

Time Frame

5 Class periods

Key Words

Consumption
Ecological footprint
Sustainable management

Teacher Pages

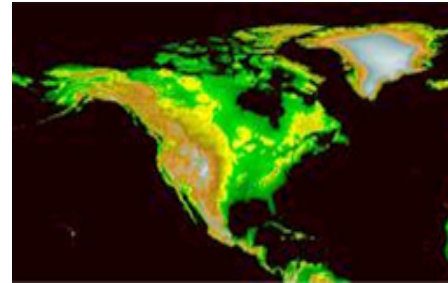
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OVERVIEW

Living in a Global Forest has students compare the ecological footprint of a home constructed in 1950 with one constructed in 2000. Students will learn where our wood comes from now and will analyze global efforts to manage the world's forests.



OBJECTIVES

National Council for History

The student understands economic patterns since 1968. (Era 10, Contemporary United States; Standard 2)

National Standards for Social Studies

The student will describe and explain the relationships between national sovereignty and global interests in matters of natural resources, trade, use of technology, and welfare of people. (Standard 9, Global Connections)

The student will propose, compare, and evaluate alternative uses of land and resources in communities, regions, nations, and the world. (Standard 3, People, Places, Environment)

LESSON PLAN

Day 1

Set the stage for this activity by leading a group discussion answering the following questions:

1. Where does the U.S. get its supply of wood?
2. What does the term “global forest” describe?
3. How are countries around the world connected?

Assign [Worksheet 1](#) and [Worksheet 2](#) and have students read the [Essay](#) in order to answer the questions.

(Student Pages 1-9)

Day 2

Ask students to define and provide some examples of the types of cartoons that can be found in newspapers and magazines. Next ask students to describe and explain the purpose of political cartoons. If possible, distribute copies of 2 or 3 political cartoons for students to review. As a class, discuss the meaning and significance of symbolism in political cartoons. Distribute [Cartoons](#) and [Worksheet 3](#) **(Student Pages 10-11)** and allow students to work in small groups to complete the tasks outlined on these pages.

Day 3

Begin the class by reading John Howard Payne’s poem “Home, Sweet Home.” Ask students to brainstorm about what constitutes a home. On an overhead sheet or the blackboard, compile a list generated by the class of characteristics of an average home built in the year 2000, and an average home built in 1950. Lead a brief discussion on the differences and similarities of homes built during these two eras. Distribute [Homes for Sale](#) and [Worksheet 4](#) **(Student Pages 12-13)**. Provide class time for students to write their two “Home for Sale” advertisements.

Day 4

Divide students into cooperative groups. Distribute [Stepping Through the Forest](#), [Discussing Sustainable Management](#), and [Worksheet 5](#) **(Student Pages 14-16)**. Although this activity is meant to be completed in groups, an optional approach is to complete Steps 1 and 2 on [Stepping Through the Forest](#) as a class so that students have a better understanding of sustainable management before they join their “think tank.” Once each group has completed its assignment, allow students the opportunity to share their suggestions with the class (Step 4).

Day 5

Choose from one of three types of activity assessments.

- [Application and Integration Exercise](#) **(Student Page 17)**
- [Test](#) **(Student Page 18)**
- [Reflective Exercise](#) **(Student Page 19)**

Use the [Answer Key](#) to check answers **(Teacher Pages 5-8)**

CLASS EXTENSIONS

- Conduct a global summit in which students from area schools meet to discuss problems and potential solutions concerning the forests of the world. Each school should represent a different country so that when students come together for the summit, they will gain a global perspective.
- Arrange a field trip to a forest products company or invite a guest speaker from a local forest products company to talk with your students about topics such as the importing and exporting of wood, the various uses for forest products, and timber harvesting.
- Have students measure their ecological footprint using a site such as Earth Day Network (<http://www.earthday.net/footprint/index.asp#>). Ask students to share their results with the class and discuss the potential implications of their findings on the global forest.

Team Teaching Possibilities

Technology: Ask students to create a graph or chart (in Microsoft Excel or a similar program) using the information and statistics from “Homes for Sale” to compare homes built during 1950 with those constructed during 2000.

English: Have students write a short story about the future of the global forest.

Math: Using the information contained in the essay, the figures from “Cartoon #3” (Human Population Growth Chart), and outside sources if desirable, have students make future world population projections.

Science: Ask students to design a scientific study concerning the impact of overpopulation and high rates of consumption on the global forest. Additionally, have students analyze and describe how a sustainable management program could specifically benefit forests around the world.

