

Making Something out of Almost Nothing: Recycling in Mexico

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Oregon
Millicoma Intermediate School, Grades 5 and 6
ELL students with intermediate language proficiency
Seven 30-minute units**

In the United States, we tend to take recycling activities for granted. In Oregon, citizens are paid five cents per item to recycle soda cans and plastic bottles. There are machines to put these items in or you can turn them in to grocery stores for a refund. Every city must have a recycling component through their sanitation company to recycle cardboard, plastic, and glass. But what about a country that generates thousands of tons of trash each year and has no place to put it? Is anyone doing something about this problem in Mexico?

Students will be introduced to the topic by viewing two PowerPoint presentations. The first is about the efforts of *Mujeres Reciclando* (Women Who Recycle), who are earning extra money by going through the garbage in the village of Tlapanalá, Puebla and finding items to sell to recyclers. The second focuses on *Taller Leñateros*, a paper-making cooperative in San Cristóbal de las Casas, Chiapas. They will see the equipment, organic materials, and people responsible for producing high quality, one-of-a-kind paper and paper products such as children's books, journals, and award-winning literature publications.

After viewing these presentations, students will discuss how recycling efforts are different in each country. What do the students already know about how we recycle—what kinds of items can be recycled; where are they taken; what happens to them after you put them into the recycling bins? Are there ways to do your own recycling at home or at school to reduce the waste stream, such as making items to use as gifts or to sell?

For the English Language Learner (ELL), there are four domains which must be addressed in every curriculum unit: listening, speaking, reading, and writing. The students will be listening to oral presentations and asking questions about the information, reading and following directions on how to perform a task (how to make paper), and writing a paragraph describing their project. For the purposes of these lessons, I will be focusing on students at an intermediate proficiency level in grades 5 and 6.

ESTABLISHED GOALS

Oregon Department of Education Standards

SPEAKING

- **Develop a focus and point of view that are appropriate to audience and purpose.**
Proficiency Level: Intermediate
Participates in conversations with peers and adults on familiar topics by asking and answering questions and soliciting information.
- **Organize information to clarify and support spoken ideas with evidence and examples.**
Proficiency Level: Intermediate
Identifies main idea and supporting examples of spoken informational report.
- **Use descriptive words that clearly convey the message and establish the tone.**
Proficiency level: Intermediate
Applies knowledge of content-related vocabulary with appropriate definitions or illustrative examples.
- **Use correct grammar consistently.**
Understands when speaking, using consistent standard English grammatical forms and sounds; however, some rules may not be in evidence (e.g., third person singular, male and female pronouns).

LISTENING

- **Ask relevant questions that seek information not already discussed.**
Proficiency Level: Intermediate
Asks and answers questions that seek information about everyday and familiar interactions using simple sentences.
- **Make inferences or draw conclusions based on an oral report.**
Proficiency level: Intermediate
Lists main points based on brief oral reports.

READING

- **Read textbooks, biographical sketches, letters, diaries, directions, procedures, magazines, news stories and almanacs.**
Proficiency level: Intermediate
Reads above materials supported by illustrations and teacher developed guides that support text.

- **Use the features of informational texts, such as formats, graphics, diagrams, illustrations, charts, maps, and organizational devices to find information and support understanding.**
Proficiency level: Intermediate
 Reads and identifies text features such as titles, table of contents, and chapter headings to find information.
- **Follow multiple-step directions (e.g., for completing an experiment or an activity or for using a product).**
Proficiency level: Intermediate
 Follows some multi-step directions for classroom-related activities with teacher support.
- **Recognize and/or summarize sequence of events and main ideas presented in informational texts, identifying evidence that supports those ideas.**
Proficiency level: Intermediate
 Reads and uses detailed sentences to identify or summarize sequence of events and main ideas of informational text and provides supporting details.

WRITING

- **Use a variety of strategies to prepare for writing such as brainstorming, making lists, mapping, outlining grouping related ideas, using graphic organizers and taking notes.**
Proficiency level: Intermediate
 Groups related ideas for writing in context.
- **Use the writing process—prewriting, drafting, revising, editing, and publishing successive versions.**
Proficiency level: Intermediate
 Revises writing in small groups and pairs.

UNDERSTANDINGS

As a result of this unit, students will understand that recycling is an important component in society today, whether it is here or in Mexico. The way it is handled varies from country to country and from region to region within countries, but everyone can do their part to reduce, reuse, and recycle.

At the end of this unit, students will understand how paper is made by using recycled materials to create their own original paper using organic materials of their choice. They will learn that not everything has to be bought ready-made in a store and that it is indeed possible to make something out of (almost) nothing. By observing the efforts of those in Mexico who are earning extra income by selling

both raw items for recycling, as well as making items for resale, they will develop an appreciation for what it means to use a natural resource over and over.

ASSESSMENT EVIDENCE

After viewing and discussing the PowerPoint presentations, students will follow directions for making a piece of hand-made paper using an organic material chosen from a list provided by the teacher. They will attach to the paper a paragraph written by them about what they have learned about recycling. These papers will be matted and hung on a bulletin board in the main hall for public viewing, along with photographs of students performing the tasks associated with the paper making process.

LEARNING PLAN

In addition to the paper making project, students will go on a field trip to the local recycling plant to see how items are sorted and prepared for reuse. They will also explore other projects that can be done using recycled items. A list of Web sites with projects—such as how to make purses and backpacks out of plastic bags, Capri Sun boxes, and candy wrappers—will be included. The class will also develop a plan for how to make money for a desired activity by recycling soda cans, making objects to sell at a craft fair, or performing recycling services within their community.

