

# RALLY AROUND RECYCLING!

## A RECYCLING PRIMER

[scholastic.com/teachers/article/rally-around-recycling](http://scholastic.com/teachers/article/rally-around-recycling)

TEACHER INSTRUCTIONS  
GRADES 4-5



### YOUR SCHOOL CAN PITCH IN!

Visit [rally.repreve.com](http://rally.repreve.com) to register and participate in the **Repreve Recycle Rally Competition!** You'll receive banners and other cool stuff to hang in your school; plus, the top three winning elementary schools will win tickets to **Marvel Universe Live!** and an assortment of products made with Repreve.

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### ? SO...WHAT IS RECYCLING?

Recycling is the act of processing used or waste materials in order to make them suitable to be used again, or used in a completely new way.

### ☰ IT OFTEN BOILS DOWN TO THE THREE R'S:

**Reduce:** Shop smart—buy durable goods, avoid disposable products, and buy only what you need.

**Reuse:** Donate your old clothes and books. Save and reuse your plastic bags. Get creative!

**Recycle:** Be sure to dispose of all recyclable materials properly, in recycling bins. Contribute even more by purchasing recycled products when possible and writing letters on recycled paper. It's easy!

### ✓ WHY IS IT IMPORTANT TO RECYCLE?

**It Saves Resources.** By recycling, used materials are converted into new products, reducing the need to consume natural resources.

**It Saves Energy.** By recycling, greenhouse gas emissions are reduced, which helps to tackle climate change.

**It Protects the Environment.** By recycling, we have now, and will continue to have, air, land, water, materials, and resources to protect human health and our environment.

**It Reduces Waste Sent to Landfills.** By recycling, recyclable materials are converted into new products and, as a result, the amount of waste sent to landfills is reduced.

### 👤 WHAT CAN I RECYCLE? WHAT CAN MY STUDENTS RECYCLE?

Good question! We have more chances to recycle now than ever.

**METALS!** Soda cans, empty food cans.

**GLASS!** Nowadays, there is at least 27 percent recycled glass in U.S.-produced bottles and jars.

**PLASTICS!** We're recycling more than 2 billion pounds of plastic yearly. Not bad, but let's do better: Plastic bottles, jugs, and takeout containers can all be recycled.

**PAPER!** More than 60 percent of the paper we use is recycled annually. Recycle those cardboard boxes you've got so that they can become cereal boxes, paper towels, writing paper, and more.

**BATTERIES, BULBS!** Recycling car batteries is as American as apple pie—they're the most recycled product in the United States. Make the switch to CFL bulbs, and check with your local authorities about how to properly recycle all of your batteries.

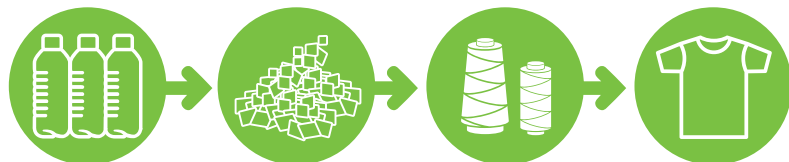
### WHAT CAN RECYCLED MATERIALS BECOME?

Recycling allows waste to be transformed into something entirely new. For example:

Recycled notebook paper → Tissues, toilet paper, napkins

Plastic bottles → Clothing fabric, sleeping bag insulation, carpet

Metal cans → Automobile parts, steel beams for bridges, appliances



PLASTIC BOTTLES

FLAKES

FIBER

CLOTHES & OTHER  
COOL STUFF

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# BOTTLE CAP BEAUTIFICATION

TEACHER INSTRUCTIONS  
GRADES 4-5

Use this program to have a Recycling Day and kick off the Repreve Recycle Rally Competition! During the week leading up to your Recycling Day, have your class collect two-liter plastic bottles (enough for one per student plus some extras).



**ESSENTIAL QUESTION:** How does recycling help ensure a sustainable future for our planet?



**TIME:** 2-3 class periods plus prep time



**WHAT YOU'LL NEED:** A large collection of bottle caps (depending on the size of the mural); plywood or large piece of sturdy cardboard that corresponds to the size of the mural; acrylic paint; brushes; cups for paint; glue; Student Worksheet C



**BEFORE CLASS BEGINS:** Over a period of two weeks, have your class collect plastic bottles and caps. Put collection buckets around the school as well so that you can gather as many as possible. Soak the caps in dish soap and water in batches until they are sufficiently clean.



## WHAT TO DO:

### Part 1: Transformation Demonstration

For this demonstration, you'll need 3-5 antacid tabs, a plastic bag filled  $\frac{3}{4}$  with water, and a tray to contain your experiment.

1. Place two antacid tabs in a bag of water. Seal the bag tightly and watch as the bag expands with gas until it pops.
2. Explain to students that sometimes when two or more substances are mixed together, or heat is added, a *transformation* occurs and a new substance is created. This is called a *chemical reaction*.
3. Hand out the student worksheet and split students into three groups. Group one will try to melt ice with their hands, group two will try with salt, and group three with warm tap water. Afterward, discuss the theme of *transformation*, an object's ability to change its form. Relate this to how recycling transforms old products into new ones (see student worksheet diagram). Create a list of natural resources that are used to make common materials such as aluminum for wood and trees for paper. Then discuss how reducing, reusing, and recycling helps to reduce our impact on the environment.

### Part 2: How to Create a Bottle Cap Mural

1. Tell your students that they will be making a mural of a garden. Have each student draw something from a garden, big enough to fill up an  $8\frac{1}{2} \times 11$  piece of paper (i.e., a flower, a butterfly, or a worm). Then have them cut out their drawings.
2. Choose a surface (a wall in one of your school's hallways, a piece of plywood, or a sturdy piece of cardboard). Tip: Coat the surface in white paint.
3. Have students paint grass and sky for the background.
4. Fill your garden! Separate the bottle caps into different colors—feel free to paint the caps yourselves.
5. Have students "color in" their individual drawings by gluing the flat sides of the bottle caps onto them.
6. Step back and enjoy! Discuss how this activity transformed what could have been waste into something new—just like how plastic bottles can also be turned into lots of other cool stuff. Use this lesson to introduce the **Repreve Recycle Rally** and get your students excited about collecting bottles!



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## EXTENDED LEARNING IDEAS:

- Pass around a four-pound bag or weight to show the average amount of garbage produced by the average person each day.
- Calculate how much waste that equals for an average classroom: Multiply this by the number of students in the classroom, the number of classrooms in the school, and the number of days in the year to see how quickly waste accumulates!

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Name: \_\_\_\_\_

# ICE INVESTIGATIONS

All matter can be transformed. Ice can become water; waste, such as plastic bottles, can be made into cool stuff!



PLASTIC BOTTLES



FLAKES



FIBER



CLOTHES & OTHER  
COOL STUFF

We are going to try to melt some ice using three methods: our hands, salt, and warm tap water.



## PREDICT:

Which group will be able to melt ice the fastest? Why?

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## HYPOTHESIS:

I predict the ice will melt fastest by

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## PROCEDURE:

Within your group, time how fast your ice melts using one of the methods above.

## METHOD:

Our group tried to melt the ice using

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## RESULT:

Our ice completely melted in \_\_\_\_\_ minutes.

## OBSERVATIONS:

*What did you see and hear?*

## CLASS CONCLUSION:

The ice that melted the fastest transformed into water in \_\_\_\_\_ minutes.

This is because \_\_\_\_\_  
\_\_\_\_\_



## PITCH IN!

Bring in as many plastic bottles as you can from \_\_\_\_\_ and help our school win prizes!