Hike Through The Guide
Global Connections:
Forests of the World

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Organization of the book

1. Table of Contents (pgs 3-4)
2. Introduction to PLT and WFC (pgs 7-10)
4. Icebreaker: *World Forest Tour* (pgs 23-30)
5. Activities (pgs 31-112)
6. Students Pages / Worksheets (throughout the Guide)
7. Appendices A-L (pgs 113-152)
Why study forest of the world?

After completing the activities in this module, students should be able to do the following:

- Demonstrate an understanding of how different cultures, people, and societies view and define forests.
- Describe different ways that people around the world interact with forests.
- Identify geographic factors that determine the major types of forests around the world.
- Explain how environmental and human factors have affected and continue to affect the world’s forests.
- Describe how economic, political, and social systems play a role in managing forests around the world for a variety of uses.
- Define sustainability as it relates to the world’s forests, including ecological, economic, and social elements of sustainability.
- Explore efforts around the world to protect and conserve forests and forest resources.
Subjects and disciplines supported by the activities

- AP Biology
- AP Environmental Science
- AP Human Geography
- Biology
- Career and Technical programs
- Computers and Technology
- Economics
- Environmental Science
- Foreign Languages
- Geography
- Global Studies
- International Baccalaureate Program
- International Studies
- Language Arts
- Science
- Social Studies
- Vocational Agriculture
World Forest Tour

• 4 cards about world’s forests.
• Pages 23-30
• To stimulate student participation, use as ice breakers, ideas for research or investigation.
• Print, laminate, and cut the cards. To create a display or grab bag of topics and countries for student to choose.
• Have students select, compare and discuss cards in using a variety of different groupings. What do cards have in common? How are they related?
How to use the module?
Making the Global Connection

Students will create and conduct a survey to help them determine how they and others view themselves as linked to forests around the world.

**Subjects**
- Environmental Sciences, Ecology, Geography, International Studies, Language Arts, Social Studies, Visual Arts

**Searchable Key Words**
- Ecosystem services, forest commodity, forest product, world's forests

**Concepts**
- 2.9 Human societies and regions throughout the world interact with each other and affect the natural systems on which they depend.

**Skills**
- Identifying Main Ideas, Interpreting, Observing, Organizing Information, Researching, Synthesizing

**Materials**
- “Global Connections: Forests of the World” poster, copies of the student page (optional)

**Time Considerations**
- Preparation: 20 minutes
- Activity: One to two 50-minute periods, plus time for conducting the survey

**Objectives**
- Students will identify ways that forests are important to people and other living things.
- Students will develop and conduct a survey of family and friends to learn what others think about their connection to the world’s forests.

**Assessment**
- Have students write a few paragraphs about what they learned from designing the survey and from evaluating the survey results.

**Background**

People who live in towns and cities can easily forget how profoundly the well-being of humans is linked to forests. Yet, the world’s forests are vitally important to everyone.

Today, forests cover about 30 percent of the world’s land area. Forests are key to the biological functioning of Earth. They play a major role in the cycling of carbon, nitrogen, and oxygen. They help to regulate temperature and rainfall. They help to stabilize soils, to protect watersheds, and to provide essential **habitat** for animals and plants. They store more genes than any other **ecosystem**. (See the box titled “What Forests Provide.”)

Forests also provide wood and fiber. Nearly half the people on Earth use wood as fuel for cooking and heating, and a majority of the wood consumed worldwide is burned for fuel. Wood is also used for building materials, furniture, tools, paper, packaging, and many other purposes. It plays a part in more activities in the economy than any other **commodity**. Almost every major industry relies on wood for at least one of its processes.

In addition to wood, many other goods that humans use daily come from...
Content information to understand and engage others in the activity.Italicized vocabulary, words are found in the Glossary, Appendix A, p/113

How to prepare to lead the activity

Step-by-step explanation of activities

Opportunities to broaden the scope of the activity enhancing students learning

Published materials to support your class

Audio, Visual Resources
Students Pages Can be duplicated and shared as guide to students investigation and discussion

Available electronically – pdf www.plt.org/….
Student Activities in the Guide

1. Making the Global Connection
2. What Is a Forest?
3. Mapping the World’s Forests
4. Analyzing Patterns of Forest Change
5. Understanding the Effects of Forest Uses
6. Seeking Sustainability: A Global Response
7. Exploring the World Marketplace
8. Making Consumer Choices
9. Researching Forests Around the World
Activity 1
Making the Global Connection

Students will...