Lesson Plan—Day 1

Content Objectives

Student Will Be Able To (SWBAT):

- Participate in an oral discussion of what it means to “reduce, reuse, recycle.”
- Use the words in written form by developing a graphic that represents the concept.

Language Objective

SWBAT define what the prefix “re” means and make a list of other words that use this prefix to mean “to do again.”

Activity

In preparation for this unit, students and teacher will have a discussion about what it means to “reduce, reuse, recycle.” Posters displaying this theme will be displayed throughout the classroom. Students will be asked to come up with their own version of what the concept means. Graphics will be displayed on a classroom bulletin board. A discussion will take place of what a prefix is and what the prefix “re” usually means in English. Students will make a list of words they already know that use this prefix. Teacher will assist students in adding to the list.

Lesson Plan—Day 2

Activity

Using the same content and language objectives as Day 1, the following materials will be used to initiate discussion of the importance of recycling.

Chris Jordan is a Seattle-based photographer who shows the “immense scale of our consumerism” by combining staggering statistics with dramatic images. Each image portrays a specific quantity, such as two million plastic beverage bottles, or 426,000 cell phones. His Web site (<http://www.chrisjordan.com>) contains pictures of his work that can be used to introduce this unit.

While clicking on the images, you can ask the students the following questions:

What do you think this is a picture of?

How many things do you think are represented?

How long does it take to use these things up?

What do you think the photographer is trying to tell us with these pictures?

In what ways can we change our own environment to prevent such waste?

Lesson Plan—Day 3

Content Objective

SWBAT understand that resources for recycling in Mexico and the United States are different, although the intent is the same.

Language Objectives

SWBAT:

- Read aloud the text that accompanies the PowerPoint presentation on recycling in the village of Tlapanalá in Puebla, Mexico.
- Orally describe what they see in the pictures.
- Make a list of words that describe what they see.

Activity

Students will view a PowerPoint presentation on recycling efforts in the village of Tlapanalá, Puebla, Mexico (available for download from this Web site: <http://lanic.utexas.edu/project/etext/llilas/outreach/fulbright10/>). This is a village where there is a very high level of poverty due to limited natural resources and the fact that most of the men in the village have gone to the United States to seek work. The women of the village have formed a group called *Mujeres Reciclando* and are working to clean up the village and earn extra income by recycling. They collect items from throughout the village that can be recycled and store them in their back yards. Once every three months, a truck comes from the nearby city of Puebla to buy what they have gathered. This includes cardboard, plastic, and glass.

The students will read the text of the PowerPoint presentation aloud and describe what they see in the pictures. They will also make a list of words that describe what they see.

Lesson Plan—Day 4

Activity

After reviewing the lesson from Day 3, students will share their prior knowledge about recycling in the United States. The following prompts will help guide the discussion:

What are some of the things we can recycle?

Why should we recycle them?

How do we recycle? Do we take things to a recycling center or put them out for the sanitation people to pick up?

Can you get money for recycled goods? How much money can you get and how do you get paid?

What happens to the items that are recycled? Are they made into similar items or do they become something different?

Field Trip Option

After determining what recycling resources are available in your community, you may wish to plan a field trip to a recycling center to see how things are sorted and packaged. Ask the plant manager for a tour of the facility and for a discussion of where things go and what they are used for once they leave the plant. Gather items that have been made from recycled materials and have them on display in the classroom.

Lesson Plan—Day 5

Content Objectives

SWBAT:

- Understand the importance of paper in daily life.
- Discover how paper is made.
- Understand that paper can be made of almost any organic material.

Language Objectives

SWBAT:

- Make a list of materials necessary to make paper.
- Orally discuss the uses of paper in society.
- Listen to reasons why it is important to recycle paper

Activity

Students will view a PowerPoint presentation showing the process of paper making in *Taller Leñateros*, a paper making shop in San Cristóbal de las Casas, Chiapas, Mexico (available for download from this Web site: <http://lanic.utexas.edu/project/etext/llilas/outreach/fulbright10/>). This is a publishing collective founded by poet Ambar Past in 1975 which has created the first books to be written, illustrated, printed, and bound (in handmade paper) by Mayan people in over 400 years. The Leñateros' rescue of old and endangered techniques, such as the extraction of dyes from wild plants, contributes to the conservation of Native American languages and benefits the ecology by recycling agricultural and industrial wastes and transforming them into art and beautiful books.

Lesson Plan—Day 6

Activity

After reviewing the previous day's lesson, students will be introduced to the *Taller Leñateros* Web site (<http://www.tallerlenateros.com>) to learn more about the organization. This site is available in both Spanish and English if there are bilingual students in the classroom. This is a good opportunity for them to share their language skills in both languages.

Lesson Plan—Day 7

Activity

Paper Making

The following Web sites are excellent sources of how to make paper with your class. The instructions are easy to follow and even have videos that show the step-by-step process with students of this age group.

How to Make Paper, WikiHow: <http://www.wikihow.com/Make-Paper> (with video)

Making Handmade Paper in 10 Easy Steps, Pioneer Thinking:
<http://www.pioneerthinking.com/makingpaper.html>

How to Make Paper – An Illustrated Step-by-Step Guide, Hub Pages:
<http://hubpages.com/hub/How-to-Make-Paper---An-Illustrated-Step-by-Step-Guide> (videos, including fourth graders making paper)