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# South American Landfill

## Geographic Background Information

The world has a growing trash problem. Each day, the average American throws away about 4.5 pounds (2 kg) of garbage. America is not even the largest trash producer in the world. Families in Mexico throw away 30 percent more trash than Americans. Most of this trash gets taken to areas outside of towns and cities. It is dumped into big piles called *landfills*. Most landfills are built where harmful liquids cannot seep into groundwater. A hole is dug in the ground and lined with special material. This material keeps chemicals from polluting the soil. This photograph shows a large waste site in South America. In recent years, landfills have become more common in South America.



## Analyzing Geography

### Remembering

List 10 adjectives that describe this photograph.

### Understanding

Explain why waste disposal is an environmental issue.

### Applying

Why do you think this site was chosen for a landfill? List three possible reasons.

### Analyzing

Make two lists. On one list, name the positive facts about landfills. On the other, name the negative facts.

### Evaluating

In recent years, landfills have become more common in South America. Explain why it is better for this city to use a landfill than not to use a landfill.

### Creating

How could your family help the world's trash problem? Develop a plan to reduce the amount of garbage you send to the landfill.

## Geographic Writing

### Fiction

Scientists who study the past get excited about old garbage dumps. That is because trash contains clues about people's lives. Write a science fiction story about a scientist in the year 3000. Imagine that he or she uncovers the landfill that was in your neighborhood.

### Nonfiction

Find out what materials can be recycled in your community. Then, research other materials that cannot be recycled. Examine the reasons local recycling facilities do not accept these materials. Then, create a guide to local recycling. Your guide should be informative and include pictures, statistics, and a local map showing recycling centers in your area.

## Geography Challenge

Research the Great Pacific Garbage Patch, also called the Pacific Trash Vortex. Find out what it is, where it is, and how it formed. Present your findings in the form of a newspaper column. Include a catchy headline and photographs.

# Resources

## Standard/Objective

- Students will know and understand why people have different viewpoints regarding resource use. (National Geography Standard 16.2)
- Students will examine the impact of waste disposal on the environment.

## Materials

Copies of both sides of the *South American Landfill* photograph card; Copies of the geographic background information (page 30); Copy of the *World Map* (worldmap.jpg), available on the CD

## Discussion Questions

- What is the place pictured in the photograph?
- What is the physical environment like in this place?
- What would it be like to stand on this hillside?

## Using the Primary Source

Distribute copies of both sides of the *South American Landfill* photograph card to students. Have students study the photograph closely. Ask the discussion questions listed above. Have students examine the environment in the photograph. Ask them to describe the climate using clues from the image, including the vegetation surrounding the landfill. Then, ask them if this would be a good place to build a town instead of a landfill. Have them explain their answers.

Discuss with the class why people need such waste-disposal sites. Ask what items they throw away and why. Trace where trash in their community goes. Discuss recycling with the class and ask what provisions your community has for recycling. Have the class list items that are accepted for recycling. Discuss other materials that might be recycled.

Distribute copies of the geographic background information (page 30) and read it aloud to the class. Then, display the *World Map* (worldmap.jpg) for the class. Have a student volunteer locate South America.

As a final activity, have students read the geographic background information on the back of the photograph card. Then, assign various activities from the card for students to complete.

## Extension Idea

Provide a street map of your town or city and ask students where they would locate a new landfill. Have them prepare a speech with a visual aid to present their proposed site. Remind students that the local community will not be pleased about the new landfill so they will need to propose a strong argument for the proposed change.

# Resources (cont.)

## Geographic Background Information

Each day, the average American throws away about 4.5 pounds (2 kg) of garbage. Add to that the trash produced by businesses and factories. In one year, America's garbage could fill a line of trash trucks halfway to the moon. And America is not even the largest trash producer in the world! Families in Mexico throw away 30 percent more trash than Americans do.

Most of the trash is packaging from food and other goods. Diapers, plastic bags, and paper also add to the trash problem. Moreover, Americans throw away 2.5 million plastic bottles every hour!

Most of this trash gets taken to areas outside of towns and cities. It is dumped into big piles called *landfills*. Most landfills are built where harmful liquids cannot seep into groundwater. A hole is dug in the ground and lined with special material. This material keeps chemicals from polluting the soil. When the hole is full of trash, dirt is spread over the top. Grass is planted on the hill. Some old landfills have been made into parks.

The photograph of the South American landfill shows a large waste site. In recent years, landfills have become more common in South America. All major cities on that continent now have landfills. Many of these landfills do not have linings to stop chemicals from seeping into the soil and water.

Another way to get rid of trash is to burn it. Burning trash can make dangerous fumes and ash. *Incinerators* are machines used to burn trash. Today, they are built to keep the air clean. Some towns even burn trash to make electricity.

In some places, the ocean is used as a garbage dump. At one time, 14 billion pounds of trash was dumped into the ocean each year. Ocean dumping greatly damages ecosystems. Trash pollutes the water and washes up on beaches. This is very dangerous. Some countries have made it illegal to dump chemicals into the oceans. But other countries continue to use the ocean as a dump.

Most people do not want to live near landfills or incinerators. They smell and are noisy. Residents often protest plans to build these facilities in their neighborhoods. It is not easy to find places to dispose of garbage.

That is why it is important for people to make less trash. Many communities are trying to get people to reduce, reuse, and recycle. They ask people to buy things that have less packaging. People can use items like grocery bags or glass jars over and over again instead of throwing them away. Many materials can be recycled or made into new products. All of these practices help the world's growing trash problem.

