

**Plastic Pollution Coalition
Plastic Free Curriculum
Plastic Paradise
Middle School / High School Mini Unit
Use as a Stand Alone or as part of
Middle School / High School Cross Curricular Unit**

Next Generation Science Standards:

ESS3.A Natural Resources, 6-8: Humans depend on Earth's land, ocean, atmosphere, and biosphere for different resources, many of which are limited or not renewable. Resources are distributed unevenly around the planet as a result of past geologic processes.

9-12: Resource availability has guided the development of human society and use of natural resources has associated costs, risks, and benefits.

ESS3.C Human impacts on Earth systems, 6-8: Human activities have altered the biosphere, sometimes damaging it, although changes to environments can have different impacts for different living things. Activities and technologies can be engineered to reduce people's impacts on Earth.

9-12: Sustainability of human societies and the biodiversity that supports them requires responsible management of natural resources, including the development of technologies.

Materials needed:

- Internet access for students and to show the movie "Plastic Paradise"
- Plastic Paradise study guide (attached)
- Poster boards, markers, rulers, compasses, graph paper,

Day One:

Warm Up: Vocabulary word wall. Middle school: Copy phrases and definitions into warm up folder. High School: look up vocabulary phrases on the Internet.

- **Atoll / Coral Atoll** A ring shaped coral reef including a coral rim that encircles a lagoon. There may be coral islands on the rim.
- **Midway Atoll** Midway Island. An Atoll that lies northwest of the Hawaiian Archipelago, about halfway between North America and Asia
- **Gyre** Large rotating ocean currents. There are 5 major Ocean Gyres
- **Great Pacific Garbage patch / Pacific Trash Vortex** Area of high concentration of plastic, chemical sludge, and debris trapped in the North Pacific Gyre

Day Two:

Warm up: Middle School: Use yesterday's study guide for 5 minute oral quiz

High School: Review yesterday's study guide, then 5 minute oral quiz. Oral quiz answers to be recorded in Warm up Notebook.

Quiz questions:

1. Why is the Great Pacific Garbage patch hard to find?
2. What is a Gyre?
3. How large is the great Pacific Garbage Patch?
4. Why does plastic collect at Midway Atoll?
5. When did the US start mass producing plastics?

Days one and two:**Objectives:**

Students will view Plastic Paradise movie and answer study guide questions with 90% accuracy.

Activities:

1. Warm up
2. Video with study guide
3. Exit ticket day one: Why is plastic more dangerous than other man made materials?
Exit ticket day two: List 5 ways you can reduce your plastic footprint

Day three:

Warm up: In small groups discuss information from completed study guide. Brainstorm a list of (5 to 10) most important topics covered in the video Plastic Paradise. Explain your ranking.

Day four:

Go online to www.plasticpollutioncoalition.org Click on The Movement button. Read The Facts, and choose one to sketch on a piece of printer paper. This sketch will be incorporated into your infographic.

Days three and four**Objectives:**

- Students will create a visual infographic display (middle school) or a multi-media presentation (high school) on the North Pacific Garbage Patch
- Students will present 10 (middle school) to 15 (high school) pieces of information using self created charts, graphs, and statistics
- Students will use and reference information from Plastic Free Times, Plastic Pollution Coalition website, and their study guide from Plastic Paradise

Activities:

- With a partner students will research the North Pacific Garbage Patch
- Choose what they consider the most important information from various sources, and create an informative presentation with 10-15 pieces of factual information

- Present information in a creative manner

Day 5

Warm up: Students will pick up their projects and work to completion.

Objectives: Students will complete and present their assessment / project according to rubric below

Activities: Students will complete and present their presentation.

Exit Ticket: Pick up student copy of the rubric and self grade.

Rubric
High School / Middle School

Relevant Pieces of Information	Clear and easy to Understand	Followed group norms	Info is clear and neat
<i>15 + pieces everything</i> <u>10 +</u> presented	very clear at first look	worked within their role daily	 well
<i>13 -14 pieces</i> <u>8-9 pieces</u>	information is clear and easy to read	worked 80% of the time	everything presented well
<i>11-12</i> Presented <u>5-7</u>	information is clear and easy to read	worked 70% of the time	 fairly well
<i>Less than 11</i> <u>Less than 7</u> Pieces of Information	<i>less than 11</i> <u>less than 7</u> pieces clear and easy to read	worked less then 70%	not presented well