LINKS

Forest History Society--Bibliographic resources on forestry, conservation and environmental history. <http://www.foresthistory.org/Research/Biblio.html>

Earth Day Network -- Students can use this site to measure their own ecological footprints. <http://www.earthday.net/footprint/index.asp>

United Nations -- Detailed information, including background on and the documents produced at the 1992 Earth Summit. <http://www.earthday.net/footprint/index.asp>

LINKS (continued)

International Institute for Sustainable Development -- Contains a wide range of sources explaining the central issues surrounding sustainable development. <http://www.iisd.org/sd/>

CIA – The World Factbook -- U.S. government profiles of all countries that includes geographic, economic, and environmental statistics and vital facts.
<http://www.cia.gov/cia/publications/factbook/>

U.S. Census Bureau – Historical tables detailing the changes in American houses between 1940 and 1990.
<http://www.census.gov/hhes/www/housing/census/histcensushsg.html>

Food and Agriculture Organization of the United Nations – Contains descriptive and statistical information about forests and forest issues for all countries of the world.
<http://www.fao.org/forestry/foris/webview/forestry2/index.jsp?siteId=5081&siteTreeId=18307&langId=1&geoid=0>

REFERENCES

MacCleery, Douglas. *American Forests: A History of Resiliency and Recovery*. Durham, NC: Forest History Society, 1992.

Floyd, Donald W. *Forest Sustainability: The History, the Challenge, the Promise*. Durham, NC: Forest History Society, 2002.

Menzel, Peter. *Material World*. San Francisco, CA: Sierra Club Books, 1994.

Brown, Lester R. *State of the World 1999*. New York: W. W. Norton & Company, Inc., 1999.

TEACHER'S ANSWER KEY

Worksheet 1: Keywords

Part I.

Globalization - A term which describes the integration of or connection between the economies and cultures of nations around the globe.

Consumption - The purchase and use of goods and services by consumers.

Developing nation - Country with a low level of industrial, technological, and economic productivity.

Developed nation - Country with a high level of industrial, technological, and economic productivity.

Sustainable management - A proposal or plan of action that calls for a balance between economic prosperity and environmental concerns when seeking to manage renewable resources like forests to meet the needs of both the present and the future.

Ecological footprint- A tool used by scientists to measure consumption by calculating the land area necessary to supply a population with its resources and the area to absorb its waste.

Part II.

Answers will vary.

Worksheet 2: Essay Analysis

1. List and explain three factors that place strain on forests worldwide.

Increasing global population; longer life spans; high level of consumption around the world
Since global resources already are limited, these three factors place additional stress on forests worldwide. With more people being born and living longer, in addition to a high level of consumption among developed and developing nations, forests are being tapped to meet growing demands.

2. How did the Earth Summit of 1992, and in particular the Forest Principles, propose to help the global forest?

In 1992, representatives from developing and developed nations met to discuss the environmental problems facing the world. The Summit focused on finding ways for nations to protect the environment without hurting their economies. One of the most important contributions to the Summit was the Forest Principles which suggested sustainable management as a way to protect the environment in the present as well as preparing for the future.

3. Describe the current consumption of wood in the United States. How does this rate of consumption contribute to the ecological footprint of the United States? Make sure to explain your answer.

Americans consume an average of 14 pounds of wood each day (as compared to the world average of 4 pounds). An ecological footprint measures the consumption of resources to determine how much land area is necessary to sustain a population.

4. How can globalization play a role in environmental problems? How can globalization play a role in environmental solutions?

Globalization describes the integration of or connection between the economies and cultures of nations around the globe. Globalization can contribute to environmental problems because when one country attempts to solve an issue such as deforestation, this action may help one nation but hurt others because of the close connection between the nations of the world. On the other hand, globalization can help solve environmental problems because of the connection that exists between countries. International conferences look for ways to solve environmental problems affecting many nations based on the understanding that countries need to work together to protect the global forest.

5. How can individual choices and intelligent consumption impact the future of forests and the environment around the globe? Make sure to provide at least two examples to support your answer.

Individual choices and intelligent consumption can play an important role in solving environmental problems. Making choices such as biking, walking, or carpooling, and buying locally grown food and locally produced goods can have a positive impact on the environment.

6. Name two trends illustrated in Figure () from the essay. Provide some possible reasons for the trends you listed.

Increased amount of forest land set aside between 1953 and 1997; All of the regions depicted in the graph have increased the amount of forest land set aside between 1953 and 1997. One of the possible reasons for these trends is that because Americans have more leisure time and money there has been an increased demand in creating and enlarging national parks and wilderness areas. Another possible reason for the increase is that the U.S. has been able to meet its wood product needs by tapping other sources (private lands, for instance) and does not have to only rely upon public lands.

Worksheet 3: Drawing a Point of View

Part I.

1. Diminishing Global Supplies – **(2) Since the petals represent the Earth’s resources, the fact that only two remain demonstrates that global supplies are diminishing.**
2. American culture – **(1) Soda and fast food are two symbols of American culture. By placing these objects on the Statue of Liberty (an American icon), the artist is expressing the opinion that material consumption is an important aspect of American life.**
3. 1994 & over 5 billion – **(3) According to the Human Population Growth Chart, in the year 1994, the Earth’s population slightly exceeded 5 billion people.**
4. Fragile – **(2) The flower symbolizes the fragile and delicate nature of the Earth’s resources**

Part II. Answers will vary.

