



# The Bigger Meaning of Recycling: Green Play Structures

Lindsay DeHartchuck

## INTRODUCTION

This lesson is designed to show students the bigger meaning of recycling by focusing on what is created from the process. Many commonly recycled materials such as tires, scrap metal, and cardboard are converted into materials used in the construction of green play structures.

## LESSON OVERVIEW

**Grade Level & Subject:** K-4; Science

**Length:** 50 minutes

### Differentiation:

- ✓ Ideal for children with special needs due to the learning domains addressed in this lesson. These activities are geared toward visual, kinesthetic, and tactile learners.

### Objectives:

After completing this lesson, students will be able to:

- Identify and describe the three R's of waste management: reduce, reuse, and recycle.
- Identify common objects can be recycled for green play structures.
- Identify ways to practice good waste management.

### National Standards Addressed:

This lesson addresses the following National Education Standards<sup>1</sup>

- **Content Standard: [NS.K-4.5 SCIENCE AND TECHNOLOGY](#)**  
As a result of activities in grades K-4, all students should develop
  - Abilities of technological design
  - Understanding about science and technology
  - Abilities to distinguish between natural objects and objects made by humans
- **Content Standard: [NS.K-4.6 PERSONAL AND SOCIAL PERSPECTIVES](#)**  
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

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<sup>1</sup> <http://www.education-world.com/standards/>

- Science and technology in local challenges

**Materials Needed:**

- Reproducible #1 – Examples of Commonly Recycled Materials/Examples of What Recycled Materials Become.
- Optional: teacher may want to gather actual materials as manipulative examples.

**Assessment:** Students will be assessed through the following activities:

- Ongoing comprehension monitoring throughout the activity.

## LESSON BACKGROUND

**Relevant Vocabulary:**

- **Reduce:** to make something smaller or use less, resulting in a smaller amount of waste.
- **Reuse:** to use an item more than once.
- **Recycle:** to process used materials into new products.
- **Sustainable:** able to be sustained for an indefinite period without damaging the environment, or without depleting a resource; renewable.

**Information:**

Green playground equipment is not just about a product that represents a lower carbon footprint; it is about the health and safety of the children who play on them. Green, or eco-friendly play structures are safe and healthy for children and they are made from materials that have had less impact on the environment than traditional play structures. Green play structures can be made from a myriad of materials, almost all of which are recycled or sustainably grown, harvested, or created. Recycled structural plastic, recovered or recycled lumber, old milk jugs or soda bottles, wood that is harvested responsibly from sustainable forests, scrap metal, recycled cardboard, used sneakers and old tires are some of the most popular materials.

**Resources:**

**Earth Day Network's Green Your School – Recreation Page:**

<http://earthday.net/greenschoolsrecreation>

**NIEHS Kids Page:** <http://kids.niehs.nih.gov/recycle.htm>

**EcoPlay Playgrounds:** <http://www.safeplaysystems.com/>

**Green Action:** [http://www.playworldsystems.com/green\\_action](http://www.playworldsystems.com/green_action)

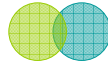
## LESSON STEPS

**Warm-up: *Favorite Equipment Share***

1. Begin this lesson by discussing playground equipment and recess with your class:
  - a) What is your favorite piece of equipment at recess? Why?
  - b) Note: Consider taking students outside for a “mini-recess,” and carrying out part or all of the lesson outdoors!
2. Lead students to wonder what materials are used to make playground equipment.

### Activity One: *The Three R's*

1. Begin this activity by writing 'Waste Management' in the center circle of a web diagram. Ask students what waste is. Ask students how they can improve waste management. *Answer: reduce-reuse-recycle.* Write these terms in adjacent circles to create the web.



Example:

2. Ask students to define these three terms in their own words.
  - a) What does it mean to reduce? How can you reduce waste?
  - b) What does it mean to reuse? How can you reuse waste?
  - c) What does it mean to recycle? What materials can you recycle?

