



# PLASTIC PLANET

## WARM UP

Discuss these questions with a partner.

1. What do you think are some of the most important environmental issues today?
2. What are some things that your community is doing to help the environment?

Plastic bags are one of the biggest sources of trash in the ocean.

## BEFORE YOU READ

UNDERSTANDING  
CHARTS AND  
GRAPHSReview this  
reading skill  
in Unit 5A

- A.** Look at the infographics. Then answer the questions below with a partner.
1. What are some uses of plastic? What proportion of global plastic production is used for packaging?
  2. Approximately how many tons of plastic were produced in 2015?
  3. On average, how long are plastics in building and construction used before they are thrown away? How about for packaging?
- B.** What kinds of problems do you think plastic waste (garbage) causes for the world's oceans? Note your ideas. Then check as you read the passage on page 148.
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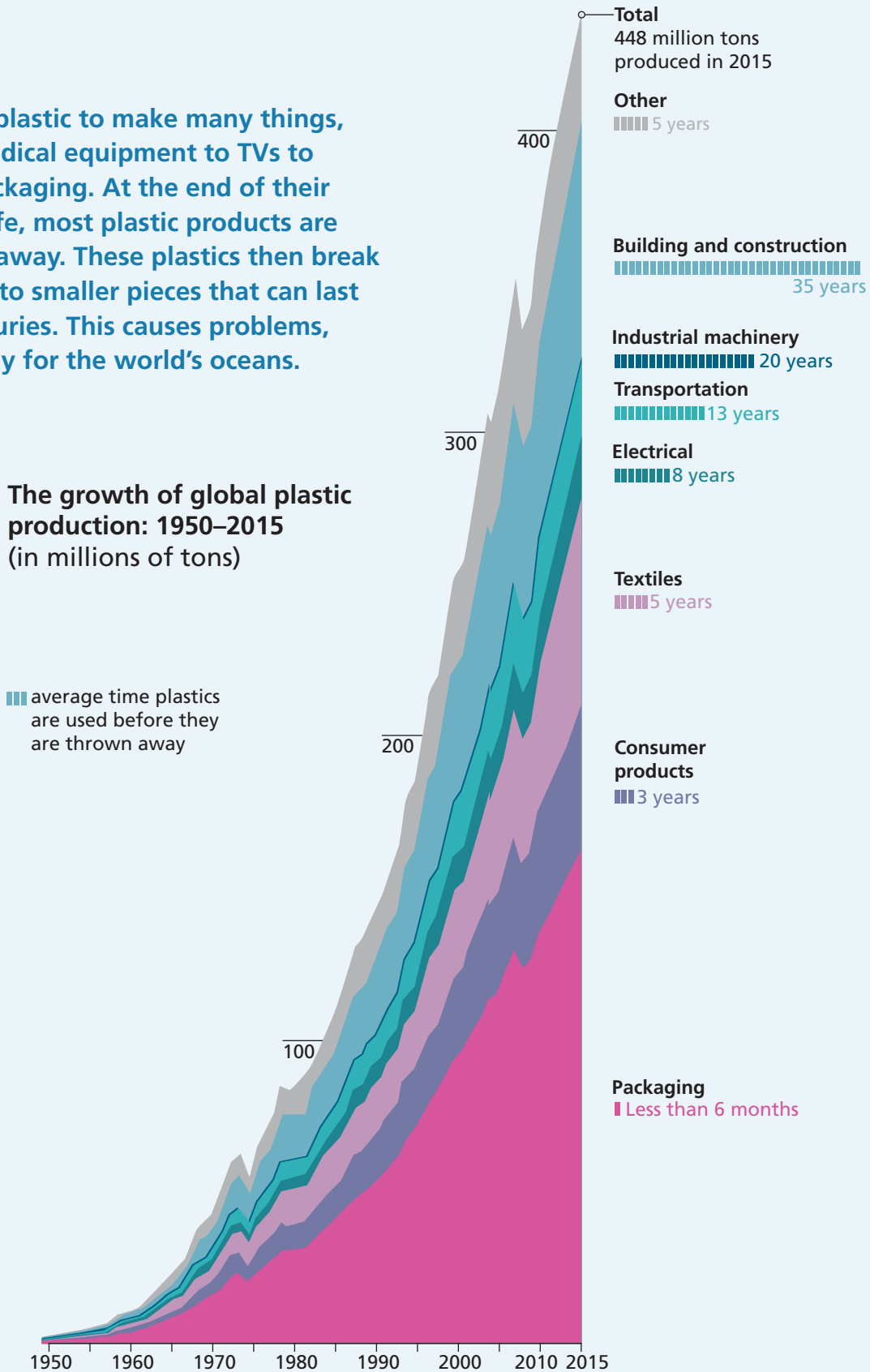
Almost **40 percent** of plastic produced is for packaging (to cover goods). Some of this is recycled, but most is used just once and thrown away.



