



PROJECT OCEANOLOGY



Marine Debris Shore Program

Overview

Students will learn about the problem of marine debris and participate in a beach-clean up. On the beach students will work in small groups to define the problem of marine debris by discussing how it ends up on the beach and in the water. They will brainstorm potential solutions-ways to reduce the amount of marine debris- and evaluate those solutions as a group.

Performance Expectations (Elementary School)

K-ESS3-3: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or living things in the local environment. *Students will define marine debris and determine the human impacts on the marine environment. Students will create solutions at the individual and community level.*

4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. *Students will learn about overconsumption, improper debris disposal, and environmental impacts.*

Science and Engineering Practices

Obtaining, Evaluating, and Communicating Information: Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas. Obtain and combine information from books and other reliable media to explain phenomena. *Students will record and classify marine debris while brainstorming ideas to prevent marine debris from entering the marine environment. Students will evaluate possible solutions to mitigate marine debris.*

Crosscutting Concepts

Cause and Effect: Events have causes that generate observable patterns. Cause and effect relationships are routinely identified and used to explain change. *Students will participate in a marine debris removal and identify the sources and pathways of marine debris.*

Disciplinary Core Ideas

ESS3.C: Human Impacts on Earth Systems: Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.

ETS1.B: Developing Possible Solutions: Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people..*Students will determine environmentally friendly actions or behaviors to prevent marine debris from entering our ecosystems.*

ESS3.A: Natural Resources: Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not. *Students will learn about biodegradable and non-biodegradable materials.*