Waves of Change

Plastic Education Kit

A workbook for students who want to change the world.

MIDDLE SCHOOL

In partnership with

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LESSON ONE:

HOW PLASTIC TRAVELS TO SEA

Draw a comic to illustrate how plastic litter can travel from your schoolyard to the ocean.

Here's your **DRAFT** →

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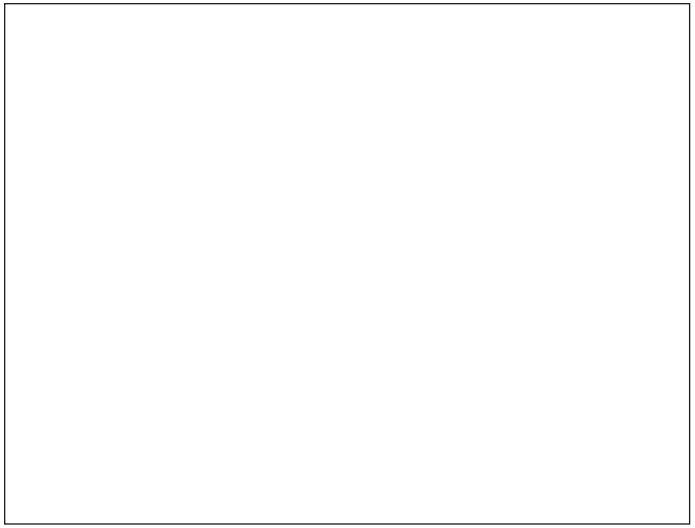
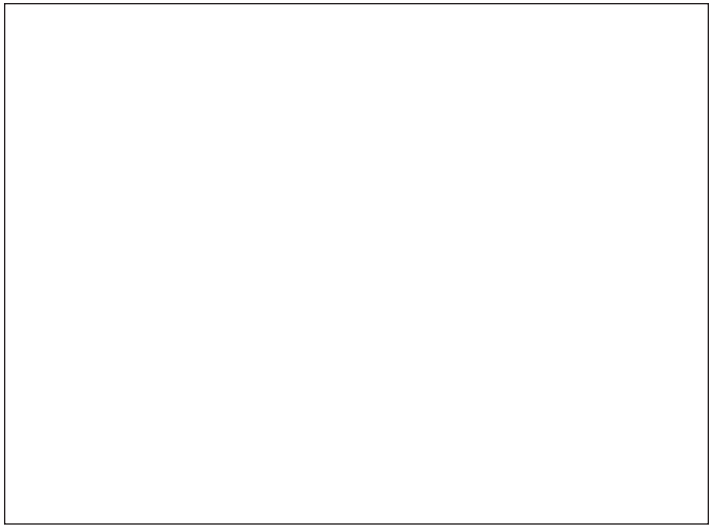
Here's your **FINAL** →





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THOUGHT BOOK

Through journaling, explore your connection to the concepts we covered in this lesson. Feel free to write, draw, and get creative as you think about the prompts below.

Reflect

1. How might we better show love, care, and respect for the ocean and all it provides to us?

2. Describe different ways Indigenous communities have been impacted by plastic pollution. In what ways can we apply TEK to better understand impacts and solutions to the world's plastic problem?

3. How could we prevent 90% of plastic from entering the ocean?

TAKE ACTION

➜ Watch the Ocean Wise video Take The Pledge and take the pledge, individually or as a class. Go over the different steps and consider how to stay accountable in this challenge.

The Why

Reducing your plastic footprint is the best way to help, according to the experts in Ocean Wise's Plastic Lab. Removing plastic from oceans and waterways is important, but if there is always more plastic being added, we'll have to keep removing it! Help solve this issue by reducing the plastic you use, buy, and discard. Talk to someone you know about the pledge and see if you can inspire action in others around you.

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LESSON TWO:
SMALL PLASTICS, BIG IMPACT

Watch the video "Saving Sea Lions: Why Marine Plastic Matters" and answer the following questions:

1. Is this a dangerous activity for the team and/or the sea lions?

2. What might happen to sea lions that the team is unable to help?

3. How could we reduce the likelihood of sea lions or other marine life being entangled in plastic?

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PLASTICS AND MARINE ANIMALS INVESTIGATION WORKSHEET

Your Name: _____

Your Partner's Name: _____

Name of Animal: _____

Latin name of animal: _____

Type of animal (circle correct type): Reptile Mammal Bird Invertebrate Fish

Size: _____

Habitat needs: _____

Food/prey types: _____

Method of obtaining food: _____

Predators: _____

Methods of evading predators: _____

Impacts of plastic (add more rows if needed):

Type of plastic	How it impacts the animal (food mistaken identity or entanglement, entrapment...)	What survival need is affected? And how?

