



SeaKeepers Documentary Series
Lesson 3: Ocean Plastic



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Grade Level: 4-6

Estimated Time: 60 min

Lesson Overview:

Our oceans face many threats today, including climate change and pollution. In order to protect and preserve our oceans, we need to understand these threats and how the oceans respond to them. The International SeaKeepers Society supports marine research and education by connecting scientists with yacht owners, creating research opportunities for scientists to better understand our oceans - and to create plans to protect them.

You don't need to be a scientist to help save the oceans! Understanding marine ecosystems and how we affect them is just as important. This lesson explains how plastic can end up in **every part of our oceans** due to differences in plastic **densities**. The goal of this lesson is to explain why marine plastic pollution is a problem, how plastic can both sink and float, and teach students how they can help stop the spread of plastic pollution.

Lesson Breakdown:

- SeaKeepers Documentary Series: Episode 2 (6 min)
- Presentation about ocean plastic pollution (PDF [here](#)*) (10 - 15 min)
- Activity: Craft and Worksheet (30 min)
- Assessment: Discussion (15 min)

*Email Maggie@Seakeepers.org for powerpoint file

Florida Educational Standards Addressed:

- SC.4.P.8.1: Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, odor, taste, attraction to magnets.
- SC.4.L.17.4: Recognize ways plant and animals, including humans, can impact the environment.

Preparation & Materials

Students will need background information on what plastic is and how it can harm sea life. A powerpoint presentation is included for the lesson, but feel free to use other materials you may have to explain these concepts.

For the activity, students will need:

- A glass jar with lid (cleaned jam jars, pasta jars, mason jars, etc. work great)
- Plastic items
- Glitter (optional)
- Glue, Scissors
- Permanent Marker (or tape and normal marker - basically, something to write on the jars)

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Tips:

This lesson is part of a 3-part documentary series by The International SeaKeepers Society. This lesson would fit best surrounded by lessons of similar themes (ocean conservation), including other lessons from this series as well as lessons from other ocean conservational organizations.

Anticipated learning objectives:

- Understand where plastic comes from, and how it impacts sea life
- Understand that it never breaks down and is a long term problem
- Identify how different types of plastic can endanger different parts of the ocean

Activity instructions for teachers:

1. In preparation for this activity, students will need to collect **different types of plastic items**. To expand this lesson, the teacher can lead the class in a park or beach cleanup, or even just pick up trash in the school parking lot or playground. Alternatively, students can pick up plastic items around their own neighborhoods, or even use plastic items from around their house, trash, or recycling. Students will also need to bring a **glass jar with a lid** from home.
2. Start the class by discussing the items brought in by the students. Were certain items more common than others? Where did they come from? Do they look new or old? Have any of them broken down? Some items, such as straws and bottles are extremely common, and since plastic does not degrade, most items will be completely intact.
3. Ask the question “do you think plastic floats or sinks in water?” and listen to the answers. We will find out!
4. Students should each be given scissors, and will cut up their plastic items into small pieces that will go into their jars. Have them cut all different shapes and sizes, and make sure they all have multiple plastic items to cut up.
5. On the side of the jar, each student should write “ocean bottom” near the bottom of the jar, and “ocean surface” or “ocean top” about an inch below the jar lid.
6. Once each jar is 2/3rds to 1/2 full, add water up to the “ocean surface” label, or 1 inch below the jar lid.
7. Students can then glue the lid shut by adding glue around the edges of the jar lid. This will reduce the mess for the rest of the day.
8. Finally, have the students observe the jars, shake them, and see where the plastic pieces are in the water column. On their worksheets, they can draw or describe what they see. All together, work through the discussion questions.

If you'd like to provide feedback on this lesson plan, click [here](#)! We'll use your comments to improve existing and future SeaKeepers lessons.

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Discussion Questions

Section 1: Activity Discussion

1. What happened to the plastic pieces? Did they sink or did they float? (A: both!)
2. Did some types of plastic sink or float more than others? (A: Yes)
3. Did size matter? Did large pieces sink more? (A: Probably not - it was likely random)
4. Do some pieces of plastic resemble plants or other natural things? For example, green pieces might look like seaweed, etc.
5. Once little pieces of plastic end up in the water, how do you think you can remove them? (No right answer here- basically, it's hard!)

Section 2: Ocean Conservation

1. Why is plastic in the ocean dangerous?
2. Do you think there are parts of the ocean that are safe from plastic? Why?
3. What can we do to prevent putting more plastic in the oceans?
4. What can each of us do to use less plastic? What can we do as a class?

Ocean Plastic



STUDENT INTRODUCTION

In this activity, you will be learning about plastic and why it is bad for the oceans. Did you know that plastic never goes away? Things that are natural, like plants, will break down and disappear over time. Plastics, on the other hand, are man-made and are meant to last for a long time. That is why they have become so popular.

Even though plastic was a very useful invention, it has now taken over most of the earth. Because plastic does not disappear or break down, every piece of plastic ever made is still on the earth today, and it will not be going away any time soon. Because plastic is so strong, animals can get tangled up in bags, ropes and other plastic items. Some plastic items will break into small pieces, which are then eaten by animals that think it is food. And the worst part is that plastic is now everywhere, from the deepest parts of the ocean to the highest mountains. In this lesson, you'll get to see how plastic can end up in every part of the ocean.

ACTIVITY

Follow your teachers instructions for the activity, then use this sheet to describe what you see. Are all the pieces at the top of the jar, or the bottom? Is there a difference between different types of plastics?

What do you see in your jar? Draw or describe.