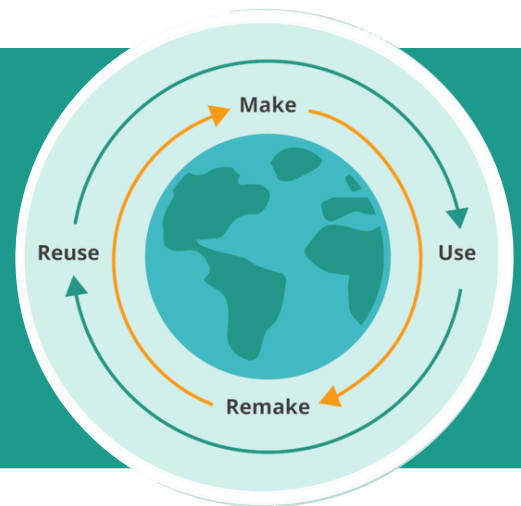


Plastics in the Environment

#Eco360

Activity

Grade Level: 8-12



Main Objective

Learners will explore the negative effects of plastic waste on our environment- focusing on how plastic waste impacts our land and water bodies and air.

Learning Outcomes

By the end of this activity, learners will:

- Describe the amount of plastic waste currently found in the environment
- Identify the areas of environment most impacted by plastic waste
- Describe how plastic waste affects the land, air, and water bodies

Length of Activity: 1.5 - 2 hours

Step 1+2: Intro to plastics in the environment and its negative impact

Step 3: Activity reflection questions

Materials Required

- Internet-enabled device
- Topic backgrounder
- Eco 360 notebook (we recommend asking learners to maintain a notebook for this program to write down reflections as they go through the program)

Curriculum Connections

Alberta

Grade 8 Unit E: Freshwater and Saltwater Systems

- 4 - Analyze human impacts on aquatic systems; and identify the roles of science and technology in addressing related questions, problems, and issues

Grade 9 Unit C: Environmental Chemistry

- 1 - Investigate and describe, in general terms, the role of different substances in the environment in supporting or harming humans and other living things

Biology 20, 30 All Units

- STS outcome (science, technology, and society): explain how science and technology have both intended and unintended consequences for humans and the environment

Ontario

Grade 9 Biology (B2.3, B2.4)

Activity

Step 1: Using the backgrounder, explain to learners how plastic pollution causes negative impacts in the environment

Shedding light on its impacts in our water bodies, land, and air, highlight the amount of plastic currently in our oceans which has had severe negative impacts on ocean life.

Step 2: Watch a documentary

Watch a documentary on plastic pollution and its impacts on the environment:

- “The Plastic Problem”:



<https://www.youtube.com/watch?v=1RDc2opwg0I&t=1s> (1 hour)

Step 3: Conclusion

Have learners answer the following questions individually by recording responses in their Eco 360 notebooks or discussing as a class:

- What are some of the environmental impacts of plastic waste discussed in the documentary?
- What did the researcher from University of Toronto conclude from her sampling of fish from Lake Ontario? What implications does this have for people eating fish?
- What are some of the challenges in recycling plastic mentioned in the documentary?
- Do you think banning single use plastic is sufficient in combating the problem of plastic waste? Why or why. Not? How would this ban support a circular economy for plastics?
- Considering the global recycling average is only 9% as mentioned in the documentary, what is the solution to global plastic waste?

Additional resources for educators

1. <https://www.unep.org/news-and-stories/story/plastic-planet-how-tiny-plastic-particles-are-polluting-our-soil>
2. <https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.14020>
3. <https://www.nationalgeographic.com/environment/habitats/plastic-pollution/>
4. <https://advances.sciencemag.org/content/6/44/eabd0288>