...conduct a survey to help them assess what they and others know about forests and to consider ways that people are linked to forests around the world.
Activity 2
What Is a Forest?

Students will...

...analyze various definitions of the term forest and then consider different cultural perspectives that affect people’s perception of forests.
Activity 3
Mapping the World’s Forests

Students will...

...examine the system of global ecological zones to see how temperature and moisture determine the type of forest in a given locale.

Page 43
Activity 4
Analyzing Patterns of Forest Change

Students will...

...identify global trends in forest cover, analyzing, through maps and historical accounts, how particular forests have changed over time.

Page 53
Activity 5
Understanding the Effects of Forest Uses

Students will...

...analyze the effects of different ways that people use the world’s forests and determine which effects may be sustainable according to one definition.

Page 65
Activity 6
Seeking Sustainability: A Global Response

Students will...

...consider possible indicators to find out what is being done locally and in other countries to determine whether forests are managed in a sustainable way, and learn about one international initiative for monitoring forest sustainability.
Activity 7
Exploring the World Marketplace

Students will...

...conduct a simulation in which countries use their forest resources to "manufacture" products and to sell them to an international trader. Through the simulation, students will experience what can happen when forest resources are uneven-ly distributed around the world and will explore some of the tradeoffs of resource use.
Activity 8
Making Consumer Choices

Students will...

...using paper as an example, students will analyze the life cycle and consumption patterns of forest products, and they will identify the international dimensions of product use, drawing conclusions about consuming forest products in a way that is more intelligent and takes into account the global consequences.

Page 97
Activity 9
Researching Forests Around the World

Students will...

...explore their connections to the world's forests by researching a forest in another country or region, and by creating a profile about that forest.

Page 105
Appendices

A. Glossary
B. PLT Conceptual Framework
C. References Cited
D. Countries Cited in Module
E. Forest Area and Area Change, by Country
F. Production, Trade, and Consumption of Forest Products
G. Resources
H. Correlation to National Science Education Standards
I. Correlation to Curriculum Standards for Social Studies
J. Suggestions for Using the Internet as a Resource
K. What Makes Up an Environmental Issue?
L. Metric Conversion Chart
Appendix A: Glossary page 113

All bold/italicized words from the activities are explained here.

**Appendix A. Glossary**

**Afforestation**—the planting of trees to create a forest on lands that were not historically forest.

**Agroforestry**—the intentional growing of trees on the same site as agricultural crops or livestock.

**Biodiversity (or biological diversity)**—the variety and overall number of species that are present and that interbreed.

**Conservation**—the use of natural resources in a way that assures their continuing availability to future generations; the intelligent use of natural resources for long-term benefits.

**Deforestation**—the permanent removal of trees from a forested area.
Appendix B: PLT Conceptual Framework page 116

5 Major Themes

1. Diversity
2. Interrelationships
3. Systems
4. Structure and Scale
5. Patterns of Change

Each theme covers 3 topics

1. Environment
2. Resource Management & Technology
3. Society & Culture

Sample:

Theme: Systems

3.0 Environmental, technological, and social systems are interconnected and interacting.

Environmental Systems
3.1 In biological systems, energy flows and materials continually cycle in predictable and measurable patterns.
3.2 Plant and animal populations exhibit interrelated cycles of growth and decline.
3.3 Pollutants are harmful by-products of human and natural systems which can enter ecosystems in various ways.
3.4 Ecosystems possess measurable indicators of environmental health.

Resource Management and Technological Systems
3.5 The application of scientific knowledge and technological systems can have positive or negative effects on the environment.
3.6 Resource management and technological systems can help societies meet, within limits, the needs of a growing human population.
3.7 Conservation technology enables humans to maintain and extend the productivity of vital resources.

Systems In Society and Culture
3.8 Most cultures have beliefs, values, and traditions that shape human interactions with the environment and its resources.
3.9 In democratic societies, citizens have a voice in shaping resource and environmental management policies. They also share in the responsibility of conserving resources and behaving in an environmentally responsible manner.
Appendix C: References Cited page 119

Alphabetical Bibliography of references used to develop the activities


Falconer, Julia. “The Cultural and Symbolic Importance of Forest Resources.” The Major Significance of “Minor” Forest Products: The Local Use and Value of Forests in the West African
Appendix D: Countries Cited in Module page 123

Alphabetical list of each country included in the guide and the section in which it is used:

- **Argentina**
  - Activity 6: "The History of the Montreal Process" student page

