

Plastic Pollution

Non-Fiction Article

PDF & Digital Formats



2 Peas and a Dog

Middle School Teaching Resources

RESOURCE INCLUDES

- Lesson Plan
- Teacher Instructions
- Individual PDFs for Google Drive
- Google Slides for 1:1 Schools
- Audio file of the article
- Pre-reading K-W-L chart
- Non-fiction article (modified and regular levels)
- 3 Post reading activities
 - ✓ Comprehension questions
 - ✓ Grammar questions
 - ✓ Long response writing

EXAMPLE PAGES


PLASTIC POLLUTION

A Brief History of Plastic
Plastic is everywhere and has become part of everyday life. Objects such as food packaging, clothing, cars, and even smartphones have plastic components. Most countries use plastics every day and will probably continue to do so.

One of the first plastics ever used was a naturally occurring substance known as rubber, sourced from the rubber tree. Rubber extracting involves a process called tapping. Several diagonal incisions are made into a rubber tree's bark, extracting a sticky and milky sap called latex, which is the main component of many rubber products.

Synthetic Plastic and Polymerization
Synthetic plastics successfully imitate their naturally made counterparts. Instead of using plastics made from a rubber tree, manufacturers used crude oil and natural gas to create plastics through the process of polymerization.

Polymerization chemically transforms the molecules of crude oil and natural gas into chain-like molecules. These chain-like, or connected, molecules of crude oil and natural gas become synthetic resins, the building blocks of synthetic plastics.



Plastic Water Bottle

The Rise of Synthetic Plastics
Synthetic plastics first appeared in 1869 when John Wesley Hyatt invented it. People were looking for an alternative to ivory, which was the material used for creating billiard balls. Billiards was so popular that a New York firm offered a \$10,000 reward for anyone who could find a substitute for ivory.

Wesley was able to create a ball using nitrocellulose (plant fibers and nitric acid) and camphor. While he had invented a plastic that could be shaped into any form, it didn't make a quality billiard ball.

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K-W-L CHART		
Topic:		
K	W	L
What do I already know about this topic?	What do I want to know about this topic?	What new things did I learn from the article?

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ANSWERS

Instructions: Answer the following questions on this paper.

- Which of the following words matches this definition: the process of cutting lines into a rubber tree's bark in order to extract a sticky sap known as latex?
 - A. Pollution
 - B. Durable
 - C. Synthetic
 - D. **Tapping**
- How many tons of plastic waste is discarded in our oceans every year?
 - A. 1.907 million
 - B. **8 million**
 - C. 1.869 million
 - D. 400 million
- In the following sentence, which words are adjectives?
 "Natural materials such as steel, cotton, and glass were in short supply, so plastic became a likely substitute."
 - A. Materials, supply
 - B. Steel, plastic
 - C. **Natural, short**
 - D. Were, become
- In the following sentence, why is ocean NOT capitalized?
 "They end up floating in the ocean, posing a danger to wildlife, and contaminating our primary food source."
 - A. **It is a noun, but not a proper noun.**
 - B. It is a verb. Verbs are not capitalized.
 - C. It is not a big enough word to be capitalized.
 - D. It is an adjective. Adjectives are not capitalized.

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K-W-L CHART

Topic:

K

W

L

What do I already know about this topic?

What do I want to know about this topic?

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PREVIEW

PLASTIC POLLUTION

A Brief History of Plastic

Plastic is everywhere and has become part of everyday life. Objects such as food packaging, clothing, cars, and even smartphones have plastic components. Most countries use plastics every day and will probably continue to do so.

One of the first plastics ever used was a naturally occurring substance known as rubber, sourced from the rubber tree. Rubber extracting involves a process called tapping. Several diagonal incisions are made into a rubber tree's bark, extracting a sticky and milky sap called latex, which is the main component of many rubber products.

Synthetic Plastics and Polymerization

Synthetic plastics are useful imitations of the naturally occurring compounds. Instead of using plastics made from a rubber tree, manufacturers used crude oil and natural gas to create plastics through the process of polymerization.

Polymerization chemically transforms the molecules of crude oil and natural gas into chain-like molecules. These chain-like, or connected, molecules of crude oil and natural gas become synthetic resins, the building blocks of synthetic plastics.



Plastic water bottle

The Rise of Synthetic Plastics

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 - Tapping**
- How many tons of plastic waste is discarded in our country each year?
 - 1,907 million
 - 8 million**
 - 1,869 million
 - 400 million
- In the following sentence, which words are adjectives?

"Natural materials such as steel, wood, and glass were in short supply, so plastic became a likely substitute."

 - Materials, supply, substitute
 - Steel, plastic, wood
 - In short supply**
 - Wood became a likely substitute
- In the following sentence, why is ocean NOT capitalized?

"They end up floating in the ocean, posing a danger to wildlife, and contaminating our primary food source."

 - It is a noun, but not a proper noun.**
 - It a verb. Verbs are not capitalized.
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THINKING QUESTION

Assessment	Below Expectations	Meets Expectations	Above Expectations
	✓	✓	✓+

Plastics are everywhere. How can people reduce their use of plastics?
Explain your thinking.

PREVIEW