

LESSON 6: Reusing Trash

LESSON'S CONCEPT

Reusing products helps reduce waste and conserve natural resources and landfill space.

PURPOSE

Students will discover that some products can be easily reused to extend their use, therefore reducing the amount of solid waste to be placed in landfills.

OVERVIEW

In this lesson students will:

- Participate in guided imagery to focus on how an item can be reused.
- Brainstorm ways a milk carton can be reused and then work in groups to design new uses for two milk cartons.
- Listen to or read *Galimoto* by Karen Lynn Williams and describe the efforts of the boy in the story to reuse wire to make a toy.
- Provide examples of items they can gather to make a new item.
- Participate in two skits about reusing materials and write additional parts to the skits.
- Select an item at home that would have been thrown away, reuse it in a creative way, and bring the item to class or write a description of how the item was reused to share with class members.

CORRELATIONS TO CALIFORNIA'S CONTENT STANDARDS AND FRAMEWORKS AND TO BENCHMARKS FOR SCIENCE LITERACY

- Students design new uses for milk cartons.
 - "Some materials can be used over again." (*Benchmarks for Science Literacy*, page 188)

- "Discarded products contribute to the problem of waste disposal." (*Benchmarks for Science Literacy*, page 189)
- Students read *Galimoto* by Karen Lynn Williams and describe the efforts of the boy in the story to reuse wire which he acquires from many different sources to make a toy.
 - "Students read and respond to a wide variety of significant works of children's literature." (*English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve*, page 22)
- Students participate in two skits about reusing, and write additional parts to the skits.
 - "Students convey the emotional qualities of given characters through simple dramatizations." (*Visual and Performing Arts Framework, Theater Education: Creative Expression Component, Goal 3, kindergarten through grade four*, page 83)

SCIENTIFIC THINKING PROCESSES

observing, communicating, comparing, relating

TIME

30–45 minutes to prepare for the lesson; 90 minutes to implement each of the three parts in the lesson

VOCABULARY

Ask students to select vocabulary words from the book *Galimoto* by Karen Lynn Williams.

PREPARATION

1. Read the “Background Information for the Teacher” at the end of this lesson.
2. Copy and cut apart “Ways to Reuse Items” (pages 378-381).
3. Copy the skits, “The Funnels” (pages 375 and 376) and “Jobs for Bags” (page 377), for each student. To save paper, the skits can be copied in duplex form (on both sides of the paper) and then reused every year.

MATERIALS

For “Part I, Making Items Out of Milk Cartons”

- Two ½-gallon milk cartons or two 1-gallon plastic jugs for each group of students (Wash and dry the cartons or jugs thoroughly.)
- A variety of arts and crafts materials, including glue, scissors, yarn
- A variety of discarded items that can be reused in the milk carton projects, such as scraps of material, scraps of paper, straws

For “Part II, Reading Galimoto by Karen Lynn Williams”

- The book, *Galimoto* by Karen Lynn Williams

For “Part III, Reading and Acting Out Two Skits About Reusing”

- A copy of the skits, “The Funnels” and “Jobs for Bags,” for each student
- Two funnels (available at auto stores and kitchen supply stores or by making your own by cutting the bottom half off a gallon jug and turning the top upside down)
- Three brown grocery bags

For “Application”

- A copy of “Ways to Reuse Items”

PRE-ACTIVITY QUESTIONS

- A. Lead students on an imaginary tour of solid waste going from a curbside trash can to a landfill. Tell students to select a nonfood item that often goes to the landfill. For example, a lawn chair that has a broken seat. Narrate the following to students: “Sit comfortably at your desk and close your eyes. Imagine the day when your neighborhood’s trash is being picked up. Think about the nonfood item that you selected that often ends up in the trash. Follow this item to the

landfill. Watch how this item is dumped in the landfill. What other items do you see in the landfill? What might happen to your item? Will it ever be used again? Now pretend that your item was taken to a place called Reuse Town, instead of the landfill. See people there repairing items. How can your item be repaired? If your item cannot be or does not need to be repaired, how can it be reused or changed so that it can be used again? Your item is now for sale at a secondhand store. Someone is looking at it and is going to buy it. Who buys it? Is the person excited to own this item? Think about how this item’s use was extended. When you are ready, open your eyes.”

