



How to Recycle

Objective

Students will be able to understand how the recycling process works, what materials they can recycle at their school, and how to recycle properly. Students will also be able to recognize which products can be made from recycled materials.

Grade levels

4, 5

Science TEKS

| Grade 4 | Grade 5 |
|---------|---------|
| 4.1B | 5.1B |

Prerequisites

1. Verify your school's recycling program; specifically, what materials are accepted and what rules to follow when recycling (such as separating materials).
2. If your school doesn't have a recycling program, download our [Texas School Recycling Guide](#) to help you get started.
3. Verify which Extensions to use for your class.
4. Print any of the Infographics and Worksheets that you need.

Materials

Worksheet (provided) - <https://www.tceq.texas.gov/assets/public/assistance/education/Recycle-Handout.pdf>

Extensions

- Take Care of Texas Recycling Resources to Reduce Waste - <http://takecareoftexas.org/hot-wire/recycling-resources-reduce-waste>
- Take Care of Texas How to Decode Your Plastic - <http://takecareoftexas.org/hot-wire/how-decode-your-plastic>
- Take Care of Texas Kids Can Recycle - <http://takecareoftexas.org/hot-wire/kids-can-recycle-0>
- Take Care of Texas - Texas School Recycling Guide - <http://takecareoftexas.org/sites/default/files/publications/GI-030.pdf>
- PBS LearningMedia SciGirls Recycling Video in English and Spanish (length 4:04) - <https://klru.pbslearningmedia.org/resource/9148ab28-e661-40a5-b087-3e6d1a3d82a9/going-green-04-research/en/#.Wjf2WOSWyM9>
- Texas Commission on Environmental Quality Recycling Infographic - <https://www.tceq.texas.gov/assets/public/assistance/education/Recycling-Infographic.png>

Note: Some of these extensions are from external sources and may not reflect the views of the TCEQ. Before using an extension, please verify that it is appropriate for your students.

Introduction

Recycling is the process of taking old materials to make something new. This process relies on you, the consumer, to throw recyclables into a recycling bin. After you throw recyclables into a recycling bin, someone picks them up and takes them to a recycling facility. There, they sort the recyclables so that all the same materials are together. The sorted materials are then taken to manufacturers who process it into new products. This recycling process can be less energy-intensive than obtaining “raw” materials from natural resources. Therefore, recycling conserves natural resources and energy, creates jobs, and reduces materials sent to landfills.

Key Terms, Vocabulary

- **Waste:** any unwanted, discarded, or abandoned material or product that is no longer needed or used for its intended purpose.
- **Recycle:** the collection and processing of materials that would otherwise be thrown away as trash and turning them into new products.
- **Single-stream recycling:** the gathering of a variety of materials in one collection stream in a single container. It requires no separation at the point of collection.

Procedure

1. Begin the lesson with a discussion—ask the students to explain what recycling is, what they think happens to the recyclables after they are thrown into a recycling bin, and why it’s important to recycle.
2. Use the Introduction and an Extension video to answer these questions and to show them how the recycling process works.
3. After the video, tell them that recycling programs sometimes accept different materials.
 - a. As an example, tell them what materials they can recycle at their school.
 - b. If desired, use the TCEQ Recycling Infographic as an example of the materials that are commonly accepted by local governments and waste haulers.
4. Inform them that recycling programs need their help by following a few rules when recycling. For example, they should empty all liquids from plastic bottles before recycling them.
 - a. If your school has any recycling rules to follow (such as separating recyclable materials), inform your students of these rules.
 - b. If desired, use the TCEQ Recycling Infographic to show them some materials that are normally not accepted along with common rules they should follow when recycling.
5. Divide the class into groups of 3-5 students and provide a worksheet for each group.
6. Tell them that they will work together to match the products in the word-bank to the recycled material, and this will show them how many different products you can make from one recycled item.
7. When ready, randomly ask students to provide an answer and explanation.
8. If necessary, quiz them to make sure they understand how recycling works, what materials are recyclable at their school, what rules they need to follow when recycling, and why recycling is good for the environment.
9. **Optional:** As homework, ask them to find out what materials they can recycle at home, and if there are any rules they must follow when recycling. The next day, students should report what they found to the class.

Answer Key

Note: Some of these products can fit into multiple categories. Students should know this so they understand that not everyone’s worksheet will look the same.

| Common recycled materials | Products made from recycled materials |
|----------------------------------|---|
| Aluminum Cans | Soda cans, airplane parts, siding for a house, chocolate bar wrapping, ready meal packages, rain gutters, window frames |
| Glass Containers | Glass bottles or jars, fiberglass, decorative tile, reflective beads on roadways |
| Junk Mail | Writing paper, bath and facial tissue, building insulation, cereal boxes, paper towels, paper plates |
| Plastics | Lawn furniture, plastic bottles, playground equipment, trash can liners, plant pots, park benches, clothing |
| Steel Food Cans | Bicycles, steel cans, construction beams, pipes, appliances, auto parts |