Worksheet 4: Home Sweet Home

1. Approximately how many people owned homes in 1950? Approximately how many in 2000?

150 million; 250 million

2. If a family living in 1950 with a median income saves 20% of their annual income each year, how many years will it take them to save for the full purchase price of a home? How many years would it take an average family living in 2000 to do the same? **16.57 years; 22.2 years**
1950 – Median annual family income (\$3,319) * 20%=Amount saved per year (\$663.80).

Average new home price (\$11,000)/Amount saved per year (\$663.80) =16.57 years.

2000 - Median annual family income (\$45,000) * 20%=Amount saved per year (\$9,000).

Average new home price (\$200,000)/Amount saved per year (\$9,000) =22.2 years.

3. Do you think total lumber usage for the average home was greater in 1950 or 2000? **Explain** your answer by using information from “Homes for Sale.”

2000. The total lumber usage would be greater for the average home in 2000 because it was bigger than the average home in 1950 and therefore would require more wood.

4. If the construction of a 2,000 square-foot wood-framed home built in the year 2000 required approximately 12,000 board feet of lumber, approximately how many board feet of lumber would have been needed to build an average size wood-framed home in 1950? **6,000 board feet of lumber**

Board feet of lumber for the year 2000 (12,000)/Amount of square feet (2,000) = 6 board feet of lumber per square feet of home.

Average home size for 1950 (1,000 square feet)* board feet per square feet of home (6) = 6,000 board feet of lumber

5. By looking at the square footage, number of bedrooms, and number of bathrooms on “Homes For Sale,” would you assume that more people lived in the average home in 1950 or 2000?

Explain. Does your answer support or contradict the conclusions drawn in the essay about the average number of people occupying homes during these two years? Make sure to use evidence to **support** and **explain** your answer.

Since the square footage and number of bedrooms and bathrooms for an average home in 2000 exceeds that for an average home in 1950, it suggests that more people would live in the former than the latter. However, this answer contradicts conclusions drawn in the essay because statistics show that even though the average home is now bigger, less people live in it than did in the average home in 1950.

6. List at least three ways that the average home built in 2000 would have a greater impact on the environment than the average home constructed in 1950.

More wood required to construct a house; Bigger size necessitates more land for each home built; More electricity needed to light, heat, and cool house.

7. **Answers will vary.**

Worksheet 5: Thinking about the Future

Answers will vary.

Assessment 1: Test

1. List three differences between an average American home built in 1950 with one built in 2000.

- Average homes built in 1950 were smaller in square footage than those built in 2000**
- Average homes built in 1950 were less expensive than those built in 2000**
- Average homes built in 1950 has less rooms than those built in 2000**

2. Compare and contrast how developing and developed countries impact the global forest.

Developing and developed nations both have an impact on the global forest. Historically, developing nations have cleared forests for farming, used wood for heat and cooking, and sold timber to other nations. Developed nations typically have high rates of consumption and use wood to build homes and have cleared forests for things such as highways, housing developments, and shopping malls.

3. Describe how the United States has attempted to combat environmental problems like deforestation.

Since the early 20th century, federal, state, and private organizations in the United States have helped prevent the timber famine predicted by experts. Legislation, forest set-asides, and participation in conferences aimed at solving environmental problems are three actions taken by the U.S. in an attempt to combat deforestation.

4. From which country does the United States import the most wood? What three countries export the most wood to the United States?

The U.S. imports the most wood from Canada. Canada, Japan, and Mexico buy the most American wood.

5. What are some of the potential benefits of sustainable management? What are some of the potential limitations of sustainable management?

BENEFITS: Plan of action to help provide for current population while also planning for the future; program that can help protect global resources, not just the resources of a few countries. LIMITATIONS: Disagreement about the best way to implement the program; Increasing challenges and problems that may undermine sustainable management such as increasing population and longer life spans.

6. How can high levels of consumption (by both nations and individuals) contribute to the strain placed on the global forest?

High levels of consumption place a strain on the global forest because it contributes to an existing problem. When countries and individuals consume large amounts of materials it helps deplete global resources at a faster rate which will lead to additional problems for future generations.

7. Describe how American wood consumption compares with the rest of the world.

On average, Americans use more wood than people living in other countries. On a daily basis people around the world consume about 4 pounds of wood. By contrast, Americans consume about 14 pounds of wood each day.

8. How can forestland set-asides help contribute to solving the problem of deforestation? How can forestland set-asides hinder efforts to fight deforestation?

Forestland set-asides can help combat deforestation because it assures that certain tracts of land will be protected. However, set-asides alone can't solve the complex issues surrounding deforestation. For example, if consumption rates and global population continue to rise, set-asides may help combat deforestation in some countries like the U.S., but may actually contribute to growing deforestation in other countries (mainly developing) that will clear forests for a profit.

9. Explain the link between American culture and consumption.

There is a close link between American culture and consumption. The cartoon with the Statue of Liberty holding a soda and pizza illustrates the significant role that fast food plays in the average American lifestyle. The purchase and use of goods and services by consumers (consumption) is emphasized on TV and radio commercials and has become an important part of American culture.