

K-3 MODULE

Unit 2: Reducing, Reusing, and Recycling Classroom Waste *Overview*

UNIT 2'S CONCEPT

Reducing, reusing, and recycling materials help to conserve natural resources and save landfill space.

The five lessons in this unit are:

LESSON 1: REDUCING THE AMOUNT OF PLASTIC THAT GOES TO A LANDFILL

Lesson's concepts:

- Many plastics end up in a landfill.
- Humans can reduce the number of plastic products that they buy and use in order to conserve natural resources, such as fossil fuels, and to save landfill space.

In Lesson 1 students will:

- Identify items in the classroom that are made from plastic.
- Sort plastics by their plastic container code numbers and place a sample of the different types of plastics on a sorting sheet.
- Identify which plastics are recycled in their community.
- Apply their knowledge about the importance of conserving natural resources, such as fossil fuels from which plastic is made, by developing a plan to reduce, reuse, and recycle plastics in the classroom.

LESSON 2: WHAT DO I DO WITH IT NOW?

Lesson's concept: "Many materials can be recycled and used again, sometimes in different forms." (*Benchmarks for Science Literacy*, page 119)

In Lesson 2 students will:

- Examine samples of various types of beverage containers.
- Test cans for magnetism, inspect plastic containers for number codes, and identify

differences between two plastic-coated cardboard containers.

- Determine which containers can be reused.
- Identify which containers can be recycled in their community.

LESSON 3: CLASSROOM EXCHANGE OF UNWANTED ITEMS

Lesson's concept: "Some materials can be used over again." (*Benchmarks for Science Literacy*, page 188)

Students bring to class items (e.g., books, clean toys, laundered clothing) that they or their family members no longer want and exchange them for other items that they do want.

LESSON 4: MAKING RECYCLED PAPER BY HAND

Lesson's concepts:

- Waste paper can be made into recycled paper in order to conserve trees and space in landfills.
- Buying products made from recycled materials continues a cycle that conserves natural resources.

In Lesson 4 students will:

- Listen to descriptions and conclude that most paper is made from trees.
- Observe various types of paper with a magnifying lens.
- Use various steps involved in recycling wastepaper by making their own recycled paper in the classroom.
- Make planters out of recycled paper and plant seeds or seedlings.

- Look for the symbol on products that indicates the product is made from recycled material.
- Discuss how “closing the loop” benefits the environment and people.

LESSON 5: SOUNDS FROM REUSED MATERIALS AND SONGS ABOUT REUSING AND RECYCLING

Lesson’s concept: Some discarded products could be reused to make new products and, thus, lessen the amount of waste that goes to landfills.

In Lesson 5 students will:

- Sing “On Top of the Landfill” and talk about what the lyrics mean.
- Use familiar tunes to write lyrics about reusing and recycling materials.
- Learn and sing songs composed by other students.
- Make musical instruments out of discarded items and use them in the performance of their songs.

Required Books to Implement Unit 2

- **For Lessons 2 and 3:**

Showers, Paul. *Where Does the Garbage Go?* Illustrated by Rand Chewning. Let’s-Read-and-Find-Out Science series. New York: HarperCollins Children’s Books, 1994.

- **For Lesson 4:**

Lauber, Patricia. *Be a Friend to Trees.* Illustrated by Holly Keller. Let’s-Read-and-Find-Out Science series. New York: HarperCollins Children’s Books, 1994.

Recommended Books to Implement Unit 2

- **For Lesson 1:**

Brooks, Felicity. *How Things Are Made.* Designed by Chris Scullen. Finding Out About series. Tulsa, Okla.: EDC Publishing, 1989.

PROJECTS

Projects provide hands-on experiences for students. Some lessons in this unit are project-based and encourage students to apply what they have

learned in the classroom. Some project-based lessons, which are service-learning oriented, encourage students to participate in improving the environment in their school and community.

Six projects that address this unit on reusing and recycling classroom waste are described below. Examples are given of schools that have completed projects that support reusing and recycling classroom waste. Teachers are encouraged to select one of these projects with their students or to have their students develop one of their own. If students implement an applicable project, they and their teachers are encouraged to send a description of the project to the California Integrated Waste Management Board’s Office of Integrated Education, MS-14A, P.O. Box 4025, Sacramento, CA 95812-4025.

