

Lesson Plan Topic: Microplastics: Tiny Plastics, Big Problem

Recommended Grade Level: 5th-6th Grade

Link to the lesson plans: <https://canva.link/ek1ul7djt3osv6o>

Objectives

By the end of this lesson, students will be able to:

- Define what microplastics are and explain how they form.
- Identify common sources of microplastics
- Explain how microplastics affect animals and ecosystems.
- Describe how microplastics can move through the food chain.
- Explain ways humans can reduce plastic pollution

NGSS:

5-ESS3-1: Earth and Human Activity

Obtain and combine information about ways individual communities use science ideas to protect Earth's resources and environment

5-LS2-1: Ecosystems: Interactions, Energy, and Dynamics

Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

This facilitators guide is designed to help you lead the lesson on Microplastics: Tiny Plastics, Big Problem. You can read directly from many of the slides, but some slides include additional speaking points and instructions.

Students Will Need:

- Pencil or pen
- Paper (For the review game)
- Alternative Whiteboard for teams to share answers

Slide Breakdown

Slide 1: Title Slide

- Introducing the topic of microplastics.
- Explain that although plastic items may look large and easy to see, they can slowly break down into tiny pieces that are much harder to notice.
- Ask Students: Have you ever seen plastic pollution before? What does pollution mean to me?

Slide 2: What Are We Exploring Today?

- Read what students will explore.
- Let students know there will be a Review game called plastic swap at the end and a guessing game near the start.

Slide 3-4: Read from slide

Slide 5: What Happens Next?- Interactive Activity

- Explain to students they will follow the journey of a plastic water bottle and predict what happens as it moves through the environment.
- Students should pair up or have a small group discussion.
- The steps on this slide should appear one at a time by clicking. Do not show all steps at once
- Before revealing each step, ask: “What do you think happens next?”
- Allow for 15-30 second discussion and allow students to share

Steps and Explanations

- **Step 1:** A plastic bottle is thrown away (ask: Where could this plastic end up?)
- **Step 2:** Wind and water can carry plastic into the environment. **Explain that plastic can travel through streets, rivers and oceans**
- **Step 3:** Sunlight, waves, and weather break plastic into smaller pieces. **Explain that plastic becomes smaller, but does not disappear.**
- **Step 4:** These tiny pieces become microplastics.
- Then at the end explain that microplastics can enter ecosystems and be eaten by animals.

Slide 6: Where do Microplastics Come From?

- Read from the slide.

Slide 7: How do Microplastic Affect Animals

- Read from the slide.
- Explain that oceans are one of the places where microplastics collect because rivers and streams can carry plastic pollution into the ocean

Slide 8: Microplastics and the Food Chain

- Read from the slide
- Using the example, explain that it's a cycle as small fish eat microplastic and then a predator eats them and so forth.

Slide 9: How does Microplastics affect humans

- Read from slides

Slide 10: Why does this matter

- Read from slide
- Emphasize plastic pollution can travel far from where it begins

Slide 11: How can we Help?

- Read from the slides

Slide 12-16: Review Game

- Read from slides
- **The answer will be revealed once on you click on the slide. So you remember to click the screen once students have shared their answer to reveal the possible answers!**
- Explain that students will work in teams of 4 people
- Each team will need a pencil or paper to record answer or a whiteboard
- Students will have 30 seconds for each round and they will have to explain their answers.
- Remind students that there can be multiple possible answers

Slide 17-18: read from slide

Potential Activities Post-Lesson

- Have students create a poster showing ways to reduce plastic waste
- Exit Ticket: One interesting thing they learned today?
- Have students choose a plastic item and write down how it could affect the environment and what can it be replaced with

You've now completed this lesson plan!

If you have any feedback on how to improve this lesson or future lesson plans, please email: foreverychildus@gmail.com

If you have any topics for future lesson plan ideas, please email: foreverychildus@gmail.com

This lesson plan was designed by high school and college students in the student-led organization called For Every Child. Thank you for using our lesson plan and we hoped you enjoyed it!