NGM STAFF. SOURCE: ROLAND GEYER, UNIVERSITY OF CALIFORNIA, SANTA BARBARA

We use plastic to make many things, from medical equipment to TVs to food packaging. At the end of their useful life, most plastic products are thrown away. These plastics then break down into smaller pieces that can last for centuries. This causes problems, especially for the world's oceans.

**The growth of global plastic production: 1950–2015**  
(in millions of tons)

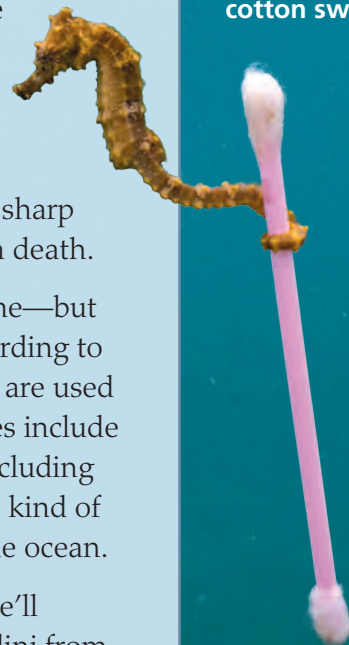


JASON TREAT AND RYAN T. WILLIAMS, NGM STAFF. SOURCE: ROLAND GEYER, UNIVERSITY OF CALIFORNIA, SANTA BARBARA

# THE PROBLEM WITH PLASTIC

- A On a boat near Costa Rica, a team of marine biologists<sup>1</sup> is helping a turtle. The animal is having trouble breathing, and the team discovers why—there is something inside its nose. A scientist tries to **extract** the object, but the turtle cries in pain. Finally, after eight long minutes, a long object is pulled out: It is a 10-centimeter plastic straw.
- B The video of the turtle’s **rescue** has been viewed millions of times on YouTube. It has helped raise awareness of a growing problem: The world’s seas are full of plastic. Since 2000, there has been a **huge** increase in worldwide plastic production, but we **recycle** less than one-fifth of it. A lot of this plastic waste ends up in the ocean. Today, scientists think about 8.1 billion kilograms goes into the sea every year from coastal regions. Most of this plastic will never biodegrade.<sup>2</sup>
- C This ocean plastic hurts millions of sea animals every year. Some fish eat plastic because it is covered with sea plants, and it looks and smells like food. **Typically**, eating plastic leads to **constant** hunger. “Imagine you ate lunch and then just felt **weak** ... and hungry all day,” says marine biologist Matthew Savoca. “That would be very **confusing**.” In some cases, eating sharp pieces of plastic can seriously hurt sea animals and even result in death.
- D Plastic is useful to people because it is strong and lasts a long time—but this is bad news for sea creatures who eat or get stuck in it. According to Savoca, “Single-use plastics are the worst.” These are items that are used only once before we throw them away. Some **common** examples include straws, water bottles, and plastic bags. About 700 sea species (including the turtle from the video) have been caught in or have eaten this kind of plastic. Luckily, the turtle survived and was released back into the ocean.
- E How will plastic affect sea animals in the **long term**? “I think we’ll know the answers in 5 to 10 years’ time,” says Debra Lee Magadini from Columbia University. But by then, another 25 million tons of plastic will already be in the ocean.

✓ A seahorse clutches a plastic cotton swab.



<sup>1</sup> A **marine biologist** is a scientist who studies sea life.

<sup>2</sup> If something **biodegrades**, it breaks into little pieces and goes away completely.

**A. Choose the best answer for each question.**

- GIST** 1. What could be another title for this reading?
- a. The Work of Marine Biologists
  - b. Dangers Facing Sea Turtles
  - c. How Plastic Harms Sea Creatures

- DETAIL** 2. Which of these questions is NOT answered in paragraph A?
- a. What was the cause of the turtle's pain?
  - b. What tools did the scientists use to remove the object?
  - c. Where did the incident take place?

- REFERENCE** 3. What does *It* refer to in the second sentence of paragraph B?
- a. the video
  - b. the turtle
  - c. YouTube

- INFERENCE** 4. Which of the following objects is a single-use item?
- a. a plastic toothbrush
  - b. a plastic fork
  - c. a plastic comb

- INFERENCE** 5. Which of these can we definitely say about ocean plastic?
- a. 8.1 billion kilograms of plastic waste goes into the sea every year from coastal regions.
  - b. The plastic waste in the ocean hurts sea animals and can even kill them.
  - c. Scientists will have a clear understanding of the ocean's plastic problem in 5 to 10 years' time.



