

LESSON 7: EVERY ACTION COUNTS

SUMMARY

With 70% of our planet comprised of water, the ever-increasing issue of marine pollution is of great concern to all life – and can only be successfully addressed by action at every level – from the individual up through global coordination.

Next Generation Science Standard

MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

BACKGROUND INFORMATION

From recreation and food to economics and storm protection, marine ecosystems are an essential part of humans' lives. It is clear, a clean ocean is a safe ocean. Marine species are threatened with malnutrition, starvation, entanglement, and even death due to marine debris. Chemicals found in man-made materials are likely to be toxic to the marine environment, and risk bioaccumulation in the food web. With more than 5.25 million macro and micro pieces of plastic in our oceans, every action to reduce and clean up debris is imperative.

OBJECTIVES

Students will:

- Apply scientific principles to implement a beach clean-up to minimize human impact on the marine environment.
- Demonstrate environmental stewardship.



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TIME

90 minutes

MATERIALS

- Gloves
- Trash bags or buckets
- Trash collection form
- Clipboards
- Garbage pickers

ENGAGE

Discuss the concept of marine debris and its impact on marine ecosystems with students. Include visuals and videos to illustrate the problem of marine debris.

EXPLORE

In collaboration with NAMEPA corporate members and partners, students will participate in a local beach or shoreline cleanup activities. Have students work in teams with one student recording data for each group. Remind students to avoid picking up sharp or hazardous objects (glass or needles).

After completing the cleanup, weigh the trash collected and record in pounds.

EXPLAIN

After the cleanup, have a discussion with students about the different types of debris they collected, any observations they have, and the impacts these items may have on the marine environment.

EXTEND

Explain to students the value and importance of citizen science. By completing the cleanup and submitting the data to NAMEPA or the Ocean Conservancy, students are empowered to address environmental issues and advocate for the environment.

EVALUATE

Conclude the lesson by having students share their own ideas for minimizing marine debris and human impact on the marine environment, based on their observations and reflections during the cleanup.