

LESSON 5: Ways to Conserve Natural Resources

LESSON'S CONCEPTS

- Reducing, reusing, and recycling materials help to conserve natural resources.
- The quality of the lives of future generations may depend on people's use of natural resources today.

PURPOSE

Students will identify ways to conserve natural resources in their classroom and will provide this information to others at school.

OVERVIEW

In this lesson students will:

- Write a letter from the viewpoint of a person living in the future, thanking this generation for conserving natural resources.
- Conduct a class meeting to obtain and select ideas to conserve natural resources in the classroom.
- Write an advertisement or design a poster to encourage people to conserve natural sources.
- Implement the plan they agreed on to conserve natural resources in the classroom.
- Identify some ways that natural resources can be conserved at the entire school.

CORRELATIONS TO CALIFORNIA'S CONTENT STANDARDS AND FRAMEWORKS

- Students write a letter from the viewpoint of a person living in the future, thanking this generation for conserving natural resources.
 - Students "write narratives [that] relate ideas, observations, or recollections of an event or experience [and] provide a context to enable the reader to imagine the world of the event or experience." (*English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve*, page 24)

- Students present and compare ideas for conserving natural resources in the classroom.
 - "All resources used by humans, including fuels, metals, and building materials, ultimately come from the Earth. Many of these resources are not in endless supply. They have taken many thousands and millions of years to develop and accumulate. They must be used with care, conserved, and recycled." (*Science Framework*, page 97)
 - "Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation." (*English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve*, page 26)
- Students discuss how the plan selected to conserve natural resources in the classroom reflects our values and assumptions.
 - "Students deliver brief recitations and oral presentations about familiar experiences or interests that are organized around a coherent thesis statement." (*English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve*, page 27)
 - "To understand why individuals and groups acted as they did, we must see what values and assumptions they held, what they honored, what they sought, and what they feared." (*History–Social Science Framework*, page 13)

- Students discuss the meaning of the story, *Why the Sky Is Far Away*, retold by Joan-Mary Gerson that they hear or read.
 - Students “identify structural patterns found in informational text (e.g., compare and contrast, cause and effect, sequential or chronological order, proposition and support) to strengthen comprehension.” (*English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve*, page 22)

SCIENTIFIC THINKING PROCESSES

observing, communicating, comparing, relating, applying

TIME

15 minutes to prepare for the lesson; 90 minutes to implement the lesson

VOCABULARY

conservation

PREPARATION

— Read the “Background Information for the Teacher” on page 308.

MATERIALS

- The book, *Why the Sky Is Far Away*, retold by Joan-Mary Gerson
- Art materials for posters

PRE-ACTIVITY QUESTIONS

- Write the following statement on the chalkboard: “The lives of future generations depend on people’s use of natural resources today.” Discuss with students what that statement means.
- Ask students to write a letter from the viewpoint of a person living in the future (e.g., in the year 2100), thanking this generation for conserving natural resources. In the letter students should describe what types of things the person living in the future gets to do, because all natural resources are available. Tell students to be specific on what actions this generation took to make sure that future generations had plenty of natural resources for their lives. They should also include how their actions helped to preserve habitat for plants and wildlife.

Note: For younger students, you might wish to write this letter together.

PROCEDURE

- Read to students *Why the Sky Is Far Away*, retold by Joan-Mary Gerson (or have each student read a section as the book is passed from student to student or have students read the book in pairs at a reading center). Students can write or discuss in pairs,

Dear people of the past,
 We all are very thankful for all the recycling and reusing that you have done. If you didn't, we would not have such a happy 'life in the year 2098, so we thank you for leaving us the lovely planet Earth. We have invented new way of recycling. These days more people are reusing and recycling and don't pollute. When we want to have fun we go outside and watch wildlife.
 Sincerely,
 your friends from the
 year 2098

Submitted by Ed Malaret, fifth-grade teacher, Marguerite Hahn Elementary School, Cotati–Rohnert Park Unified School District.

groups, or as a class the answers to the following questions:

- What is the chronological order of events in this story? *People first got food whenever they wanted it without doing any work. They celebrated and danced and began wasting food. Then they no longer had food in the sky to eat whenever they wanted to; they had to work for their food by planting and harvesting crops.*
- What was the cause and effect in this story? *People got greedy and wasted food. Now they have to work for their food by planting and harvesting crops. This will probably keep them from wasting food.*
- What is the meaning of the story? *It tells us the importance of appreciating and caring for what we have; not to be greedy or lazy or to waste food.*

- How does this story apply to people's use of natural resources? *If we appreciate and conserve natural resources, we should have the resources we need to live, and future generations will also have resources to use.*
- B.** Discuss with students:
- How are we already conserving natural resources in the classroom? *We have a box for used paper so we can reuse it, and we have a box for aluminum cans to be recycled.*
 - How are we not conserving natural resources in the classroom? *We still have a lot of waste that ends up in our trash can.*
- C.** Tell students that they will work with partners or in groups of three to come up with a plan on what else can be done in the classroom to conserve natural resources.