### Activity Two: *It Becomes What?!*

1. Divide students into two groups. Give one group of students images of (or actual) commonly recycled materials (See Reproducible #1 – Examples of Commonly Recycled Materials). Give the other group of students images of playground structures or materials made from recycled materials (See Reproducible #1 – Examples of What Recycled Materials Become).
2. Ask students to see if they can determine which “before-and-after” images match. Have the “before” students find their corresponding “after” students and pair up.
3. Once the pairs have determined which materials are matches, ask them to share their results.

### Wrap Up: *Review*

1. Once all of the student pairs have shared their findings, ask students if there were any pairings they found to be surprising. Why were they surprising?
2. Review with students the ways in which they can reduce, reuse, and recycle.

### Extension Activity

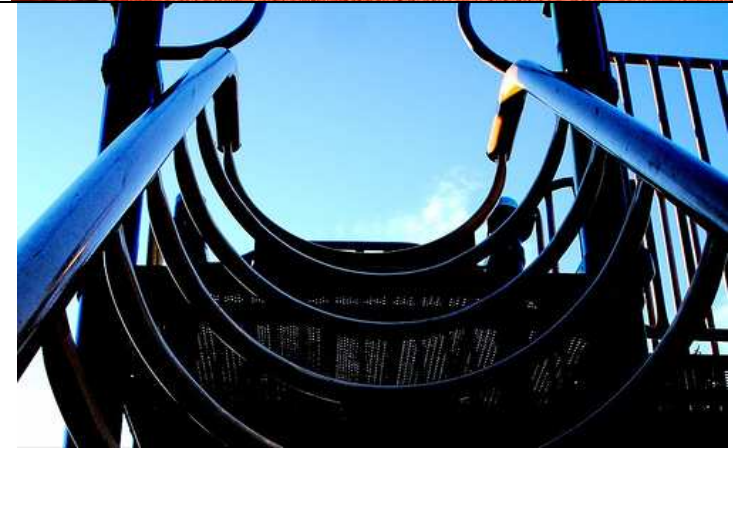
1. If your school does not currently have a recycling program, consider starting one. Students could be responsible for collecting recyclable material from each classroom.
2. Did you know that some companies make playground materials out of the rubber from old sneakers? Organize a Shoe Drive with your class and donate used shoes to one of these organizations. (Try: <http://www.nikereuseashoe.com/> or <http://www.soles4souls.org/donate/>). This is a great way to reuse beat-up shoes that may otherwise have been thrown away!

## CONCLUSION

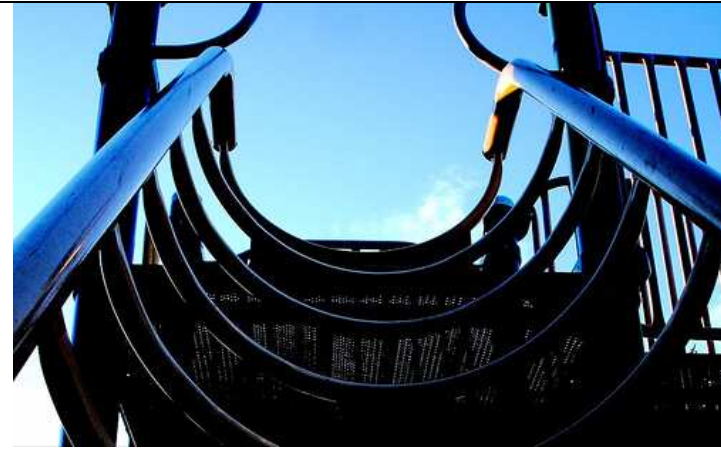
In this lesson, students learn about the waste management cycle: reduce, reuse, and recycle. This lesson also showed students the bigger meaning of recycling; student observed commonly recycled materials such as tires, scrap metal, and cardboard that can be converted into materials used in the construction of green play structures.



Earth Day Network  
1616 P Street NW, Suite 340 • Washington, DC 20036  
(P) 202-518-0044 • (F) 202-518-8794  
[www.earthday.net/education](http://www.earthday.net/education) • [education@earthday.net](mailto:education@earthday.net)



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