- B. Ask students to write in their journals about their guided imagery experience. Their entries should include:
- The names of their items
 - The names of other items they imagined seeing in the landfill
 - How their items were prepared for reuse (For example, a lawn chair with a broken seat had the seat repaired or replaced. A toy was washed. A strawberry basket was made into a notepad holder.)
- C. Ask students to share their journal entries. This sharing can be done in small groups.
- D. Discuss with students the meaning of *reuse*. *To use again for the same purpose or for a different purpose.* What are some examples of ways items can be reused? *Using plastic margarine containers for leftovers; handing down clothes from an older to a younger sister or brother.*
- E. Show a ½-gallon milk carton to the class. Ask students to brainstorm ways this milk carton can be reused. List these on the chalkboard. Have students include a list of items from which the carton can be made.

PROCEDURE

Note: The purpose of this activity is to reuse objects, not to create more waste. Therefore, ask students to use as much of the reusable material as possible and/or to use other students’ scraps. At the end of the activity, they should place in a “reuse” box, items that can be reused, and place in a “recycle” box, items that can be recycled.

Part I, Making Items Out of Milk Cartons

A. Provide two ½ -gallon milk cartons or two 1-gallon plastic jugs to each group of students. Ask them to make two separate items from these containers. Several ideas are described below. Encourage students to come up with their own creations. This can include games and holders for various items. The following describes ways to use ½ -gallon milk cartons. Students can adapt the directions if they are using 1-gallon jugs.

- **Milk carton birdhouse:**

Cut a 1-inch hole in the side of the carton about 2 inches from the bottom. Cut a slit below the entrance and slip through the slit a piece of dowel or a popsicle stick for a perch. Punch two holes in the top of the carton and slip a piece of yarn or heavy string through. Tie the carton to a tree branch.



- **Bird feeder:** Cut opposite sides of the carton back 1½ inches from the bottom. Trim under the gable to make the roof overhang. Use a plastic straw or dowel for a perch. Punch a hole in the top of the milk carton and hang from a branch or eave or nail directly to a post. Fill the bottom with birdseed.



- **Holder (such as a pencil holder or a car litter box):** Cut the milk carton to desired height. Cover the outside with cloth scraps by overlapping the cloth and gluing the cloth to the milk carton. If you can find self-adhesive paper that someone wants to get rid of, use it to cover the milk carton. (Since this is an activity in reusing materials, do not buy the paper unless it is for sale at a secondhand store.)
- **A box for jewelry or photographs:** Glue colored scrap paper or cloth on the milk carton. Cut the carton to make a hinge.
- **A planter:** Punch holes in the bottom of the milk carton. Decorate the carton. Add gravel on the bottom. Place soil on top of

- the gravel and put a plant in the soil.
 - Other items made by students. For example, mini-dollhouse, bank, gift boxes, candy dispenser, pet dish, football board game.
- B. Allow time for groups to complete their projects. Then ask students to present their creations to the class.

Part II, Reading *Galimoto* by Karen Lynn Williams

- A. Have students read *Galimoto*, by Karen Lynn Williams, in pairs or small groups. If you have only one book, students can take turns reading it in pairs or as a class. You could also read the book to them.
- B. Discuss the story, *Galimoto*.
- What were the sequence of events? *Kondi shared with his brother that he wanted to make a galimoto (which is a toy vehicle made of wire). His brother laughed and said that he was too young and didn't have enough wire to make it. Kondi didn't give up and went to different people to get the wire he needed. Eventually, he got enough wire and made a galimoto.*
 - What were the efforts of the boy in the story to acquire wire? *He asked many different people in order to collect enough wire.*
 - What types of things could students make that will require the gathering of items no longer being used? Encourage students to name things other than those they made in "Part I" of this lesson.

Part III, Reading and Acting Out Two Skits About Reusing

- A. Have students read and act out one or both skits: "The Funnels" and "Jobs for Bags."
- B. Separate students into groups of two or three, and have each group write one more scene to either of the two skits.
- For "The Funnels" skit, students can come up with more scenes for the play or select a different item which is often discarded.
 - For "Jobs for Bags" skit, encourage students to come up with other uses for the paper bags. Students could also rewrite "Jobs for Bags," describing plastic or cloth bags instead of paper.

Picture intentionally deleted.

A student from Oak Valley Elementary School cuts a milk jug to make a pet dish.

Additional scene for “The Funnels”:

Scene VI

Maria went back to her house. She called her sister but there was no answer. She held the funnel close to her mouth and called her sister again. Her sister answered and said, “Your voice sounds loud.”

Additional script to “Jobs for Bags”:

Group of Protesters: *Yes, it can be used for a hood, like when it rains.*

Employment Person: *I like that job, but is there any kind of job aside from that hood thing?*

Protester 1: *I have another idea. I can be a puppet.*

Employment person: *Excellent! This could be a great entertainment for the little kids. We will need plenty of this, so we will hire all of you!*

Submitted by Joanne Williams’s sixth-grade class, Las Palmas Elementary School, National School District.