- **Project 1:** Students develop a plan to reduce, reuse, and recycle plastics in the classroom. (Lesson 1)
- **Project 2:** Students decorate cardboard boxes for gathering items that can be reused in the classroom and those that can be recycled. They should clearly mark these. Students can also decorate cardboard boxes to give to other classes. (Lesson 2)

Monterey Road Elementary School, Atascadero Unified School District¹

Students at Monterey Road Elementary School began a recycling program at school. They provided each classroom with a recycling container to collect recyclables, instructions on how and what to recycle, and a lot of encouragement. They monitored, collected, sorted, and sent out the recyclable materials. With the money they raised, along with donations solicited from parents and local businesses, they planted trees in the school yard and built and installed birdhouses in them, resulting in the creation of wildlife homes and more oxygen for the planet.

- **Project 3:** Students reuse paper and other materials in the classroom. They decorate boxes of scrap paper available for various projects. They make books or journals about recycling out of discarded wallpaper ends (for covers) and rolls of paper (for pages inside the covers). Wallpaper companies and newspaper offices and printing shops are good sources for these materials. (Lesson 3)

¹“Jiminy Cricket’s Environmental Heroes.” The Walt Disney Company, Inc., and the State of California’s Environmental Education Interagency Network.

Pioneer Elementary School, Escondido Elementary School District²

Mary Burgess, who teaches in Escondido Elementary School District, San Diego County, embarked on a campaign to solicit donations from local businesses. Ms. Burgess developed a “Reduce, Reuse, Recycle” flyer explaining the need she had for scrap materials. She distributed the flyer to local businesses and received donations from a variety of businesses. One contact, a wallpaper store, donated leftover pieces of wallpaper. Another contact, a local print shop, donated leftover paper. Ms. Burgess folded the wallpaper in half, inserted reused paper, and bound the books with a few staples — now her students have fancy journals or books. A local print shop which cannot use the paper at the end of the paper rolls donated piles of “clean” white paper in different sizes. The paper fills a variety of classroom uses, including language arts and mathematics assignments.

If you would like additional ideas on how to reuse materials, contact the California Integrated Waste Management Board’s Office of Integrated Education, MS-14A, P.O. Box 4025, Sacramento, CA 95812-4025; (916) 341-6769 or visit the CI-WMB Web site at www.ciwmb.ca.gov.

- **Project 4:** Students make cards (e.g., for Mother’s Day or Father’s Day, birthdays, notes) out of recycled paper to give as gifts. Some could be sold for fund-raising purposes. (Lesson 4)

Orick Elementary School, Orick Elementary School District³

Students at Orick Elementary School in Humboldt County are putting mixed paper to good use. The students recycle the paper and create greeting cards. The cards are then sold at a local store. The students are getting their message out that managing natural resources is not only good for the environment but also can be profitable.

- **Project 5:** To let others know the importance of reusing and recycling, students sing the songs they wrote for other classes. (Lesson 5)

Valley View Elementary School, Coachella Valley Unified School District⁴

One of the students from Valley View Elementary School wrote a RAP song entitled “Have Fun! Learn & Recycle” depicting a place named Valley Land

²“Going the Extra Mile,” *Reusable News*. Sacramento: Integrated Waste Management Board (fall, 1994).

³“Going the Extra Mile,” *Reusable News*. Sacramento: Integrated Waste Management Board (fall, 1993).

⁴“Jiminy Cricket’s Environmental Heroes, 1994-97.” The Walt Disney Company and the State of California’s Environmental Education Interagency Network, 1999, p. 44.

where “people didn’t recycle, not even their cans.” The song goes on to describe a land ravaged by pollution and a mighty hero, with this message: “Just follow your heart and do your part.” The class performed the RAP song for the rest of the school in front of a giant wall built out of soda cans. Valley View students were educating others about the environment and the importance of recycling and having fun doing it!

- **Project 6:** With the class, students plant seedlings, shrubs, and wildflowers on the school campus or in a nearby park. The U.S. Forest Service, the California Department of Forestry, and some timber companies and nurseries will often donate to schools seedlings from native trees and other plants. If seedlings are to be planted on the school grounds or in other parts of the community, it is recommended that the species of the seedlings be appropriate to the existing soil and weather conditions in the locale where they will be planted. This will ensure a greater survival rate for the plants. (Lesson 4)

• **Other Projects**

Kimball Elementary School, National School District⁵

Two years ago, Jeannene Smith’s third- and fourth-grade students looked into the amount of trash that went to the landfill each day from their school. At that time they were producing between six to eight bags of trash per day. The school was purchasing cartons of milk for students. As a result of the research conducted and recommendations made by Ms. Smith’s class, Kimball Elementary School began purchasing little milk bags. Now they produce only two bags of trash per day.

