

# Reduce, Reuse, Recycle

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<b>Strand</b>	Earth Resources
<b>Topic</b>	Reduce, reuse, recycle
<b>Primary SOL</b>	1.8 The student will investigate and understand that natural resources are limited. Key concepts include c) recycling, reusing, and reducing consumption of natural resources.
<b>Related SOL</b>	1.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which b) observations are made from multiple positions to achieve a variety of perspectives and are repeated to ensure accuracy; c) objects or events are classified and arranged according to characteristics or properties; f) inferences are made and conclusions are drawn about familiar objects and events; i) observations and data are recorded, analyzed, and communicated orally and with simple graphs, pictures, written statements, and numbers; j) simple investigations and experiments are conducted to answer questions.

## Background Information

Earth's resources are limited. Conservation measures are ways these resources can be protected and preserved for later use. *Reducing* simply means to limit the amount of a product or resource one uses. *Reusing* is when a product is used, and then used again, in either the same way or in a new way. *Recycling* is a means of taking an item that has been used and through processing, turns that product into a new one. It is always good to try to reduce and reuse first, and if that cannot be done, then try to recycle.

## Materials

- Collection of items that can be reused, recycled, or the amount of them can be reduced (all items need to be thoroughly cleaned)
- Large black plastic garbage bag to put the collection of items in
- Items for the 3R crafts (These items can be requested from the parents. Items might include egg cartons, milk cartons, large plastic soda bottles, empty thread spools, empty coffee cans, etc.)
- Art supplies – the collection might include things such as paint, markers, glue, glue sticks, crayons, construction paper, scissors, string, pipe cleaners, etc.
- Earth's 3Rs sheet – one for each student
- Items for the Magazine Beads
  - Magazine pages (preferable full of pictures/colors)
  - Scissors

- Glue
- Ruler
- Pencil or fine point marker
- Toothpick
- Fine string, thread, or fishing line
- Extra craft beads for decoration (optional only)

### **Vocabulary**

*natural resources, reduce, reuse, recycle*

### **Student/Teacher Actions (what students and teachers should be doing to facilitate learning)**

#### *Introduction*

While this activity could be completed at any time of the year, a special week in the spring or day to celebrate Earth would be ideal.

1. Before this lesson, gather a collection of multiple items which we can use less of, or can be reused in some way, or can be recycled. Be sure to clean all the items. Items could include things such as plastic water bottles, old newspaper, old magazines, soda cans, old pencils, old broken crayons, old cell phones, milk jugs, milk cartons, cardboard, empty glass jars, etc.
2. Have the students sit in a circle. Bring out a large garbage bag filled with the items which you have collected and cleaned. Tell the students that you have a problem. You have too much trash and you need their help.
3. Dump the entire bag in the middle of the rug. Tell the students that you couldn't throw these things away at home so you brought them to school so that the students could help you decide what to do with them.
4. Let each student select one thing from the pile. Ask each of them to brainstorm about what you might do with the object they selected. Let students pick a partner next to them and discuss possibilities with them.
5. When the students have had enough time, go around the circle and let each student tell about what they have and what the possibilities might be for it. Encourage them to go beyond just recycling the item. Encourage them to offer multiple suggestions.
6. Bring in the terms: reduce, reuse, recycle. Talk about what each term means and how each term might apply to the item they selected.
7. For those items that can be recycled, have bins available for students to put the items in. (What you do NOT want to do, is at the end of this activity, put the items in the trash. That sends a message that reduce, reuse, recycle are just three words, not three actions.)

*Procedure 1*

8. Tell students that we are going to actually reuse some items. (You can ask parents to help supply the items needed for this activity.)
9. Bring out several items to reuse in art projects. Some examples might be:
  - a. Empty egg cartons – can be used to make caterpillars
  - b. Milk cartons – can be decorated and used to plant flowers in
  - c. Large plastic soda bottles – can be used to make sand art
  - d. Empty cans – pencil cans
  - e. Empty thread spools – can be painted and made into stringing beads
10. Do not tell students what they can make with each item. Let the students brainstorm what they might make.
11. Have multiple art supplies (e.g., paint, markers, colored paper, glue, glue sticks, string, pipe cleaners, etc.)
12. Once students have made a choice of what they would like to make, give them time to create their artwork.
13. Remind students that what they are doing is reusing items which is good for Earth.

