

Microplastics Lab

Grade Level: 7th and above

Summary: While not necessarily visible, microplastics are a global marine debris issue with documented impacts on animals from plankton to whales. Continued research and public education is necessary to create the best solution to this oceanwide problem. Students will have the opportunity to not only learn about the impacts of microplastics but they will see the problem firsthand. Students will have the opportunity to be a part of the solution by collecting data for the Florida Microplastic Awareness Program.

Program Objectives:

- Students will have a clear understanding of what microplastics are, where they come from and the impacts plastic has on our water
- Students will collect and filter water samples, analyze samples for microplastics using a vacuum filter and stereoscopes, and participate in a statewide citizen science microplastic program
- Students will discuss the future of plastics in our waters and possible solutions

Concepts Covered:

- Definition and types of microplastics?
- Impacts of microplastics on the marine environment
- Sources of microplastics
- Further microplastic research necessary in order to understand impacts
- Use of vacuum filter and stereoscope
- Solutions to the microplastic issue

Vocabulary: microplastic, primary/secondary microplastics, vacuum filter, nurdles, microfibers, grab sample, microbeads, photodegradation, polyethylene, biodegrade

Procedure: Students will collect a 1 L water sample while in the field. When back at MarineLab they will filter the samples to determine the number of microplastics/L. The impacts of microplastics and possible solutions will be discussed. Data collected will be submitted to SeaGrant's Florida Microplastics Awareness Project.

Extensions: If in Florida, students can continue to collect, analyze and enter data into FMAP's database once in hometown. Students from out of state will be introduced to other options.

Resources: www.plasticaware.org



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