



TAKE OUT THE TRASH

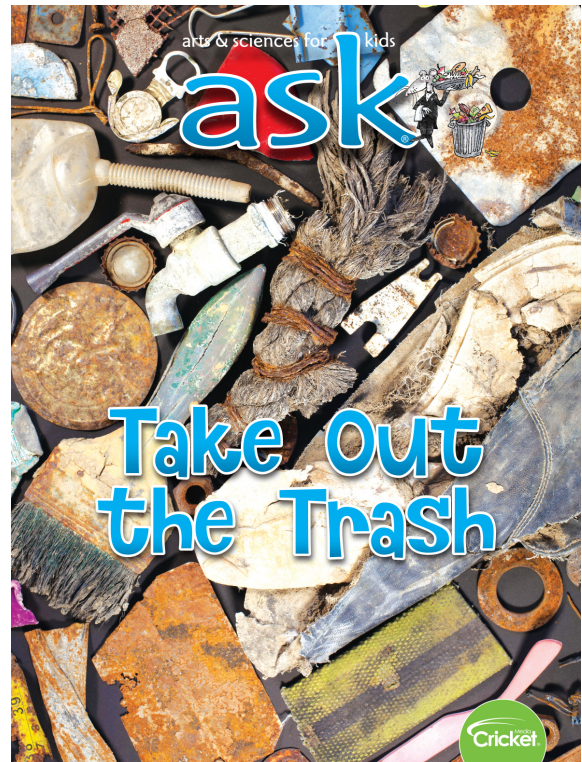
Throwing something “away” is not the end of something, but rather the beginning of processes that manage our garbage. Students will learn how humans, machines, and living organisms all participate in methods that decompose the billions of tons of trash that our country disposes of yearly. Students will be encouraged to be more mindful of their refuse habits and to do their part to create a cleaner planet.

CONVERSATION QUESTION

How do we process our trash?

TEACHING OBJECTIVES

- Students will learn about the different methods that are used to handle garbage disposal.
- Students will learn how living things help to decompose our garbage.
- Students will learn how plastic that washes ashore can be transformed into beautiful sculptures.
- Students will compare and contrast different procedures for managing waste.
- Students will examine the process of decomposition.
- Students will analyze the problem/solution relationship presented in a nonfiction text.
- Students will create a map and explore cardinal directions.
- Students will write an acrostic poem detailing the scientific process studied.
- Students will dissect their classroom trash and create artistic sculptures from the reusable materials.



In addition to supplemental materials focused on core STEM skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

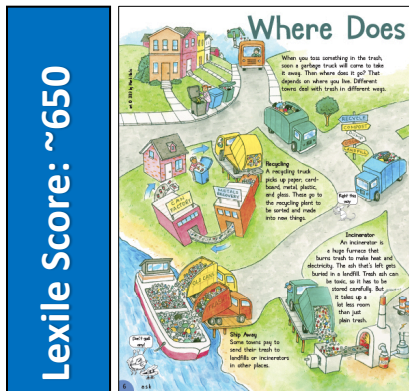
SELECTIONS

- **Where Does the Garbage Go?**
Expository Nonfiction, ~650L
- **Meet the Decomposers**
Expository Nonfiction, ~850L
- **Washed Ashore**
Expository Nonfiction, ~850L

Where Does the Garbage Go?

pp. 6–7, Expository Nonfiction

Reduce, Reuse, Recycle! Students will learn what happens when they simply throw something “away.” This article examines the various ways that different towns dispose of their trash.



Lexile Score: ~650

RESOURCES

- Go Away!

OBJECTIVES

- Students will learn about the different methods that are used to handle garbage disposal.
- Students will compare and contrast different procedures for managing waste.
- Students will create a map and explore cardinal directions.

KEY VOCABULARY

- heap** (p. 7) an untidy collection of things piled up haphazardly
- scavengers** (p. 7) animals that feed on dead plant and animal material, or trash
- toxic** (p. 6) poisonous

ENGAGE

Conversation Question: How do we process our trash?

