

**Descriptive Title:** Reduce, Reuse, Recycle!

**Introduction:** Many of the products included in our catalog are made from recycled materials or are intended to help people live a greener lifestyle. In order to educate students about recycling and other ways to help protect our planet, this lesson expands students' knowledge about resource use and steps that they can take to live in an earth-friendly way.

**Learning Outcomes:**

Students will:

- Read picture books about recycling and protecting the earth
- Distinguish between recyclable and non-recyclable materials
- Identify ways that materials can be reused
- Identify strategies for protecting the earth and its resources

**Curriculum Alignment with the National Science Education Standards (K-4):**

This lesson addresses Content Standard F of the National Science Education Standards (K-4). A description of this content standard is given below. The National Science Education Standards can be accessed at [http://www.nap.edu/openbook.php?record\\_id=4962](http://www.nap.edu/openbook.php?record_id=4962).

**Science in Personal and Social Perspectives**

**Content Standard F:** As a result of activities in grades K-4, all students should develop understanding of personal health, characteristics and changes in populations, types of resources, changes in environments, science and technology in local challenges.

**Guide to the Content Standard:**

Types of Resources:

- Resources are things that we get from the living and nonliving environment to meet the needs and wants of a population.
- Some resources are basic materials, such as air, water, and soil; some are produced from basic resources, such as food, fuel, and building materials; and some resources are nonmaterial, such as quiet places, beauty, security, and safety.
- The supply of many resources is limited. If used, resources can be extended through recycling and decreased use.

Changes in Environments:

- Environments are the space, conditions, and factors that affect an individual's and a population's ability to survive and their quality of life.
- Changes in environments can be natural or influenced by humans. Some changes are good, some are bad, and some are neither good nor bad. Pollution is a change in the environment that can influence the health, survival, or activities of organisms, including humans.
- Some environmental changes occur slowly, and others occur rapidly. Students should understand the different consequences of changing environments in small increments over long periods as compared with changing environments in large increments over short periods

**Classroom Time Required:** 45 minutes-1 hour

## **Materials Needed:**

- Copies of picture books about recycling and the environment. Suggested titles include:
  - Brown, Laurie Krasny and Marc Brown. (1992). *Dinosaurs to the Rescue: A Guide to Protecting our Planet*. Boston, MA: Little, Brown, and Company.
  - Gibbons, Gail. (1992). *Recycle!: A Handbook for Kids*. Boston, MA: Little, Brown, and Company
  - Madden, Don. (1993) *Wartville Wizard*. New York, NY: Aladdin.
  - Showers, Paul. (1994). *Where Does the Garbage Go, Revised Edition*. New York, NY: Harper Collins.

## **Activities:**

1. **Introduction:** Print out copies of the Trash: True or False cards included with this lesson. Have one student hold up the True card and stand in one corner of the room. Have another student hold up the False card and stand in another corner of the room. Read each statement on the other cards aloud. Call on students to decide whether each statement is true or false and go stand with the card in the True or False corners of the room.
2. **Read Recycle!** By Gail Gibbons and/or more of the suggested picture books about recycling and protecting the earth.
3. **Recycling Sort:** Pass out Recycling Sorting Cards. Students may work individually, in pairs, or in small groups. Have students sort cards into two piles: recyclable materials and non-recyclable materials.
4. **Reduce, Reuse, Recycle Plus/Delta:** Have students brainstorm ways that they already do or could reduce, reuse, and recycle. Record answers on board. Have students brainstorm actions they could take to encourage others to reduce, reuse, and recycle. Record on board. On board or overhead, model your own Reduce, Reuse, Recycle Plus/Delta, showing students what you do already to reduce, reuse, and recycle and actions you could take to increase your own reduce/reuse/recycling behaviors or to encourage others to do so. Then, have students complete their own Plus/Delta. Allow students to share if they wish.

## **Assessment:**

1. Evaluate student sorts and Plus/Delta charts for evidence of student understanding.

## **Modifications:**

- This lesson may be broken down into three ten-minute mini-lessons by doing the Trash: True or False activity and reading Recycle! on the first day; conducting the sort on the second day; and ending with the Plus/Delta on the third day.
- To use this lesson in a learning station format, have the Trash: True or False cards available on a table for students to sort into True or False piles. Have a variety of recycling related books available for students to peruse. Have several copies of the sort activity for students to engage in. Have copies of the Plus/Delta available for students to complete.

