



Earth's Resources and the Message from the "Lorax"

Grade Levels: 4-9

Guiding Question:

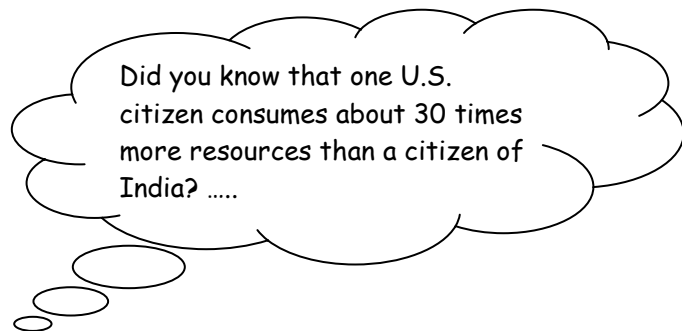
How do humans impact the environment of planet Earth?

Objectives

The student will:

- know that the limited supply of usable energy sources (e.g. fuels, such as coal or oil) places great significance on the development of renewable energy sources. (SC.B.2.2.3)
- know that reusing, recycling, and reducing the use of natural resources improves and protects the quality of life. (SC.D.2.2.1)
- recognize the costs and risks to society and the environment posed by the use of nonrenewable energy. (SC.B.2.2.2)
- understand that people, alone or in groups, invent new tools to solve problems and do work that affects aspects of life outside of science. (SC.H.3.2.1)

The Story of the "Lorax"





The story of the “Lorax” is a Dr. Seuss classic with a message for all humans on planet Earth. In this lesson, you will view the videotape and learn about Earth’s natural resources, conservation of these resources, and pollution.

The story begins back when the land was beautiful, and colorful Truffula trees grew everywhere. Then the Once-ler came to town, and started to cut down trees to make “Thneeds.” Soon his business grew and he built a factory. More and more trees were cut down. The Once-ler would not listen to the Lorax, who spoke on behalf of the trees. The Bar-ba-loots were forced to move because without the trees they did not have food. The Swomee-Swans had to fly south because of the smog. The water pollution caused all of the Humming-Fish to leave. The Once-ler kept on chopping down trees until there were no trees left, and the land was gray and desolate.

Vocabulary

conservation
consume
fossil fuels

natural resources
nonrenewable resources
pollution

renewable resources

Materials

The Lorax Videotape

Exploration

Activity 1: Before, During, and After the Thneed Industry

As you view *The Lorax*, complete the table below indicating conditions before, during, and after the Thneed Industry. Make your responses as specific as possible.

Condition of:	Before	During	After
Air Quality			
Water Quality			
Trees			
Animals			
Local Economy			

Once-ler's Profits			

Answer the following questions based on your own experiences.

1. Have you ever acted like the Once-ler? Explain.
2. Who or what do you think the Once-ler represents?
3. Have you ever done anything that you think the Lorax would have done? Explain.
4. Who or what do you think the Lorax represents?
5. What is the message from the Lorax?
6. How could this message be shared with other people in your community?

Explanation

Materials taken from the Earth and used by people are called **natural resources**. Natural resources are classified as nonrenewable or renewable. **Nonrenewable resources** cannot be replaced by nature. **Fossil fuels** (such as coal, oil, natural gas) and minerals (such as iron and copper) are nonrenewable.

Fossil fuels are the main source of energy for many industrial nations, such as the U.S. Fossil fuels formed hundreds of millions of years ago from the remains of dead plants and animals, which were buried in warm, swampy areas. Coal is a solid fossil fuel that is mined from the Earth's surface. Petroleum or oil is a liquid fossil fuel found in rock layers that were once covered by oceans and is obtained by drilling.

Minerals are used for a variety of products. Copper is used in pipes and electrical wire; aluminum is used for cans, foil, lightweight motors, and airplanes; silver or gold are used in dental fillings and jewelry; chromium and iron are melted together to make stainless steel; and sulfur is used for medicines, fertilizers, and matches. Some minerals are known as gemstones,

because they are hard and durable, and can be cut and polished. The rarest gemstones are the diamonds, rubies, sapphires, and emeralds.

