

## ENVIRONMENT

### Objectives

- Students will map their community to determine a need for a recycling program.
- Students will be encouraged to become responsible for the environmental impact of their choices.
- Students will examine how they can take responsibility for lessening their impact on the environment through recycling.
- Students will use their knowledge to educate others in their school, family, and community.

### Essential Questions for Students

- How do individual choices to recycle affect our community?
- What personal responsibility do individuals have to recycle?
- What responsibility do individuals have to advocate for recycling?

### Outcomes

- Students will realize their ability to impact the environment.
- Students will develop oral and written presentation skills such as supporting a point of view, clearly conveying ideas and information, and creating graphs to convey their findings.
- Students will develop their ability to conduct research.

### Common Core State Standards

#### *English Language Arts Standards, Writing, Grade 3*

- Text Types and Purposes: CCSS.ELA-Literacy.W.3.1 – Write opinion pieces on topics or texts, supporting a point of view with reasons.
- Text Types and Purposes: CCSS.ELA-Literacy.W.3.2 – Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

#### *Mathematics, Measurement & Data, Grade 3*

- Represent and Interpret Data: CCSS.Math.Content.3.MD.B.3 – Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.

### Community Connections

- Order educational materials from a local recycling facility. Be sure to invite the facility to send a speaker to the school.
- Visit a local recycling facility.
- Visit a local green business (a restaurant that uses local foods, a business that uses recycled materials or solar power, etc.).
- Check with local libraries to see if student work can be displayed for the community.

### Materials

- Book(s)
- Materials from recycling facility or website
- Trash items (Collect trash for students to sort. Ideas include items such as plastic bottles, toilet paper and paper towel tubes, newspapers, cereal boxes and bags, plastic grocery bags, milk cartons, food scraps, and paper towels—or use actual classroom trash.)
- Plastic gloves for students to use when sorting trash items



- Trash bags from school
- Scale
- Materials for building displays

### Vocabulary Terms

- **Environment** – The conditions that surround a person, animal, or thing. The circumstances surrounding an organism or group of organisms; especially the combination of external physical conditions that affect and influence growth, development, and survival.
- **Recycle** – To extract useful materials or substances from garbage or waste.
- **Sustainability** – The capacity to last or endure; for humankind, the potential for long-term maintenance of well-being, which in turn depends on the well-being of the natural world and the responsible use of natural resources. Sustainable agriculture, for example, provides what we need to live now without jeopardizing the potential for people to meet their needs in the future.

### Lessons

Students will collaborate to assess the trash produced in their school environment and advocate recycling.

### Building Knowledge (approximately one to two class periods)

- Read selected book(s) about the environment.
- Ask students key questions regarding recycling. If your school and community already participate in recycling programs, ask students what items can be recycled at school versus at home. If there are no local recycling programs, ask students what they believe recycling is and what could be recycled.
- Review educational materials on recycling with students.
- Trash demo: Have students break into groups and sort items into “Recyclable” versus “Trash” piles. After they sort the items, students should share their findings with the other groups in the class and in their journals.

### Building Compassion (approximately one to two class periods)

- Organize students into teams.
- Each team should estimate the number of trash cans in the school (and recycling bins if appropriate) and the weight of the trash thrown out each day.
- Send teams out to count all trash cans and recycling bins in the school.
- Have teams weigh some of the bags of trash (and recycling) in order to calculate approximately how many pounds of trash (and recycling) the school throws out each day.
- Have students estimate the amount of trash thrown out at the school each year. What about the entire school district?

### Taking Action (approximately two to four class periods)

- Students should select one recyclable item or category of items (paper, plastic, etc.) to research.
- Students will use their knowledge to build informational displays regarding recycling to be exhibited in the school or local community.
- Create a graph charting the data. Select a few days to have students go out and investigate the trash. Are people starting to recycle the targeted item? Weigh the trash again and create a graph showing progress. Encourage students to think about how much more or less trash each area/classroom is generating. Why do some areas generate more trash than others? As important, if the project does not seem to be effective, investigate why. What adjustments to their project could students make?
- Your Roots & Shoots project should end on a day when your students present their displays at an event with parents, teachers, your school principal, and members of the community. See the Communication Resources for



template letters to the community to invite them to attend your event, and media releases asking newspapers and television stations to cover it.

**Extension Activities**

- Host a “Recycling Night” and invite family and community members to view the students’ displays and learn about recycling.
- Advocate for a recycling center in your community if one does not exist.
- Create a classroom recycling program for food scraps using worm composting
- Develop a recycling program for your school.

**Journal Questions**

- As you go through the process of collecting and weighing trash, journal about your findings. How do you believe all this trash is affecting our environment? What ideas do you have for recycling the trash?
- In your opinion, why is it important that everyone participates in recycling activities? Why is it important for entire communities to recycle?
- If you wanted to convince other people to start recycling, what evidence would you use to persuade them?

**Accommodations/Modifications**

- Track the weight of trash from a single classroom over a few days.
- As a whole class, research one trash item and ways to recycle it.
- Allow numerous ways for students to present their findings.

**Additional Taking Action Activities**

- Organize a “Going Green” contest for the school. Have classes submit ideas on how to make the school more environmentally friendly. Find ways to implement the top three ideas.
- Start a school garden to help provide organic vegetables for student lunches or snacks. Both pizza and salsa gardens (cultivating herbs and other ingredients for those dishes) are fun to grow and grow well in containers.
- Host a “Worm Composting” night at school. Have fun working together to build composting bins for families to use at home. Families can bring their own supplies or locate a donor for the supplies. This could also be used as a school fundraising activity.
- Research a common food item from the school’s lunch menu and find out what it takes to get this item to the table. Discover how many miles it has to travel before it comes to your school, how long it takes to get to school, what chemicals are used in the process, and how much fossil fuel is used. Can you figure out what the food’s carbon footprint is? Once you have all the answers, find a way for your school lunch to make less of an environmental impact.
- Conduct a “water use audit” for your school and the school grounds. Look at where water is being wasted and what products or chemicals are being put into the water on a regular basis. Investigate ways your school can be less wasteful and more water-wise.
- Write your local representatives regarding environmental issues that are affecting you and your community.

**Family Connection**

- Send an informative letter or email outlining your project to students’ families.
- Have students develop “recycling pledges” for family members to sign.