## **Links to other Reduce/Reuse/Recycle lesson plans and resources:**

- Environmental Protection Agency: Teaching Resources: This website contains lesson plans about waste and recycling for students in grades K-12, as well as links to external sites with additional environmental lesson plans. This site can be accessed at <http://www.epa.gov/teachers/waste.htm>.
- Scholastic: Recycling Starts with You: This recycling education program for grades 3-5 contains turnkey recycling lesson plans and activities that address national language arts and mathematics standards, in addition to building student knowledge about recycling. The site can be accessed at <http://teacher.scholastic.com/lessonplans/recycling/>.
- Community Learning Network: Reduce, Reuse, Recycle Theme Page: This site is a compilation of recycling-related lesson plans on other sites. The site can be accessed at <http://www.cln.org/themes/recycle.html>.

### **About the Author:**

Hardin Engelhardt is a Reading and ESL specialist with 14 years of education experience in Maryland, California, and North Carolina. Her primary work has been at the middle school level. Ms. Engelhardt has NC credentials in Reading, ESL, and English-Language Arts. She has a Master of Arts in Education/Language, Literacy, and Culture from UC Berkeley. She is a Teach for America alum.

# Recycling Sort Cards

<b>Soda can</b>	<b>Notebook paper</b>	<b>Paper towels</b>	<b>Plastic grocery bag</b>
<b>Jelly jar</b>	<b>Plastic yogurt container</b>	<b>Cereal box</b>	<b>Underwear</b>
<b>Bicycle Carpe</b>	<b>t</b>	<b>Tires</b>	<b>Computers</b>
<b>Playground equipment</b>	<b>T-shirts</b>	<b>Light bulbs</b>	<b>Wax paper</b>
<b>Ink and toner cartridges</b>	<b>Juice boxes</b>	<b>Blankets</b>	<b>Plastic water bottles</b>

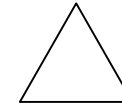
## Recycling Sort Answers

Recyclable	Non-recyclable
<p>Soda can</p> <p>Notebook paper</p> <p>Paper towels (without food residue)</p> <p>Plastic grocery bags</p> <p>Jelly jar</p> <p>Plastic yogurt container</p> <p>Cereal box</p> <p>Underwear</p> <p>Bicycles (some organizations repair used bicycles or build bicycles from old bicycle parts. Many of the parts of old bicycles are recyclable.)</p> <p>Carpet (some recycling centers accept carpet. Gently used carpet can be reused.)</p> <p>Tires</p> <p>Computers</p> <p>Ink and toner cartridges (Can be refilled or refurbished.)</p> <p>Juice boxes (Can be recycled, but very few places collect them and very little recyclable material is extracted.)</p> <p>Blankets</p> <p>Plastic water bottles (better yet, use a refillable bottle.)</p>	<p>Light bulbs</p> <p>Wax paper</p>

# Reduce, Reuse, Recycle Plus/Delta



List what you already do and plan to continue doing to reduce, reuse, and recycle and to encourage others to do so



List what you can do in the future to reduce, reuse, and recycle even more and to encourage others to reduce, reuse, and recycle

# Trash: True or False? Answer Key

TRUE: Cards 1, 2, 5, 8, 9

FALSE: Card 3 (1/3 of all trash thrown away in the US is packaging.)

Card 4 (It takes 1 million years for plastic to fully decompose.)

Card 6 (Glass can be recycled over and over again, forever.)

Card 7 (Between 500 billion and 1 trillion plastic bags are used worldwide each year.)

Card 10: (On average, it costs \$30 per ton to recycle trash, \$50 to send it to the landfill, and \$65 to \$75 to incinerate it.)

**TRUE**

**Trash: True or False? Cards**

**FALSE**

Americans throw  
away about 3.5  
pounds of garbage  
per person per day.

During the holiday season, Americans throw away 4 million tons of wrapping paper and shopping bags.

10% of all garbage  
in the United  
States is  
packaging.

It takes 1000 years  
for plastic to fully  
decompose.

Recycled paper can be made into paper towels, notebook paper, envelopes, copy paper and other paper products, as well as boxes, hydro-mulch, molded packaging, compost, and even kitty litter.

Glass can only  
be recycled one  
time.

Between 50 million  
and 100 million plastic  
grocery bags are used  
worldwide each year.

The average American uses 7 trees per year in paper, wood, and other products made from trees.

75% of our  
garbage is  
recyclable.

It is more expensive  
to recycle materials  
than to throw them  
away.