- C. Encourage students to act out the skits, adding scenes that they wrote.

Homework Assignment: Ask students to write additional scenes to one of the skits, or they can write their own skit.

- D. Encourage students to perform a classroom dramatization of their writings.

Picture intentionally deleted.

Students from Janet Cohen’s sixth-grade class at Gold Trail Elementary School make a pencil holder from a plastic milk container.

DISCUSSION/QUESTIONS

- A. What do we gain by reusing materials (i.e., how do we benefit by reusing materials)? *Less trash ends up in the landfill; energy and natural resources are conserved.*
- B. What types of things do people throw away that can be reused? *Plastic containers, clothes, books, furniture, toys, games.*
- C. What types of things do you throw away that can be reused?
- D. Which action conserves natural resources more: reusing or recycling? Explain your answer. *Reusing, because when an item is reused, it does not need to be collected by a recycling company, and energy will not be needed to make a new product.*

APPLICATION

- A. Ask students to describe in their journals two things that they will do differently from now on, based on what they have learned in this lesson.
- B. Randomly distribute to students the pieces of paper on which students wrote (in Lesson 4) the name of a nonfood item that they recently discarded. Each student should have someone else’s paper. Ask students to read the item to the class and describe two ways that this item could be reused.

- C. Divide the class into seven groups.
- Assign a letter (A through G) to each group and give each group the corresponding section from “Ways to Reuse Items.” This list contains household items that can be reused in some way.
 - Ask students to write next to each item at least two ways the item can be reused.
 - Have students select two items from their lists and share their responses with the class.

Baskets—make gift baskets or use it to carry things in.
Boards and bricks—make a fort or a fence.
Cardboard tubes—make rain sticks or binoculars.
Clay—make ornaments or a toy.
Coat hanger—make a wind vane or mobile.
Clothes—give them to someone who needs them or if they are too old, make puppets or costumes out of them.
Egg carton—decorate the outside and use it to hold jewelry or a rock collection.
Yarn, string, or rope—use to tie a sleeping bag or to tie other things.

Submitted by Janet Cohen’s sixth-grade class, Gold Trail Elementary School, Gold Trail Union School District.

Homework Assignment: Ask students to select an item at home that will be thrown away. They should make something out of the item so that the item will be reused. Encourage students to bring their reused items to class or to write a description of the item.

Project Idea: Have students make toys out of reused materials to give to younger students.

EXTENSIONS

- A. Recycle Christmas trees.
- During January and February, prop a Christmas tree near a bird feeder to provide cover for birds during cold months. The tree should be positioned near the feeder, but not close enough for a cat or other predator to climb up to where birds are feeding.
 - Use branches from the tree as mulch for flower beds.
 - Collect needles and make art pieces.
 - Have students come up with additional

- ideas for reusing the entire tree or parts of a tree. Make sure that they take into consideration any fire hazards.
 - If pine cones are available, roll these in lard and then in birdseed. Hang the pine cones on the tree to provide food for woodpeckers.
- B. Collect the craft paper that is wrapped around reams of paper at your school or district office. Have students invent uses for these wrappers (e.g., make book covers, cover a bulletin board).
- C. Make lanterns.
- Fill coffee cans with water and freeze. (The ice will prevent cans from bending when holes are punched.)
 - Have students draw designs on paper; then tape the designs to the cans. Have an adult use a hammer and nails (varying sizes of nails can be used) to punch the design.
 - Remove the ice from the coffee can, or wait until it melts and pour the water out.
 - Glue or screw on a bottle cap in bottom of the can to hold a candle.
 - Bend a wire coat hanger to hang the lantern.
 - Provide fire safety information to students.
- D. Visit an art display that reuses discarded materials. Plan a similar class art display.
- E. Present the skits, “The Funnels” and “Jobs for Bags,” to another class or at a school assembly.

RESOURCES

Video

Reuse. Protecting Our Environment series. Chatsworth, Calif.: Pied Piper/ Aims Media, 1992 (13 minutes).

Shows how household items can be reused. Includes information on how to reuse yard trimmings, containers, and appliances. Also available in Spanish. For grades four through six.

Books

Ashley, Cynthia, and Sylvia Velazques. *Creative Reuse Extravaganza: A Festival of Games, Crafts, and Fun Using Discarded Materials.* Oakland: East

Bay Depot for Creative Reuse, Inc., 1996.