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THOUGHT BOOK

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Reflect

1. What are the various ways that plastic impacts animals and ecosystems in our oceans?

2. How does microplastic pollution impact ecosystems?

3. What are meaningful and equitable ways to reduce and remediate plastic pollution around the world?

TAKE ACTION

➜ Minimize the microfibers you release into waterways by buying less synthetic clothes and washing synthetic items less often (try spot cleaning!).

The Why

Researchers have found polyester fibers in the ocean as far away as the Arctic, believed to be from common polyester clothing. When buying new clothes, be sure to check their labels. Generally, clothes composed of more synthetic "ingredients" have a greater risk of releasing microfibers such as polyester, nylon, acrylic, and lyocell. Instead, look for clothing made from hemp, linen, and bamboo. Spot cleaning and washing your clothes less often reduces the number of microfibers released into the ocean.

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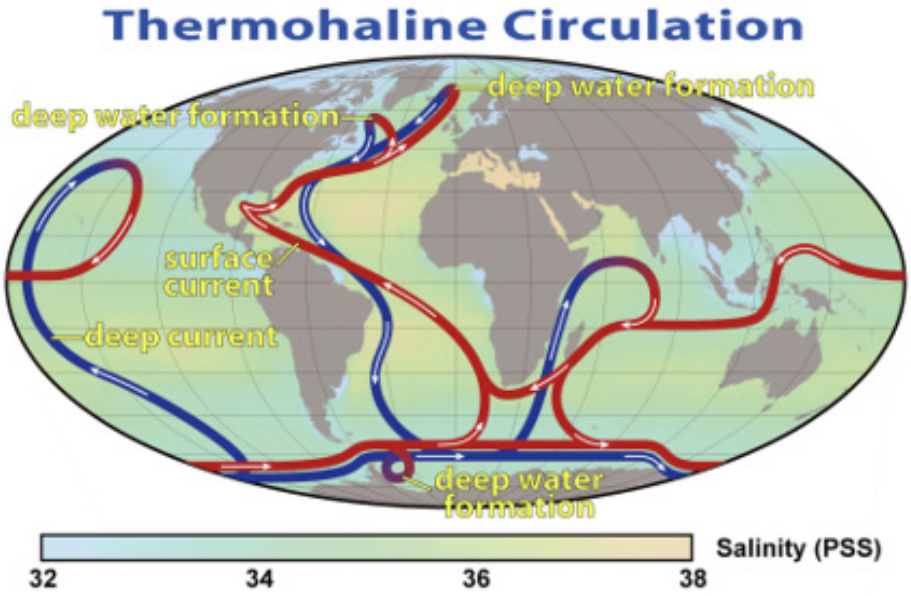
LESSON THREE:

CURRENTS, CLIMATE, AND PLASTIC



Look at the diagram and answer the questions that follow.

1. What is thermohaline circulation?

2. What causes ocean currents?

3. What is an eddy and what impact do they have?

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Print out a world map and, considering the ocean currents in the Thermocline map above, draw out the path of plastic from your school to various destinations below. With a star symbol, indicate where you think the piece of litter would become microplastics.

Using different coloured markers, draw the trajectories of the same piece of plastic if it:

- Lands in the Arctic
- Ends up in Mariana's Trench
- A leatherback sea turtle eats the plastic. Consider this turtle's migrations.
- A humpback whale eats the plastic. Consider this whale's migration.
- The plastic ends up stuck in the Great Pacific Garbage Patch.
- The plastic is eaten by plankton which is then eaten by a tuna. This tuna is then caught and eaten by diners in Romania. Consider where tuna is likely to be caught by fishermen and where it might be processed, canned, and shipped.

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THOUGHT BOOK

Through journaling, explore your connection to the concepts we covered in this lesson. Feel free to write, draw, and get creative as you think about the prompts below.

Reflect

1. What is the connection between the ocean and the Earth's climate?

2. How does solving plastic pollution help protect ocean health and the fight against climate change?

3. How does plastic move across the world? How do these forces affect the overall goal of removing all plastic from the ocean?

TAKE ACTION

➜ Refuse to use single-use plastic in your daily life. Find ways to eliminate plastic in your daily life.

The Why

Think about when, where, and why you use plastic. Do you have to use it? Or is it easy, convenient, or the way you've always done things? Not that long ago, we did not have plastic at all, so let's rethink how we can cut down on our use. Think about buying in bulk, using reusable containers, or even trying out different products such as shampoo bars.

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