

Grades K–2: Garbage Gurus

Purpose

Students will distinguish between waste items that are recyclable and those that are not recyclable. Students will identify ways they can help protect the Earth by reducing waste.

Engage

Ask students to predict what the book *Michael Recycle* is about as they look at the cover and what they think about when they hear the word *recycle* (CC ELA Connection: Language Standards – Vocabulary Acquisition and Use). Before sharing the book with the students, place sticky notes over the word sections on the pages so that the words cannot be seen. As you work through the book, ask the students to make observations about what the townspeople are doing related to trash and waste. Throughout the book, the illustrations give vivid images of what types of things people are throwing out and the problems with generating this much trash as well as what happens when the town recycles and begins a greener campaign. Engage the students in a discussion about their observations after taking a picture walk through the book. Some questions that could be used to focus their attention include: “What types of things are people throwing out in the first few pages of the book?” “What types of things look like they are being recycled?” “What were some of the other things that the town people were doing to help protect the Earth?” (CC ELA Connection: Reading Standards for Informational Texts K–5 – Integration of Knowledge and Details). After the discussion, return to the book and read the story to the students. Ask them to make predictions about what the text might tell them based on the illustrations before removing the sticky notes and reading them the text. Once through the entire story, have the students generate a list of items they think would be considered non-recyclable or trash and those that would be recyclable based on the story and either list or illustrate these items on their student data sheet (CC ELA Connection: Reading Standards for Informational Text K–5 – Key Ideas and Details).

Explore/Explain

Provide each group of students a bin or paper bag full of “waste.” Make sure all of the “waste” has been cleaned and is free of anything sharp or dangerous. It is recommended that students wear rubber gloves as they sort their waste and wash their hands following the activity. Ask the students to consider the information in the story and separate the objects into two piles—those that can be recycled and those that cannot be recycled. The end of

Materials

- *Michael Recycle*
- sticky notes
- student data sheet (see NSTA Connection)
- “waste” objects for each group such as wax coated boxes, paper plates, paper towels, tissues, Styrofoam cups, supermarket plastic bags, catalogs, newspapers, copy paper, cardboard, cereal boxes, plastic soda or water bottles, soda cans, cans from vegetables or soup, and glass jars
- crayons or markers
- plastic bins or paper bags for each group

the story provides “Michael Recycle Go Green Tips” that discuss what items can be recycled and those that can’t. The tips also suggest that students check with their local communities to determine which items are recycled where they live. A general rule to follow would be that newspapers, cans, glass, and some plastics can be recycled but not things such as food wastes and yard clippings.



Teaching through Trade Books

Activities inspired by children's literature

Let's Talk Trash

By Christine Anne Royce

This month's lessons help students focus on what trash is, which trash can be recycled, and where their trash ends up in the process. As they consider these different components of the waste stream, they are connecting the choices they make to their impact on Earth.

This Month's Trade Books



Michael Recycle
By Ellie Bethel
Illustrated by Alexandra Colombo
ISBN: 978-1-60010-224-0
Worthwhile Books
28 pages
Grades K-3

Synopsis

A caped super hero named Michael Recycle helps the citizens of a town overcome by pollution. In a rhyming format, the text shares strategies on protecting the Earth.



Where Does the Garbage Go?
By Paul Showers
Illustrated by Randy Chewning
ISBN: 0-06-445114-3
Harper Trophy
32 pages
Grades 2-5

Synopsis

Students are introduced to the idea of waste, the difference between a dump and a landfill, and why communities now recycle. Students are encouraged to follow the garbage truck to determine where waste goes and how to reduce their impact through recycling.

Curricular Connections

The *Next Generation Science Standards* incorporate the production and the reduction of waste into the standard related to Earth and Human Activity. Young children in grades K-2 should be able to "[c]ommunicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment" (performance expectation K-ESS3-3; NGSS Lead States 2013, p. 8). Understanding the importance of making choices to recycle touches on the concept that "things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things." (disciplinary core idea ESS3.C; NGSS Lead States 2013, p. 8)

Older students are asked to take their understanding of what they put into the waste stream one step further as they investigate what types of waste their classroom creates and then expand outward to their home and local community. While investigating their own trash output, students are asked to consider where their local trash ends up and how it is processed by reaching out to their local government and waste facilities, which allows them to "[o]btain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment" (performance expectation 5-ESS3-1; NGSS Lead States 2013, p. 51).

Both activities this month allow students to begin within their classroom and then reach beyond into their communities in order to understand the impacts of human activity. In both investigations, students use the science and engineering practice of Obtaining, Evaluating, and Communicating Information and develop an understanding of the crosscutting concept of Cause and Effect as they realize how their choices impact the Earth. ■

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Once the groups of students have had a chance to sort the objects, review the objects with the students and ask for their reasoning as to why something was put in the recyclable or non-recyclable pile. While not mentioned in the story specifically, elaborate on what can and cannot be recycled based on the sorting done by students. For example, students may have placed some items in the wrong pile based on part of the word such as “paper” or “plastic” and will need an explanation as to why some items such as a paper plate or plastic bag is not recyclable. Most paper items that are used for food sources are often not recyclable and plastic bags are reusable and returnable to the market but usually not able to be put into a recycling bin.

Have the students return to their original list or drawing on the student data sheet and correct any object that needs to be moved by crossing it out if it is in the wrong category and then placing it in the proper category. Ask students to select one item from each category and explain why it should be recycled or can't be recycled on the student data sheet (CC ELA Connection: Speaking and Listening Standards K-5 – Presentation of Knowledge and Ideas).

Elaborate/Evaluate

Ask the students to think about ways that the townspeople reduced their impact on the Earth (CC ELA Connection: Reading Standards for Informational Text K-5 – Key Ideas and Details). Possible answers may include recycling a particular item, collecting rainwater in order to water their gardens, reusing paper and decorations, and not littering. Ask students to turn over their student data sheet and create a poster that they can share with others on how they can be greener and reduce their impact on our planet. Once they have created their poster, engage the students in a “grand celebration” for their “Be Greener Campaign” like the townspeople had and ask them to present their poster to the class and explain what they chose to do, why they chose that option, and how they will accomplish their goal. Other students, school personnel, or parents can be invited to hear the presentations to reach an even wider audience.

Garbage Gurus
Brainstorm time.....I think that these items would be....

Non-recyclable or Trash	Recyclable

One item that should be recycled is _____
Why can this item be recycled?

One item that cannot be recycled is _____
This item cannot be recycled because....