Create a K-W-L (know, want to know, learned) chart and pose the question, “Where does garbage go when we throw it away?” List student responses. Return to the chart after reading the article and complete the last (“learned”) column.

INTRODUCE VOCABULARY

Post the vocabulary words and their definitions on the board, purposely matched incorrectly. Challenge students to make the correct connections and then to illustrate each word. Draw attention to the key terms as they are revealed in the text.

READ & DISCUSS

Reinforce comprehension of the concepts in this article by using the following prompts to direct discussion.

- What happens at a recycling plant?
- Why is composting food waste a positive process for our environment?
- What does an incinerator do?
- How can landfills prevent bad things from leaking into the ground?

CONCEPT/SKILL FOCUS: Compare and Contrast

INSTRUCT: Students will compare and contrast the garbage disposal methods discussed throughout this article. Instruct pairs of students to reread the text and to underline information that defines each method. Introduce the graphic organizer, *Go Away!*, and have the partners record similarities and differences on their chart.

ASSESS: Collect the *Go Away!* worksheet and review. Be sure the students met the objective of correctly comparing/contrasting garbage removal techniques. Meet with a small group to remediate, if necessary.

EXTEND

Social Studies The information on pages 6 and 7 is supported by a map of a mock town. Have students create their own map of a town containing certain features. (Example: playground, school, library, etc.) Instruct them to imitate the style of the article and to add a few lines of text detailing each location. Direct students to include a compass rose on their map. Use this opportunity to discuss cardinal directions.

Go Away!

Study the garbage disposal procedures in the article, "Where Does Garbage Go?" Record how the pairs of methods listed in the first column are similar and how they are different.

Removal Method	How are they alike? (Compare)	How are they different? (Contrast)
Landfill and Dump		
Recycling and Composting		
Incinerating And Shipping Away		

Meet the Decomposers

pp. 12–15, Expository Nonfiction

This article encourages young readers to look beyond stinky piles of trash and to appreciate the creatures that naturally clean up our environment. Students will learn about the decomposers that help garbage turn into soil.



RESOURCES

- Creepy Crawly Cleaners

OBJECTIVES

- Students will learn how living things help to decompose our garbage.
- Students will examine the process of decomposition.
- Students will write an acrostic poem detailing a scientific process.

KEY VOCABULARY

- **decay** (p. 14) cause to rot
- **decomposers** (p. 12) organisms that break down organic material
- **scavengers** (p. 12) animals or organisms that feed on dead organic matter

ENGAGE

Conversation Question: How do we process our trash?

Distribute “Meet the Decomposers” and have students preview the content by taking a picture walk through the article. Instruct them to study the photographs, captions, and subtitles and to disclose real-world connections to the subject matter.

INTRODUCE VOCABULARY

Post and discuss the key vocabulary terms and definitions. Display the title, “Meet the Decomposers.” Challenge students to verbally predict the content of the article using the keywords in their forecast.

READ & DISCUSS

Divide the class into groups of four after reading the article as a class. Assign each student one of the questions below. Have them use information from the text to write a complete answer. Each student should share their question/answer aloud with the group.

- How does garbage turn into soil?
- Why are bacteria considered to be “decomposing superheroes”?
- How do fungi digest food?
- Why are scientists trying to copy and produce caterpillar spit?

CONCEPT/SKILL FOCUS: Examine Process

INSTRUCT: Review with the students that the main idea of the article is to study the process of decomposition, as well as to explore the organisms that break down our garbage. Distribute the graphic organizer, *Creepy Crawly Cleaners*, and instruct the class to reread the article independently and to highlight information relevant to this chart. Allow students to work in their small groups from the READ & DISCUSS activity to complete the graphic organizer.

ASSESS: Circulate and have mini-conversations with the students as they are gathering information for their worksheet. Collect and review organizers for accuracy. Arrange peer remediation groups if corrections are necessary.