Provides descriptions of projects for students that allow them to use materials that are usually thrown into a garbage can.

Brackett, Karen, and Rosie Manley. *Beautiful Junk: Creative Classroom Uses for Recyclable Materials*. Columbus, Ohio: Fearon Teacher Aids, 1990.

Contains activities about recycling.

Harlow, Rosie, and Sally Morgan. *Garbage and Recycling*. Young Discoverers series. New York: Larousse Kingfisher Chambers, Inc., 1995.

Provides information about reusing, recycling, packaging, litter, and worms. Recom-

mends activities for students to learn more about the solid waste problem and how to help solve it.

Schwartz, Linda. *Likable Recyclables: Creative Ideas for Reusing Bags, Boxes, Cans, and Cartons*. Santa Barbara, Calif.: The Learning Works, Inc., 1992.

Shows ways to reuse bottles and cans.

Williams, Karen Lynn. *Galimoto*. Illustrated by Catherine Stock. New York: William Morrow & Company, Inc., 1990.

Describes the efforts of a boy who collects and trades for pieces of wire to make a toy.

THE FUNNELS

Note: The original script for “The Funnels” was written by teachers at the Foothill Horizons Teachers Retreat on April 18, 1997, sponsored by the San Joaquin County Office of Education. The following is an edited version.

Characters:

- Maria
- Bob, an older person
- Bill, a younger person
- Kathy
- Mark
- Leann
- Bruce
- John
- Kim

Props: Two funnels

Scene I

Maria walks out carrying two funnels. She tosses them into the trash can and sits down on a bench near the trash can.

Maria observes . . .

Scene II

Bob, an older person, and Bill, a younger person, walk up and stand next to the trash can. Bill says in a normal voice, “Why did the chicken cross the road on a bicycle again?”

Bob, holding a hand up to his ear replies, “Eh, what did you say?”

Bill repeats the question louder.

Bob, holding a hand up to his ear replies, “Huh, I can’t hear you.”

Bill reaches into the trash can and pulls out a funnel and hands it to Bob. Bob puts it up to his ear.

Bill says, “Why did the chicken cross the road on a bicycle again?”

Bob replies, “I don’t know. Why did the chicken cross the road on a bicycle again?”

Bill answers, “Because he wanted to RECYCLE.”

The two put the funnel in the trash can and walk off laughing.

Maria laughs.

Scene III

Kathy and Mark walk out laughing and dancing. They look in the garbage can and pull out the funnels. They each place a funnel on their heads and begin counting down, “Five, four, three, two, one—Happy New Year!” Then they take the funnels off their heads and turn them over and yell through them, “Happy New Year!” They put the funnels in the trash can and walk off.

Maria smiles.

Scene IV

Leann and Bruce walk out. Bruce is coughing. Leann reaches into the trash can and pulls out a funnel. Leann says, “You really need to take your medicine.” Then Leann holds the funnel up to Bruce’s mouth and pretends to pour medicine into it.

Bruce says, “Wow, my cough is gone. Thank you, Leann.”

Leann says, “You are welcome.” They put the funnel back in the trash can and walk off.

Maria is watching closely.

Scene V

John and Kim walk up and pick up the funnels. John holds the pointed ends up to his eyes like binoculars and looks all around as if looking at birds. He hands the funnels to Kim, who looks through them. Kim then places the funnels back in the trash can. Both walk off.

Maria then stands up and walks over to pick up the funnels. She looks them over and says, “Wow, these have so many uses. I didn’t need to throw them away!” She walks off admiring the funnels.

JOBS FOR BAGS¹

Characters:

- Employment Person with sign, “Employment Office”
- Group of protesters
- Protester 1, carrying a brown grocery bag containing a hat made from a brown paper bag
- Protester 2, carrying a brown grocery bag containing a mask made from a brown paper bag
- Protester 3, carrying a brown grocery bag containing a book cover made from a brown paper bag

The Employment Person walks out with a sign that says “Employment Office.”

A group of protesters walk out; three are carrying paper bags. All are yelling, “Jobs for bags! Jobs for bags!”

Protesters circle the Employment Person and then line up on both sides.

Employment Person: “Can I help you?”

Protester 1: “We are looking for jobs for paper bags.”

Employment Person: “I am sorry but we don’t have any jobs for bags.”

Protester 2: “But you must have something.”

Employment Person: “No, I just don’t have any jobs for bags. All bags can do is hold items, and we don’t have any requests for holding items.”

Protester 3: “But bags have so many other uses.”

All Protesters: “Yeah, bags have many uses.”