In contrast, **renewable resources** can be replaced by nature. Water, wood, and soil are examples. However, even though water is renewable, there is a limited supply of fresh water. Water is needed by all forms of life on the Earth. Even though the oceans cover 71% of Earth's surface, less than 3% of the water on Earth is available as fresh water. The average American uses 260 liters of water a day. About half is used for flushing or for showers and baths and about 75 liters are used each time you use a dishwasher or clothes washer. Each day in the U.S., billions of liters of water are used in industry and to irrigate farmlands. Over half the water used in the U.S. goes into beef production.

Wood is also considered renewable, but we are cutting down trees in the rainforest at a rate of about two football fields per second (or an area the larger than New York City per day). You learned in Lesson 4, that the **conservation** of rainforests is also important in the efforts to reduce global warming of Earth.

The rainforests are not only destroyed for wood. There are many other reasons the rainforests are harmed. For every quarter pound hamburger that comes from the rainforest, about fifty-five square feet (about the size of a small room) of rainforest are destroyed for pastures. After a few years of farming, the land becomes very difficult to grow anything. Then more rainforest is burned and cleared to make farmland. Raising cows for beef can also contribute to global warming. When cows digest their food, they release methane, which is also a greenhouse gas.

Oil drilling is another reason that rainforests are destroyed. Oil is used for plastics and synthetic fabrics like polyester and nylon. When oil companies drill for oil in a rainforest, trees are chopped down to build roads and oil pipelines, and sometimes oil gets spilled onto the soil or into rivers and streams. Rainforests are home to over half of all species of animals and plants. There are many reasons to keep our rainforests. One of the many important reasons is that a number of medicines come from species in the rainforest. In many ways the destruction of the rainforests is similar to the story of the "Lorax."

The Earth's resources are needed by the 6 billion people who live on the planet today. It is estimated that this number will almost double in the next 50 years. Just one U.S. citizen **consumes** or uses about 30 times more resources than a person in India. In energy use alone, each year the U.S. uses the equivalent of 58 barrels of oil per person, as compared to 2 barrels per person in India. U.S. citizens make up less than 5% of the Earth's population, but consume almost 25% of the beef. If everyone on Earth lived like the average North American, it would require four more Earths to provide all the material and energy that would be needed.

Because of the way the average American lives, each of us has a far greater impact on the environment than a person from any other country. Much of the world's energy is wasted, especially when used for "wants" or luxuries for a few people, instead of "needs" or necessities for many people. As an increasing number of people place higher demands on energy resources, shortages and **pollution** are going to become more serious, forcing us to rethink the amount of things we consume. This was the message of the "Lorax."

In this activity you will compare some of your needs and your wants. You will think about which ones are most important to you.

Exploration Activity 2: Your Needs and Wants

Procedure

Write your responses in the table below as you do the following:

Evaluation

Imagine that you have survived a plane crash with four or five other people on a deserted, tropical island, with no hope of being found. Describe the essentials you would need to survive. Compare this lifestyle with the way you currently live, listing the luxuries you currently enjoy that are not necessary for survival.

Investigate typical lifestyles in different developing countries and compare them with your own.

Why do you think so many U.S. citizens consume so much without consideration for the future?

Connection to Other Disciplines

Language Arts:

Eco Announcement

Show students the two-minute public service announcement called "One Earth" and "Island Home."

View the announcements "One Earth" and "Island Home" and write your thoughts about the following questions:

- Why should we conserve our resources?
- How can we conserve our resources on our 'Island Earth'?

Island Development

What industries will you have on your island to support the local community? How will you ensure that they do not negatively impact the natural environment? Write your thoughts and decisions on the journal pages for the Island Development lesson.

Literacy Connection

Choose one of the following:

- Write a letter to the president of a company that destroys the rainforests. You may choose a company that cuts trees, drills for oil, or that uses rainforest beef in their products.
- Write your own "Lorax" story. Choose something in the environment that you care about.

Technology:

Teachers Internet Resources

Lorax Lesson Plans

[http://www.nashville-schools.davidson.k12.tn.us/
CyberGuides/Lorax/teachertemplate.html](http://www.nashville-schools.davidson.k12.tn.us/CyberGuides/Lorax/teachertemplate.html)

Teacher/Student Internet Resources

Rainforest Action Network

<http://www.ran.org/>

Earthday Network

<http://www.earthday.net/>

Worldwatch Institute

<http://www.worldwatch.org/>