

# MARINE PLASTIC POLLUTION



## Time

60 minutes

## Grade level

3-8 (Can be modified for older grades.)

## Learning Objectives

- Students will discuss the impacts of plastic on marine life.
- Students will examine the Sea of Plastic 10,000 Changes video and infographic to learn more about marine plastic pollution.
- Students will apply their understanding of marine plastic pollution to raise awareness by creating a story, poem, or graphic.

## Materials

- *Sea of Plastic* infographic and video (accessible at [10000changes.ca](http://10000changes.ca))
- Notebook and paper (optional)
- Supplies to create story, poem, or graphic (not included)
- Globe or map of the world (not included)

## Focus Questions

Why does the problem of marine plastic pollution exist? What impact does plastic have on marine life? What types of plastics are being found in the oceans? How can we help reduce the amount of marine plastic pollution?

## Lesson Description

### Minds on

Students will conduct a lunchtime trash survey to learn more about the amount of trash one person can generate during a single meal.

### Action

Students will watch the [10,000 Changes](#) video and examine the accompanying infographic focusing on marine plastic pollution to learn more about the effects that plastics have on marine life. Students will create a story, poem, or graphic from the perspective of a marine animal to help raise awareness of marine plastic pollution.

### Conclusion

Students will share their stories, poems, and graphics with the class and discuss how they can make a difference in their community by reducing plastic pollution.

## Lesson Implementation

### Minds on

Conduct a lunchtime trash survey with your students. After students are finished eating their lunch, ask students to count the different types of trash that remain. Draw the following table on the board and create a tally as a class.

TYPE OF WASTE/TRASH	HOW MANY PIECES?
Paper	
Plastic	
Metal	
Glass	
Compost/organic material	
Other (list them)	

Created in partnership by Canadian Geographic and the Recycling Council of Ontario, with funding provided by Environment and Climate Change Canada



# MARINE PLASTIC POLLUTION



Afterwards, have a class discussion about the types of trash generated by your class, your school, and your community.

Discussion questions to consider:

- Which types of waste/trash were the most common in the survey? Which were the least common?
- Is it possible that some of these items could end up in the water supply system and, eventually, the oceans? If so, how?
- Which items are recyclable in your community and which are not?
- When and why does trash become a problem? Is this different for humans and animals?
- Is there a trash problem in your community? Why or why not?
- What can you do to reduce your production of trash?
- What can the school do to reduce its production of trash?
- Where does trash go once you place it in the garbage? Does trash ever really disappear?
- What happens to items that you place in the recycling bin?

## Action

Using a globe or a map of the world, explain to students that the world's oceans cover approximately 71 per cent of the Earth's surface and contain 97 per cent of the Earth's water. With more than seven billion people living on the planet, a lot of trash has ended up in the world's oceans. Inform students that because plastic is durable it doesn't easily dissolve or break apart and floats near the surface because of its light weight, which makes plastic one of the most common and easily detectable types of trash in the oceans.

Show students the *Sea of Plastic* video located on the 10000changes.ca website. Afterwards, display the accompanying infographic for the class or create copies for students to review in small groups or pairs. Allow time for students to review the information on the infographic and to use their notebooks to record what they have learned. Suggest to students that they use the following chart to record their understanding of and feelings about marine plastics.

What is the problem?	How did this problem come about? What information supports this?	How do I feel about this? Why?

Once students have had time to reflect on the information that was presented in the video and the infographic, ask students to share what they learned and how they feel. Students may suggest that society eliminates plastics altogether. Discuss if this is a viable solution.

## Connection to the Canadian Geography Framework

### Concepts of Geographic Thinking

- ▷ Patterns and trends
- ▷ Interrelationships
- ▷ Geographic perspective
- ▷ Spatial significance

### Inquiry Process

- ▷ Formulate questions
- ▷ Gather and organize
- ▷ Interpret and analyze
- ▷ Evaluate and draw conclusions
- ▷ Communicate

### Geospatial Skills

- ▷ Foundational elements
- ▷ Spatial representations

Created in partnership by Canadian Geographic and the Recycling Council of Ontario, with funding provided by Environment and Climate Change Canada



This project was undertaken with the financial support of:  
Ce projet a été réalisé avec l'appui financier de :  
 Environment and Climate Change Canada / Environnement et Changement climatique Canada



# MARINE PLASTIC POLLUTION



Next, explain that students will be designing their own story, poem, or graphic to raise awareness about the problem of ocean plastics and the effects plastics can have on marine wildlife.

Instructions:

- Students are to select one animal they saw in the video or infographic.
- Students will then create a story/poem/graphic from the perspective of that animal.
- The story must include information about their marine environment and how ocean plastics are impacting their home, their food, or their water supply.

## Conclusion and Consolidation

Once students' stories are complete, host a gallery walk or arrange time for students to read and share their stories with other class members. Conclude the activity with a class discussion about how students can take action to reduce the amount of plastic (and trash) that winds up in the oceans.

Discussion questions to consider:

- What waterways are near your hometown? How can we ensure trash does not end up in these waterways?
- What river basins do those waterways belong to? Is there a geographical connection between those waterways and oceans?
- What can we do to decrease the amount of plastics we use? Whose responsibility is it to reduce plastic production? What about plastic consumption?
- What are you, your family, your school, and your community already doing to reduce plastic production?

Encourage students to head to the [10000changes.ca](http://10000changes.ca) website and make a pledge about what they can do to decrease their use of plastics. Encourage students to make pledges with their friends and families as well.

## Extend Your Geographical Thinking

Have students research local initiatives (or create one of their own) that focus on keeping the community and its surrounding waterways clean or raising awareness about marine pollution. Students can pick up trash at a local park, arrange a beach or shoreline clean up, or raise awareness by sharing their stories with the community at a local library or coffee shop. If your school has a social media account, website or e-newsletter, consider featuring the student's stories in this way.

*Created in partnership by Canadian Geographic and the Recycling Council of Ontario,  
with funding provided by Environment and Climate Change Canada*



# MARINE PLASTIC POLLUTION



## Modifications

- For the lunchtime trash survey, teachers can involve other classes to help collect more data. Alternatively, if your school has a cafeteria, teachers can post this chart in the cafeteria and encourage anyone to contribute to their survey anonymously.
- Devices such as tablets, phones, or chrome books can be used throughout the activity to assist in research for the development of students' stories.
- Teachers can brainstorm with their class other ways to create awareness about ocean plastics that are not presented in the format of a story, poem, or graphic, such as a skit, one-minute video, or infographic.
- Teachers can arrange for students to share their stories with another class to help spread the word.

## Assessment Opportunities

- Teachers can assess students on their participation in classroom discussion.
- Student's stories, poems, or graphics can be part of the teacher's formative assessment for a certain unit of study.
- Students can assess each other on their stories, poems, or graphics.

*Created in partnership by Canadian Geographic and the Recycling Council of Ontario,  
with funding provided by Environment and Climate Change Canada*