EXTEND

Language Arts Remind students that an acrostic poem is a poem in which the first letter of each line spells out a word or phrase. Write the word DECOMPOSERS on the board and assign students the project of creating an acrostic poem that relates to the main idea of the article.

Creepy Crawly Cleaners

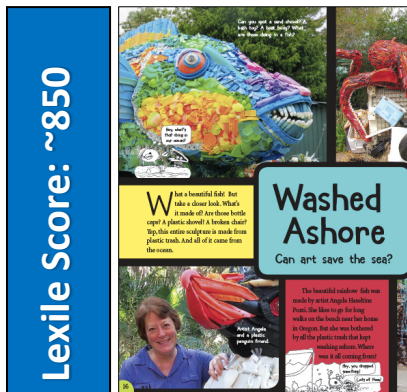
DECOMPOSER	EXAMPLE (Write/Draw)	HOW DO THEY DECOMPOSE? (Process)
scavengers		
slugs/snails		
insects		
bacteria		
fungi		

Reread the article, "Meet the Decomposers." Use words/pictures to explain the process of decomposition and the critters that help.

Washed Ashore

pp. 16–19, Expository Nonfiction

Scientists estimate that millions of tons of plastic enter the ocean every year. Readers will learn how creative minds are turning trash into treasure and saving our planet, as well as beautifying our world.



RESOURCES

- Trash to Treasure

OBJECTIVES

- Students will learn how plastic that washes ashore can be transformed into beautiful sculptures.
- Students will analyze the problem/solution relationship presented in a nonfiction text.
- Students will dissect their classroom trash and create artistic sculptures from the reusable materials.

KEY VOCABULARY

- **ashore** (p. 16) on the shore from the direction of the sea
- **current** (p. 17) a body of water or air moving in a definite direction
- **sculpture** (p. 16) the art of making a two- or three-dimensional representation of a form

ENGAGE

Conversation Question: How do we process our trash?

Create interest in this topic by showing the class a video clip of artists who create their art by utilizing materials that have been scrapped. Students will be amazed by these outstanding sculptures. Allow some time to discuss the process (collect, sort, clean, reuse) and then introduce the article, “Washed Ashore.”

INTRODUCE VOCABULARY

Invite pairs of students to find definitions for the key vocabulary terms. Upon completion, post the definitions provided so that students may check their work for accuracy. Student pairs will choose an additional seven words from the article and procure definitions. They will then create a crossword puzzle using all ten words. Share puzzles with another class for use as a prereading exercise for this article.

READ & DISCUSS

Express to students that this article uses text and photographs to help the reader comprehend the information. Use the following prompts to explore further.

- How is the artist, Angela, using plastic that washes ashore?
- Why did Angela start creating these particular sculptures?
- How much plastic enters the ocean every year?
- What are the goals of the Washed Ashore project?

CONCEPT/SKILL FOCUS: Problem and Solution

INSTRUCT: Instruct students to reread the article with a partner and to highlight passages that depict solutions to the problem detailed in this article. (Millions of tons of plastics are polluting our oceans and shores.) Distribute copies of the *Trash to Treasure* graphic organizer and tell students that they will be responsible for recording the problem/solution relationship presented in the article. Encourage pairs of students to discuss their finding as they complete their chart.

ASSESS: Review the information that the students listed on their charts. Evaluate the accuracy of their statements. If errors are noted, direct students to return to the text to make corrections.

EXTEND

Environmental Science Collect and separate your classroom for a week. (Paper/plastic) Reminding students that only 10 percent of plastic gets recycled, allow students to physically see the accumulation that occurs in a five-day period. Revisit the photographs from the article and challenge students to create their own structure from this (clean) classroom trash. Have an art show displaying their creations.

Trash to Treasure

Use information from the article, as well as from other articles in this issue, to detail solutions to the problem listed below.

Problem: Millions of tons of plastic waste are polluting our shores.

Solutions

1. _____
2. _____
3. _____
4. _____

What can **YOU** do to help solve the problem of trash accumulation in our water, on our shores, and inland?
