Marine Debris

OVERVIEW

Students simulate entanglement to see how marine debris affects a dolphin's ability to catch food.

SCIENCE QUESTION

How does marine debris affect an animal's ability to catch food?

GRADE

4th

TIME

15 minutes

STANDARDS

ESS3.C: Human Impacts on Earth Systems: Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments.

Objectives

At the end of the lesson, students will be able to:

- Define marine debris
- Describe how entanglement in marine debris affects an animal's ability to catch food

Materials

- Rubber band
- Handful of small objects (loose change, beads, marbles, etc)

Instructions

1. View the complementary 4th grade video lesson on San Diego Coastkeeper's website.

2. Inform students that they will act as dolphins catching food. To make the dolphin's beak (mouth), ask students to pinch together the index finger and thumb on your dominant hand. They should hold out their other hand to represent the dolphin's stomach. To catch food, students will pick up items one at a time with their dolphin "beak" and put them into their dolphin "stomach."

3. This activity uses small objects (coins, beads, etc) to represent the dolphins' food. Spread the small objects out in a small pile on the table or floor. This area will represent the ocean.

4. Tell students that there will be two 15 second rounds. During each round, they should catch as many fish as they can-- one at a time with their dolphin beak-- and put them into their dolphin stomach.

5. Keep time for 15 seconds as students catch their fish.

6. When the timer is up, students stop and count how many fish they caught. When they're done counting, write the number down and put them back in the pile.

7. Next, students will simulate their dolphins becoming entangled in marine debris. Help students make 2 loops with their rubber band and wrap it around their dolphin's beak. This represents the entangled dolphin.

8. Keep time for 15 seconds as students catch their fish with the entangled dolphin beak.

9. When the timer is up, students stop and count how many fish they caught. When they're done counting, write the number down and put them back in the pile.

10. Check your results. Did you catch more fish on the first or second try? Why do you think that is?

11. Re-state the science question: How does marine debris affect an animal's ability to catch food? Most people catch fewer fish in the second round. This is because when an animal is entangled, it moves slower and will catch less food.

Visit www.sdcoastkeeper.org to check out supplemental videos, activity books, and more to extend the lesson!