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RESOURCE LIBRARY
ACTIVITY : 1 HR 15 MINS

Our Plastic History

Students learn about the history and use of a variety of plastics, including when and why we started using them. They use a variety of sources, including videos and texts, to understand how plastics became so common in society over time, and learn about their effects on the environment.

GRADES

6 - 8

SUBJECTS

Social Studies, U.S. History

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OVERVIEW

Students learn about the history and use of a variety of plastics, including when and why we started using them. They use a variety of sources, including videos and texts, to understand how plastics became so common in society over time, and learn about their effects on the environment.

For the complete activity with media resources, visit:
http://www.nationalgeographic.org/activity/our-plastic-history/

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DIRECTIONS

Toward a Plastic-Responsible Future ***Unit Driving Question:*** *What can we do to reduce the effects of plastic pollution?*

The Plastic Problem ***Lesson Driving Question:*** *What is the problem with plastic?*

1. Lead students in a brief discussion to consider how plastic has replaced other materials.

- Present an array of everyday plastic artifacts that were not always made of plastic, or are made from a variety of materials today, such as picnicware, grocery bags, soda bottles, garbage bags, to-go coffee lids, and synthetic clothing.
- Have students discuss what materials might have been used prior to these being plastic.
- Ask students: *When do you think these things started to be made from plastic?* Record their responses on the board.

2. Show students a video about the history of plastic use in our culture.

- Introduce students to the video by explaining that plastic was fueled by innovation and a desire to improve our way of life. Just as using metal and fabric has changed the way we have lived over time, plastic has served a similar purpose in revolutionizing our lives.
- Show the video *A Brief History of How Plastic Has Changed Our World* (5:22).
- As they watch, have students take two-column notes on themes that they notice with plastic use and important dates.
- Following the video, lead a think-pair-share discussion in response to the question: *What are some themes that you are noticing with plastic use?*

3. Show students a short video to learn about microplastics.

- Transition to this video by explaining that some plastic waste is so small, that it can't be managed by waste-collection facilities. Explain that some plastic just goes down the drain, and we don't even notice it. Ask students to think about what kind of strategies would be needed to reduce or remove these kinds of plastic from the waste stream while they watch the video.
- Watch the video *How to Cleanse Your Beauty Regime of Microplastics* (2:38).
- As they watch, have students take two-column notes, paying close attention to products that they recognize from their homes and daily routines, and any important dates.
- Have pairs engage in a brief discussion: *What kinds of microplastics do you think you may use in your daily routine?*

4. Have students read to learn about two plastic products that are being banned in some places.

- Explain to students that they are going to take a deep dive into two single-use plastic items through reading articles and teaching each other about different items.
- Distribute *From Birth to Ban: A History of the Plastic Shopping Bag* to half the class and *A Brief History of How Plastic Straws Took Over the World* to the other half of the class.
- With a partner, have students read their assigned articles, taking two-column notes that include all important dates and events.
- After students read their article, distribute the *Plastic Timeline Template* to each student. Have students sketch a timeline with the important dates and events of their plastic item, either the plastic bag or plastic straw.
- Have students use their notes from the videos to add those dates to their timelines.
- Have student pairs gather with different student pairs who read the other article, forming groups of four.
- Have each pair use their timeline sketch to teach the other pair a summary of the information in the article about their product, including why these items were created and what the environmental impact has been.
- Collect the completed timelines.

5. Lead a brief wrap-up brainstorm discussion about alternatives to different types of plastics.

- Ask students to brainstorm in response to these questions:

    - *What microplastics might we find in our school* (glitter, paint, art supplies, certain hand sanitizers)? *What could we use instead of those things?*
    - *What plastics are in the school that are small, but bigger than microplastics* (bottle caps, straws, pen caps)? *Are there alternatives to these things? What might they be?*
    - *What plastic items are bigger than the small items you just listed that also might be a problem* (sandwich bags, plastic wrap, water and soda bottles)? *What could be alternatives to those things?*
    - *Based on what you learned when creating your timelines, is there a time in history that you think we should have taken action to change our use of these plastic items? When? What would we have done?*

Tip

Steps 2-4: Students can have an ongoing note-taking journal that they add to during each activity.

