MarineLab
Marine Resources Development Foundation
Marine Science education in the Florida Keys

Marine Debris Program

Marine debris is one of the most widespread pollution problems facing the world's oceans and waterways. This is a half day program that encompasses an interactive discussion, mangrove cleanup and data analysis. During the initial discussion, marine debris is defined and impacts and solutions to the issue are discussed. Students participate in a cleanup and return to MarineLab to collect and analyze data. All data will be submitted to Ocean First Institute and entered into MarineLab's in house database.

** There are ***options***:**

1- Take a boat to the mangroves, climb onto mangrove island to pick up trash amongst the roots – we recommend avoiding this option during hottest summer months but perfect for winter months
2- Take a boat to a mangrove site to snorkel and pick up trash under water – we recommend this option for the hottest summer months
3- Do a land based shoreline cleanup near MarineLabs campus – we recommend this options if you are looking to avoid the additional cost of a boat trip

Grade Level: 7th grade and above

Timing: 3 hours (flexible)

Concepts Covered:

- Huge amounts of man-made goods enter the marine environment every day
- Anything man-made can become marine debris once lost or thrown into the marine environment.
- Wind, gyres, and ocean currents all impact how marine debris gets around or is accumulated
- Impacts of marine debris.
- There are solutions to the marine debris problem

Vocabulary: marine debris, gyre, microplastic, ghost fishing, current, garbage patch, derelict vessel, monofilament, hook/line/sinker, mineralization

Extensions:

- We can provide a “coastal cleanup” opportunity on most of our field trips where students can take time to pick up trash in the area.

- All data entered into MarineLab’s database can be made accessible to teachers to use in the classroom

Sources: http://marinedebris.noaa.gov/discover-issue

Standards Addressed:

Next Generation Sunshine State Standards

SC.912.L.17.14: Assess the need for adequate waste management strategies.

SC.912.L.17.8: Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.

SC.912.L.17.16: Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.

SC.912.L.17.17: Assess the effectiveness of innovative methods of protecting the environment.

SC.912.L.17.18: Describe how human population size and resource use relate to environmental quality.

Ocean Literacy Principles

Principle 6. The ocean and humans are inextricably interconnected.

d. Humans affect the ocean in a variety of ways. Laws, regulations and resource management affect what is taken out and put into the ocean. Human development and activity leads to pollution (point source, non-point source, and noise pollution), changes to ocean chemistry (ocean acidification) and physical modifications (changes to beaches, shores and rivers). In addition, humans have removed most of the large vertebrates from the ocean.

g. Everyone is responsible for caring for the ocean. The ocean sustains life on Earth and humans must live in ways that sustain the ocean. Individual and collective actions are needed to effectively manage ocean resources for all.