Marguerite Hahn Elementary School, Cotati-Rohnert Park Unified School District⁶

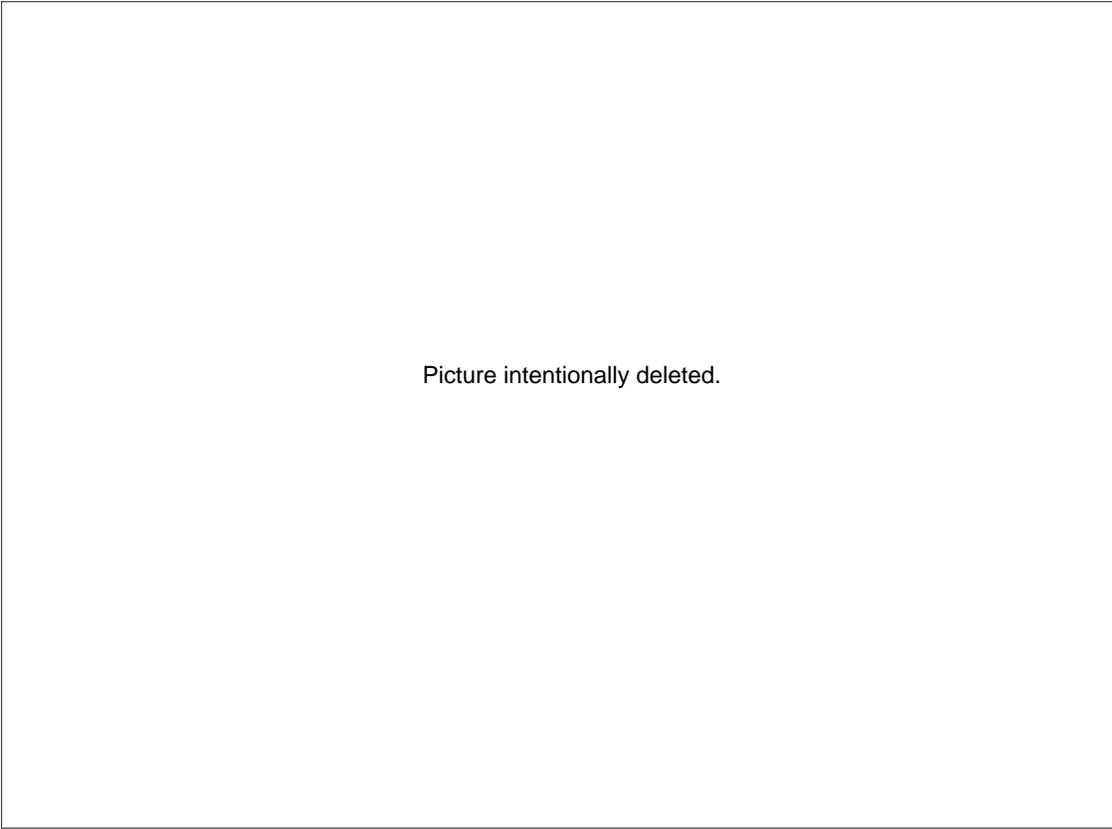
Sharon Janulaw’s kindergarten class at Marguerite Hahn Elementary School created junk sculptures to show that one person’s junk can be someone else’s treasure. This emphasizes how some things can be reused. The sculptures were displayed at an Earth Day celebration sponsored by Recycle Town and during open house at the Hahn School.

Note: To acquire a copy of “Jiminy Cricket’s Environmental Heroes,” contact the California Integrated Waste Management Board’s Office of Integrated Education at (916) 341-6769.

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⁵Submitted by Bonnie Styles, National School District.

⁶Submitted by Sharon Janulaw, kindergarten teacher and field tester for *Closing the Loop*, Marguerite Hahn Elementary School, Cotati-Rohnert Park Unified School District.



Picture intentionally deleted.

Students in Sharon Janulaw’s kindergarten class at Marguerite Hahn Elementary School designed a junk sculpture from items that would have gone to the classroom trash can.