Tip

Step 3: Have students add to the list created in the brainstorm from the activity *Introducing the Plastic Problem*, products that they use that may likely contain microplastics.

Tip

Step 4: Students can either write directly on copies of the *Plastic Timeline Template* or use the directions to create their own timelines on a separate sheet of paper or a digital version.

Informal Assessment

Students create timelines to demonstrates their understanding of the causes and effects of the development and use of particular plastic items over time.

OBJECTIVES

Subjects & Disciplines

Social Studies

- U.S. History

Learning Objectives

Students will:

- Identify themes in the causes and effects of our plastic use throughout history.
- Develop a basic understanding of what and where microplastics are.

Teaching Approach

- Project-based learning

Teaching Methods

- Information organization
- Reading
- Visual instruction

Skills Summary

This activity targets the following skills:

- 21st Century Student Outcomes
  - Learning and Innovation Skills
    - Communication and Collaboration
    - Critical Thinking and Problem Solving
- 21st Century Themes
  - Environmental Literacy
  - Global Awareness
- Critical Thinking Skills
  - Applying
  - Remembering
  - Understanding

National Standards, Principles, and Practices

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY

• **CCSS.ELA-LITERACY.RH.6-8.2:**
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

THE COLLEGE, CAREER & CIVIC LIFE (C3) FRAMEWORK FOR SOCIAL STUDIES STATE STANDARDS

• **D2.His.14.6-8:**
Explain multiple causes and effects of events and developments in the past.

Preparation

What You'll Need

MATERIALS YOU PROVIDE

- 2-liter plastic soda bottles
- Garbage bags
- picnicware
- plastic shopping bags
- straws
- synthetic clothing
- to-go coffee lids
- wrappers

REQUIRED TECHNOLOGY

- Internet Access: Required
- Tech Setup: 1 computer per classroom, 1 computer per pair, Monitor/screen, Projector, Speakers

PHYSICAL SPACE

- Classroom

SETUP

Student pairs will need to have one computer per pair for the reading part of this activity, or articles will need to be printed in advance.

GROUPING

- Large-group instruction
- Small-group work

BACKGROUND & VOCABULARY

Background Information

Mass plastic production started in the 1940s and '50s and has taken off at an exponential rate since. As of 2015, it is estimated that we have produced over 6,300 megatons of plastic waste and, on a daily basis, only recycle about nine percent of the plastic we use. In the European Union, each person uses 100 kilograms (220 pounds) of plastic per year. The plastic pollution problem extends past urban centers, industrial zones, and production areas, however. Plastic has been so successful across industries due to its chemical composition, durability (in some cases), and low price.

Plastic is now a leading source of pollution, yet, has important social and economic uses, such as medical, disability accessibility, and sanitation. Disability rights groups have spoken up in opposition to the recent plastic straw bans claiming a decrease in the way of life for disabled individuals that often feel shamed if they need a straw or bag for medical reasons that are not obvious. Other groups that do not support limiting plastic production include hospitals, medical professionals, and fossil fuel industries. Plastic was wildly successful in reducing sanitation and contamination issues in hospitals, increasing its popularity. There is a strong case to be made for plastic's continued use and production in these kinds of situations. However, improvements can be made to reduce the quantity of plastic produced and the ways in which it is disposed. Today, plastic is so ubiquitous in our communities and economies that it will require huge shifts in policies to decrease global plastic production.

Prior Knowledge

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Recommended Prior Activities

- None

Vocabulary

Term	Part of Speech	Definition
alternative	*noun*	choice or decision.
dispose	*verb*	to throw away or get rid of.
history	*noun*	study of the past.
microplastic	*noun*	piece of plastic between 0.3 and 5 millimeters in diameter.

Term	Part of Speech	Definition
timeline	*noun*	text and graphics arranged in order along a line to give information about when events or phenomena occurred. Timelines are sometimes used on maps to give a better idea of how time relates to the data or theme represented.

For Further Exploration

Articles & Profiles

- Science History Institute: History and Future of Plastics
- Our World in Data: Plastic Pollution

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