Plastic Education Kit

A WORKBOOK FOR

STUDENTS LEADING CHANGE

Grades 10-11

www.plasticsedkit.ocean.org
Lesson 1

“I pledge to respect the ocean and appreciate what it gives me”

PART 1: The ocean and life in the ocean shapes the earth.

Let's talk about the ocean. Look at each of these topics below and connect them with any thoughts that come to mind. Go over your ideas with the rest of the class.

- How the ocean HELPS US
- How WE HARM the ocean
- How WE HELP the ocean
Lesson 1 - Continued...

“I pledge to respect the ocean and appreciate what it gives me”

PART 2: Plastic is changing the ocean environment.

Using your notes, consider what would make a healthy ocean environment. What aspects will you include? What is necessary for the animals to survive? What will you leave out? Why?

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Draw an example of a healthy ocean in the space below:
Lesson 2
“I pledge to reduce the amount of plastic in my lunches.”

PART 1: The ocean made the earth habitable.
Let's look at a food web. Draw arrows to what you think these creatures eat in the picture below. Note: There might be more than one arrow leading to these plants and animals!

PART 2: Marine life consumes plastic every day!
What happens when plastic is added to the food chain? Explain how this might affect the animals. Consider bioaccumulation, trophic levels and impacts on people that rely on seafood as a resource.
Lesson 3

“I pledge to reduce using single use plastics.”

PART 1: The earth has one big ocean with many features.

Watch the video: Fish Telemetry and the Marine Litter Challenge by Canada C3 and answer the following questions:

1. Daniel studies the behavior of fish from the Great Lakes and into the Atlantic Ocean. Why does this research matter? What can we learn from the movement and migration of fish?

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2. What do you think of Lyne’s 90-second Marine Litter Challenge? Strengths? Weaknesses? Are you aware that Canada has an Ocean Plastics Charter?

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3. What are scientists saying about the current state of Canada’s marine environment? The global marine ecosystem?

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4. What are the challenges we face in protecting our marine environment? What habits are easy to change and which ones are more difficult? Why?

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5. Near the end of the video, Lyne talks about the need to “popularize the issue and raise awareness” and continues on to say that “science alone will not give us all the answers to the large scale environmental issues that we face; the population and the collective creation (of solutions) are super important.” What do you think of this statement? Discuss your position.

_______________________________________________________________________________________
Lesson 3 - Continued...

"I pledge to reduce using single use plastics."

PART 2: Plastic Litter knows no borders.

Take some time and think about how you can reduce using single use plastics at home. Try coming up with some ideas on your own, then work with a partner. Once you have a good list, share them with the class and write down any ideas you don't already have.

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<thead>
<tr>
<th>MY IDEAS</th>
<th>MY PARTNERS IDEAS</th>
<th>CLASS IDEAS</th>
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Lesson 4

“I pledge to pick up litter when I’m outside and try plogging... picking up litter while jogging!”

PART 1: The ocean supports a wide diversity of life and ecosystems... Plastic is changing the ecosystems of marine life.

It's time for the "Down the Drain" challenge. Use the cart below to keep track of everything you wash down the drain; from washing your hands to washing the dishes and even flushing the toilet - try to keep track of it all here.

<table>
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<tr>
<th>ACTION</th>
<th>WHAT WAS WASHED DOWN?</th>
<th># OF TIMES</th>
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Lesson 5

“I pledge to use reusable water bottles at school and at home.”

PART 1: The ocean is a major influence on climate and weather.

Look at the diagram below and answer the questions that follow.

1. What are the main processes involved in the water cycle?

2. How are clouds formed?

3. What is runoff?

4. What does water do once soaked in the ground?

5. Considering this cycle - how might we be impacted if the ocean heats up due to plastic?
Lesson 5 - Continued...

“I pledge to use reusable water bottles at school and at home.”

**PART 1: The ocean is a major influence on climate and weather.**

Watch the video "How is Climate Change Affecting Arctic Communities?" and discuss these questions with a partner or in a small group:

- What kind of changes cause the narrator to believe that climate change is happening?
- Have you noticed any changes in climate change where you live?
- How might a change in climate affect the Inuit culture?
- Do you agree this is a serious concern?
- What is being done to understand this climate change better in these communities?
- According to the narrator, what are positive actions people can take to improve this situation?
- What do you think?

*Write your thoughts below:*

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Lesson 6

“I pledge to re-purpose a plastic I was going to throw away.”

PART 1: The ocean is largely unexplored.