1. As a class, make a list of parts and guidelines that each plan should contain. For example the plan should:
 - Be easy to follow.
 - Indicate who will be responsible for making the plan happen.
 - Describe what should be done if the people responsible for making the plan happen will not or cannot do it.
 - Describe what natural resources will be conserved.
 - Support why you think this plan is the best idea.

Note: For younger students consider developing a plan as a class.

2. Ask students to meet in pairs or groups of three. Allow about 15 to 20 minutes for students to work on their plans. Then have each group present its plan to the class.
3. After all groups have made presentations, students can support their favorite plan by describing their reasons to the class. Then the class can decide which plan or a combination of plans to implement.
4. A month later, discuss with the students whether the plan is working and have them recommend adjustments to the plan, if needed.

Class Recycling Plan

First, someone in the class should find out if there is a recycling center close by and ask if they accept white paper, colored paper, plastic bottles, and aluminum. Next, have students label and decorate a box for white paper, a box for colored paper, a pail for plastic bottles, and a pail for aluminum. One student each day can check that things were put in the right box or pail. Once a week the teacher or someone's parent can pick up the stuff and take it to the recycling center.

Submitted by Janet Cohen, sixth-grade teacher, Gold Trail Elementary School, Gold Trail Union School District.

DISCUSSION/QUESTIONS

- Why are natural resources valuable? *We depend on them to live; we use them for things we need and want; other living things need them to survive.*
- Why is conserving natural resources important? *It saves natural resources for future generations; it keeps more natural areas from being mined or forests from being overcut; it keeps natural resources from ending up in a landfill.*
- How does the plan that the class selected to conserve natural resources in the classroom reflect our values? *We value natural resources because we have learned how important they are to our lives.*
- How can you conserve natural resources at home? *Reduce, reuse, recycle. If you buy less, you are conserving resources; if you reuse or recycle, you are extending the life cycle of the object and therefore conserving natural resources.*
- Where do we see natural resources being wasted? *At home and at school and in the community, when people throw things away that can be reused or recycled, and when people buy things they don't really need and then throw them into the trash can.*
- Where might waste be generated at school? *In the classroom, in the offices, in the cafeteria, on the school grounds. Where do we see natural resources being wasted at school? Do we want to do anything about it? Why or why not?*

APPLICATION

- A. Ask students to write an advertisement or design a poster to encourage people to conserve all natural resources or a specific natural resource.

Homework Assignment: Ask students to write about the following: What would your life be like if you and everyone else always reduced, reused, and recycled materials? For extra credit, describe what your community would be like if everyone reduced, reused, and recycled materials.

- B. Have students share in groups their homework assignments.
- C. Ask students to relate their plan to conserve natural resources in the classroom to ways natural resources can be conserved in the entire school.
- D. Discuss with students what else can be done to conserve natural resources, other than reducing, reusing, and recycling. For example, buy recycled items. (This topic is addressed in the 4–6 Module, Unit 2, Lesson 8.)

Project Idea: Develop and implement a plan to reduce waste at school.

EXTENSION

Have students look at the time line “History of Waste Management” (see “Appendix B–I”). Ask students to write a future time line, including changes in the wasteful use of natural resources and in the reduction of trash.

RESOURCES

Videos

Get Busy: How Kids Can Save the Planet.

Pleasantville, N.Y.: Sunburst/Wings for Learning, 1992 (30 minutes).

Gives practical suggestions for improving the environment. Shows students taking part in reducing pollution and cleaning up their environment.

Reducing, Reusing, and Recycling. Environmental Science series. Northbrook, Ill.: Film Ideas, Inc., 1990 (20 minutes).

Focuses on the problems created by solid waste and offers ways to help alleviate these problems.

You Can Make a Difference. Washington, D.C.: The Discovery Channel and the National Wildlife Federation, 1990 (25 minutes). Available from the National Wildlife Federation.

Addresses ways to cut waste, reduce the use of toxic chemicals, conserve energy, save water, clean the air, and protect endangered species and wildlife habitat.

Books

Kid Heroes of the Environment. Edited by Catherine Dee. Berkeley: Earth Works Press, Inc., 1991.

Describes what individual students are doing nationwide to help improve the environment.

Why the Sky Is Far Away. Retold by Mary-Joan Gerson. Illustrated by Carla Golembe. New York: Little, Brown and Company, 1992.

A tale from Nigeria about the importance of respecting nature’s gifts.

Websites

For ideas for projects, activities, and awards, see “Appendix F–I, Awards and Activities websites.”

BACKGROUND INFORMATION FOR THE TEACHER

To conserve natural resources is to protect or use them knowledgeably without wasting them or using them up completely. Conserving natural resources can make them last and be available for future generations.

Natural resources can be made to last longer in the following ways:

- Having people reduce the number of things they buy and use whenever possible
- Having people reuse items as much as possible

- Having people buy things in reusable or recyclable containers
- Using recycled materials rather than raw materials in the manufacturing process whenever possible
- Having people buy products made from recycled materials