*Procedure 2*

14. Let students work in small teams to create a play about reduce, reuse, recycle.
15. Have each team use various items from your collection or items they bring in to create a skit about reduce, reuse, recycle.
16. Give student teams at least two planning times to put their skit together, bring in anything they need for their skit, and practice their skit.
17. Have each team give their skit to the class.
18. At the end of each skit, be sure to ask questions that will allow the team to demonstrate that they understand reduce, reuse, recycle.

*Procedure 3*

This activity can be done as a way to make holiday gifts for parents, a Mother’s Day gift, or for the students themselves.

19. Students are going to make Magazine Bead Jewelry.

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- a. Measure a magazine page to cut strips in various widths (1/4, 1/2, and 3/4 inches).
- b. Cut strips from the magazine.
- c. Analyze the paper for pictures that would make great patterns. Starting with the opposite end of the picture, put a dab of glue on the outside (side to be rolled over).
- d. Roll the strip around the toothpick. The glue will hold the center together and the toothpick will allow room to string the beads together later.

- e. At the last 1/4 inch of the roll, put a dab of glue on the underside of the paper. This will keep the roll from coming apart.
- f. Remove toothpick and allow the bead to dry.
- g. Repeat with other strips.
- h. String the beads, alternating between round craft beads (optional) and long magazine beads, onto a piece of string, thread, or fishing line.
- i. Tie a knot to close, wear, and enjoy!

### **Assessment**

Pass out a copy of Earth's 3 Rs sheet to each student. Review the directions and assist students as necessary so that they can complete the sheet independently. Once complete, the papers may be bound into a class "Earth Savers" book to share.

- **Questions**
  - Why should we conserve Earth's natural resources?
  - How do recycling, reducing, and reusing materials help conserve our natural resources?
- **Journal/writing prompts**
  - Pretend you are an animal living in or near our playground. How would you feel about litter on the playground? What would you tell all those who left the litter behind?
  - Create an Earth Saver Super Hero. Design an outfit that represents Earth and also tell what "super" powers the hero displays. How would the hero use the superpowers to help Earth?
- **Other**

### **Extensions and Connections (for all students)**

- Create and conduct a survey to learn more about the recycling habits of other classrooms and of folks in the community. Use the survey to create an action plan to help improve recycling amounts.
- Take part in a Recycling Contest. Challenge other classes or schools to a contest to see who can recycle the most in a given time. Bring in math concepts by weighing and comparing amounts gathered. Donate the items to a worthy cause or take a field trip to the area landfill and their recycling area.
- Adopt a kindergarten buddy class. Share recycling tips with your buddy and review how to use the 3 R's in schools and communities.
- To demonstrate how nature recycles naturally, create a small worm container compost station. A large clear jar is ideal for students to observe worm behavior and the decomposition of materials. These stations can also be purchased but are easily created.
- Observe the effects of the weather on several littered items. How do water, wind and the weather affect each product? Compare items that have been collected from a common area and relay similarities to trash seen in nature.

**Strategies for Differentiation**

- In small groups, give students pictures and have them place them on the graphic organizer for reducing, recycling and reusing.
- Use computer assisted technology links in resources to review the 3 R's. Monitor and assist students as needed.
- Show a video of how paper is made and recycled.
- Have a representative from the recycle center visit the class and help them organize their school recycle efforts.

# The Earth's 3 Rs Sheet

Directions: Choose 3 items from the class collection. In the spaces below, tell how to REDUCE, REUSE, or RECYCLE each object.

<b>Draw Item Here</b>	<b>Will you reduce, reuse, or recycle the item?</b>	<b>How?</b>
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