Let’s go on a plastic hunt. Go outside and collect various pieces of litter to be examined. Once you have at least 6 pieces, complete the chart below:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Contains Plastic</th>
<th>Might Contain Plastic</th>
<th>Does not Contain Plastic</th>
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</table>
“I pledge to use reusable water bottles at school and at home.”

**PART 2: Microplastics are everywhere!**

Take the items that contain - or may contain plastic. Think of ways these can be sorted; perhaps by purpose? Durability? Recyclable? Use the chart below to sort these items further.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Classification #1</th>
<th>Classification #2</th>
<th>Classification #3</th>
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</thead>
</table>

Choose one piece of plastic and research how it was made. What are the chemicals it is made of? What processes were used to create it? Explain your findings in the space below.

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Lesson 7

“I pledge to spread my knowledge about using plastics with others.”

PART 1: The ocean and humans are connected.

Now that we have "broken up" with plastic - it's time to write a Love Letter to the Sea. Consider these questions: Why do you love the ocean? What do you think you would miss if it wasn't there anymore? How does it help you? How do you want to help it? What do you want to do for it in the future? Feel free to have fun with this, while still expressing your learning. You may write this in any format you choose; a letter, poem, song, text message conversation, etc... Now is your time to get creative!

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PART 2: We can all be wiser with our plastic.

Think about your community. What areas could be sources of plastic pollution? How can changes be made to solve this problem? How can you support these solutions?

<table>
<thead>
<tr>
<th>Location</th>
<th>Source of pollution</th>
<th>Possible solution</th>
<th>What can you do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Store</td>
<td>Plastic bags can blow away</td>
<td>The store could stop providing plastic bags, encouraging consumers to bring their own reusable bags</td>
<td>Petition the store owner, support legislation</td>
</tr>
</tbody>
</table>

Originally created for OCEANHEROES, June 2018
PART 3: How to build a pitch.

Fill in the following sections to build your pitch:

Step 1: What are you pitching?
Describe your idea (be as specific as you can. Clarity will create more impact!) *Draw pictures to help you stimulate your creativity and visualize exactly what you want to pitch!*

Step 2: Who is your target audience?
Effective pitches are created with specific audiences in mind.

*The pitch I am creating is for:*
PART 3: How to build a pitch.

Step 4: Why you

What is important about your idea? Why should this audience care?
Describe the situation to your target audience. Give a vivid description of how this situation affects your audience. Furthermore, let them know how you can help them resolve the situation. Tell them why your idea benefits them.

Brainstorm why your idea is the best
PART 3: How to build a pitch.

Step 5: Revise and ask

Write your full pitch below. Say it aloud, repeat it in your mind, and run it past others for feedback. Be sure to practice your pitch and time it. Make sure you ask for action by firming up a when in your pitch – when can you meet with them, when can this action start happening. A timeline is important to solidify your pitch and turn it from an idea into action:

An elevator pitch should answer the WHO, WHAT, WHERE, WHEN WHY and HOW of the problem. Begin with this structure if you are stuck:

For ____ (target audience)____, who has ____ (audience need)____, ____ (your proposed idea)____ is a ____ (market category)____ that ____ (one key benefit of your idea)____ that will ____ (expected outcome of your idea)____.
Rubric: Unit Evaluation

The rubric can be used as a guide to help you understand how you might be evaluated in the three main categories noted below.

<table>
<thead>
<tr>
<th>Engagement in Activities - /20</th>
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<tbody>
<tr>
<td><strong>Standard of Excellence 17-20</strong></td>
<td><strong>Proficient 13-16</strong></td>
</tr>
<tr>
<td>Students readily engaged in activities and consistently showed leadership in each of the assigned activities.</td>
<td>Students willingly engaged in activities and frequently showed leadership in each of the assigned activities.</td>
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<table>
<thead>
<tr>
<th>Responses / Reflections - /10</th>
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<tbody>
<tr>
<td><strong>Standard of Excellence 9-10</strong></td>
<td><strong>Proficient 7-8</strong></td>
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<tr>
<td>Responses demonstrate a thorough understanding of the complexity of the issues. Students develop a sound judgment based on solid evidence.</td>
<td>Responses demonstrate an understanding of the complexity of the issues and the ability to support their opinion.</td>
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<table>
<thead>
<tr>
<th>Presentation - /10</th>
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<tbody>
<tr>
<td><strong>Standard of Excellence 9-10</strong></td>
<td><strong>Proficient 7-8</strong></td>
</tr>
<tr>
<td>Contribution demonstrates a thorough understanding of topic. Effective and competent communication of key concepts.</td>
<td>Contribution demonstrates an understanding of topic. Effective communication of key concepts.</td>
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