Marine Debris — It's All Around Us

It's important to keep our ocean clean and healthy, no matter where you live. Students experiment with buoyancy, design a model ocean, and dive into how different types of marine debris decompose. At the high school level students take it a step further and design a solution to combating marine debris harmful environmental impacts. All students leave this course understanding how to be better stewards of their environment.

Grade: Elementary, Middle, High School

Standards Supported

Next Generation Science Standards:

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.
K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
MS-ETS1-1. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.
HS-ETS1-1. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

Ocean Literacy Principles:

Principle 6. The ocean and humans are inextricable interconnected C.3 The circulation of warmer water from the equator out toward the poles distributes heat around the Earth