Protester 1 pulls out a paper hat from a brown grocery bag and places it on his or her head.

Protester 1: “See, I can be a hat.”

Employment Person: Well, actually we do have a job for a hat at the community garden.

Protester 2 pulls out a mask from a brown grocery bag and places it on his or her face.

Protester 2: “I can be a cool mask.”

Employment Person: A mask? Yes, the community theater is looking for a mask.

Protester 3 pulls out book cover from a brown grocery bag and pulls out a book cover.

Protester 3: “I can be a book cover.”

Employment Person (getting excited): “Great! Our local school needs book covers. They can hire at least ten of you.”

All protesters cheer.

Employment Person (asks the audience): “Do you know any other jobs that paper bags can do?”

¹Idea from “As the Bag Is Reused,” written by teachers at the Foothill Horizons Teachers Retreat, April 18, 1997, sponsored by the San Joaquin County Office of Education.

WAYS TO REUSE ITEMS

Names: _____

Group A

Listed below are items that can be reused in some way. Write next to the names of the items at least two ways the items can be reused.

- Aluminum pie tins _____

- Appliance boxes or crates (large) _____

- Baskets _____

- Bottle caps _____

- Buttons _____

Names: _____

Group B

Listed below are items that can be reused in some way. Write next to the names of the items at least two ways the items can be reused.

- Cardboard tubes _____

- Clothes (dresses, socks, costumes) _____

- Coat hangers _____

- Corks _____

- Cardboard _____

- Egg cartons _____

Names: _____

Group C

Listed below are items that can be reused in some way. Write next to the names of the items at least two ways the items can be reused.

- Electronic equipment scraps _____

- Envelopes and manila folders (used) _____

- Fabric scraps _____

- Games and puzzles _____

- Greeting cards _____

- Juice cans (small frozen type) _____

Names: _____

Group D

Listed below are items that can be reused in some way. Write next to the names of the items at least two ways the items can be reused.

- Kitchen utensils _____

- Magazines _____

- Maps _____

- Meat and produce polystyrene trays _____

- Nylon stockings _____

Names: _____

Group E

Listed below are items that can be reused in some way. Write next to the names of the items at least two ways the items can be reused.

- Toothbrushes (rinse in bleach first) _____

- Paper bags _____

- Plastic bags _____

- Pillows and cushions _____

- Plastic containers (margarine tubs, bleach bottles, squeeze bottles) _____

- Popsicle sticks _____

Names: _____

Group F

Listed below are items that can be reused in some way. Write next to the names of the items at least two ways the items can be reused.

- Ribbons _____

- Rubber bands _____

- Rug and carpet pieces _____

- Strawberry boxes and baskets _____

- Straws _____

Names: _____

Group G

Listed below are items that can be reused in some way. Write next to the names of the items at least two ways the items can be reused.

- Sturdy boxes _____

- Styrofoam packing material _____

- Wallpaper leftovers and wallpaper books _____

- Wire screen and chicken wire _____

- Wood scraps and pieces _____

- Yarn or string or rope _____

BACKGROUND INFORMATION FOR THE TEACHER

Reusing an item is more energy efficient and conserves more natural resources than recycling, because the item does not need to be shipped anywhere and remanufactured into another product. For example, if a family goes to the local co-op and buys bulk peanut butter, placing it in a glass jar they already have, one fewer glass jar is made, which saves the energy and materials needed to produce that glass jar. In addition, the family is reusing the glass jar they already had; therefore, that jar stays out of the waste stream, does not fill up the landfill, does not have to be collected by recycling crews, and does not use the energy it would have taken to remanufacture it into a new product.

There are dozens of other ways that common discards can be reused. An awareness of the possibilities, a gradual rejection of the “disposable” ethic, and persuasion of manufacturers to make fewer disposable and more reusable products are needed.

Many individuals and organizations have found creative ways to reuse items, such as refinishing

old doors for remodeling projects, using odds and ends in sculptures and stage sets, and manufacturing used sails into cloth bags and clothing. They also give, share, or trade items they no longer want with others who can use them.

The California Integrated Waste Management Board’s (CIWMB) CALMAX program allows businesses to exchange or purchase each other’s discarded materials. The CIWMB also sponsors a KidMAX program in which items are donated by individuals and businesses, which can be acquired by teachers. For more information visit the following websites:

www.ciwmb.ca.gov/calmax/ (CalMAX)

www.ciwmb.ca.gov/calmax/kidmax.htm (KidMAX)

Also see “Appendix B–II, Waste Prevention,” which includes a section on sources for free and lower cost reusable items.