^ Single-use plastics have become a major global concern. In 2018, Collins Dictionary named "single-use" as its Word of the Year.

**EVALUATING STATEMENTS**

**B. Are the following statements true or false according to the reading passage, or is the information not given? Circle T (true), F (false), or NG (not given).**

- |   |   |   |    |
|---|---|---|----|
| 1. Many people have watched the video of the turtle on YouTube.   | T | F | NG |
| 2. Most of the plastic in the ocean is biodegradable.             | T | F | NG |
| 3. Matthew Savoca was a member of the team that found the turtle. | T | F | NG |
| 4. The turtle in the video died from its injuries.                | T | F | NG |
| 5. Half the world's plastics are made in Asia.                    | T | F | NG |

## Understanding a Writer's Use of Quotes

A writer may choose to include the exact words from a source. These are set off by quotation marks (" "). Quotes can be used for various reasons, such as the following:

- To add a supporting statement or question:  
*Locals aren't waiting for the government to solve the plastic problem. "It's important for us to start cleaning up the oceans ourselves," said one resident.*
- To provide expert evidence for an argument:  
*The plastic in our oceans will not go away by itself. "We see plastic dating back to the 1960s and 1970s," says Boyan Slat, CEO of the nonprofit group Ocean Cleanup.*
- To highlight an interesting or memorable phrase:  
*"Ghost nets" are fishing nets (usually made of plastic) that have been left or lost in the ocean. Every year, they trap and kill millions of sea animals.*

**SCANNING** A. Look back at Reading A. Underline the quotes. Discuss with a partner: Why did the writer include them?

**IDENTIFYING PURPOSE** B. Match each of these quotes (1–4) with its purpose. Write a, b, or c. One option is used twice.

- a. to add a supporting statement or question
  - b. to provide expert evidence for an argument
  - c. to highlight an interesting or memorable phrase
- \_\_\_ 1. The problem of plastics in our oceans is bigger than most people realize. "What's floating on the surface ... is only 3 percent of the plastics that enters the ocean every single year," says Eben Schwartz from the California Coastal Commission.
  - \_\_\_ 2. It's important that everyone uses less plastic. "My class recently decided to stop using plastic straws," says 12-year-old Molly Peterson.
  - \_\_\_ 3. The Great Pacific Garbage Patch is a collection of floating trash that covers a huge area of the North Pacific Ocean. However, it's more "plastic soup" than patch.
  - \_\_\_ 4. Ocean plastic is a big problem for people who rely on fish and seafood for their diets. "How can we be sure that the fish we catch or buy is safe to eat?" asks local resident Mayumi Fujikawa.

**CRITICAL THINKING** *Inferring Effects* Reading A looks at how plastic in the ocean affects sea animals. In what ways does this ocean plastic affect humans? Discuss with a partner and note your ideas.

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## VOCABULARY PRACTICE

COMPLETION A. Complete the paragraph with words from the box.

**common      huge      recycle      rescue**

The Owl <sup>1</sup> \_\_\_\_\_ Centre is a nonprofit organization in South Africa that is dedicated to the protection of owls. It has also been doing incredible work for the environment. In 2018, the center started a project to collect used plastic bottles and <sup>2</sup> \_\_\_\_\_ them into owl houses. Plastic bottles are an increasingly <sup>3</sup> \_\_\_\_\_ sight in our rivers and oceans. By reusing these plastic bottles, the center can build more nesting boxes for owls and also ensure that less plastic ends up in the ocean. The project has been a <sup>4</sup> \_\_\_\_\_ success, and the center is now raising money to buy a ship that will collect plastic directly from the ocean.



▲ An owl house made from recycled plastic

WORDS IN CONTEXT B. Complete the sentences. Circle the correct words.

1. If you **extract** something, you *buy it / take it out*.
2. You use **typically** to refer to what *usually happens / once happened* in a situation.
3. If someone is **weak**, they are not very *strong / intelligent*.
4. Something that is **confusing** is *easy / difficult* for people to understand.
5. You use **constant** to describe something that happens *some of / all* the time.
6. Something that happens over the **long term** will *happen very soon / continue far into the future*.

WORD PARTS C. The prefix **ex-** means "out" or "out of" (e.g., **extract**). Complete the sentences using the words in the box. One word is extra.

**except      exit      extend      extract**

1. "Ghost nets" are a serious problem along Australia's northern coastline; they can \_\_\_\_\_ for more than several hundred meters in length.
2. The store is open every day \_\_\_\_\_ Sunday.
3. Boyan Slat's foundation, Ocean Cleanup, is developing various technologies that can \_\_\_\_\_ plastic waste from our oceans.