces from Larger Items Make Up the Majority of Marine Debris
Many different animals ingest marine debris
Marine animals also become entangled
People are part of marine Food-Webs
You are what you eat
Most Marine Debris comes from Land

Litter enters the marine environment through many pathways:

- Some are short and direct: such as, a sand shovel left behind at the beach

- Others are longer: such as, a balloon floating away in the breeze

- And others can be even longer: such as, trash flowing down a river
Environmental Protection Agency defines a watershed as the area of land where all of the water that is under it or drains off of it goes into the same place. Some are small, others are large, some are very large (the Mississippi river).
For those that live inland, trash flows from local creeks and streams to rivers, and then to the ocean.
Ahupuaʻa – the Traditional Hawaiian Watershed Management System
Prevention: Storm DrainStencil

Photo by Metropolitan Government of Nashville and Davidson County, Tennessee

NO DUMPING
DRAINS DIRECTLY
TO BROWNS CREEK WATERSHED
Prevention: Single Use vs. Reusable Items
Evaluate

Spreading the Word
Who’s Responsible?
Stewardship is Everyone’s *Kuleana*
Artwork made from trash

Susan Scott’s Marine Debris Turtles
Stickers for the Community

PROTECT SEABIRDS
PREVENT PLASTIC POLLUTION

Funded by the California Coastal Commission and work by Oikonos Ecosystem Knowledge ©2005
What will your message be?
Winged Ambassadors
Ocean Literacy Through the Eyes of Albatross
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Lesson 5 Campus Debris Survey

Engage – Litter and Albatross
1. Marine Debris Definition
2. Pop Quiz
3. Where Do Albatross Find Food?
4. Feeding a Chick
5. Skeleton of an Albatross Chick
6. Where does Your Garbage Go?

Explore – Litter and Our Campus
1. Is there Litter on Your Campus?
2. Hypothesis

Explain – Analyzing Results
1. Let’s Analyze

Elaborate – Our Litter and Albatross
1. International Coastal Cleanup Data
2. Marine Debris Ecological Impacts
3. Pieces from Larger Items
4. Species Ingest Marine Debris
5. Species become Entangled in Marine Debris
6. You are What You Eat
7. Most Marine Debris Comes from Land
8. Watersheds
9. Hawaiian Watershed Management
10. Prevention Examples

Evaluate – Spread the Word
1. Stewardship – Kuleana
2. Outreach Examples