- **Armenia**
  - World Forest Tour

- **Australia**
  - World Forest Tour (2 cards)
  - Activity 3: Background
  - Activity 6: "The History of the Montreal Process" student page

- **Austria**
  - Activity 5: Background

- **Canada**
  - World Forest Tour (2 cards)
  - Activity 2: Background
  - Activity 3: Background
  - Activity 6: "The History of the Montreal Process" student page

- **Central African Republic**
  - Activity 2: "What Do Forests Symbolize?" student page

- **Chile**
  - Activity 3: Background
  - Activity 6: "The History of the Montreal Process" student page
Appendix E: Forest Area and Area Change, by Country page 126

Data from the 2007 Food and Agriculture Organization (FAO) State of the World’s Forest Report
Appendix F: Production, Trade, and Consumption of Forest Products

Page 133

Data from the 2007 Food and Agriculture Organization (FAO) State of the World’s Forest Report

### Appendix F. Production, Trade, and Consumption of Forest Products

#### Part A. Production, Trade, and Consumption of Roundwood and Sawnwood, 2004

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www.plt.org
Appendix G: Resources page 147

- Suggested information sources for further studies
- Additional materials can be found at www.plt.org
## Appendix H: Correlation to National Science Education Standards

### Grades 9-12

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Appendix I: Correlation to Nation Curriculum Standards for Social Studies

page 149

### Appendix I
Correlation to Curriculum Standards for Social Studies

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National Council for the Social Studies

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*Letters refer to Performance Expectations in the Curriculum Standards for Social Studies.
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<td>a, b, f, j</td>
<td>b, i, j</td>
<td>b, f</td>
<td></td>
</tr>
<tr>
<td>X. Civic Ideals and Practices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>c</td>
<td>c</td>
<td>i, j</td>
<td>c</td>
<td></td>
</tr>
</tbody>
</table>

*Letters refer to Performance Expectations in the Curriculum Standards for Social Studies.
Appendix J: Suggestions for Using the Internet as a Resource

Helpful tips for using internet as resource with your students

In several places throughout this module, we suggest the Internet as a source of information for students conducting research. It is also cited as a reference in some of the background sections of the activities, and we have provided searchable key words in each activity for students to begin their own searches. If your students have access to this resource, we would encourage them to use it because it provides a wealth of information about the world’s forests and about related topics and issues.

When using the Internet, please keep in mind the following:

- Internet addresses are continuously changing. The website addresses referenced in this module are current as of the access date indicated.
- There are no restrictions regarding what can be put on the Internet. Advise your students to be aware of where the information they access comes from. Encourage them to read about the authors and the topics for the websites for which you are responsible.
- Do not be afraid of websites in other languages. You can use those sites as an opportunity for students to practice their own foreign language skills or as a way to make connections with other teachers in the school or with community members. There are also online resources to help. Try the translation function of your web browser, or search for an online dictionary or other web tool.
Appendix K: What Makes Up an Environmental Issue?

Environmental issues occur because people have differing views on the environment. If everyone had the same viewpoint, there would be no controversy—and no issue. It is easier to understand an environmental issue and to make sound decisions when all the information, scientific facts, and data are known about the subject. In the real world, however, there are always unknowns.

Components of an Environmental Issue

To assume an educated position about an environmental issue, we are obligated to consider various components and their definitions.

Players and Positions are terms for the individuals, groups, or both that are involved in an issue, plus where they stand on the issue.

Beliefs is a term for the ideas concerning the issue, whether true or not, held by the players. A belief is strongly tied to a person’s values.

Solutions as a term means the various strategies proposed to resolve the issue.

What Makes Up an Acceptable Solution?
The following criteria should be met when reading an acceptable solution:
• The public is involved in the decision-making process.
• The interested public sector reach a compromise.
Environmental issues occur because people have differing views on the environment. If everyone had the same viewpoint, there would be no controversy—and no issue. It is easier to understand an environmental issue and to make sound decisions when all the information, scientific facts, and data are known about the subject. In the real world, however, there are always unknowns.

**Components of an Environmental Issue**
To assume an educated position about an environmental issue, we are obligated to consider various components and their definitions.

**Problem** is a condition in which something is at risk. Environmental problems involve the interaction of humans and the environment, and the threat or risk associated with that involvement.

**Issue** is a problem—or its solution—for which differing beliefs and values exist, usually involving two or more parties who don’t agree. If students don’t understand varying beliefs and values of the disagreeing parties, they won’t understand the concept of an environmental issue.

**Values** as a term means the relative worth an individual places on something. Some examples used in labeling environmental values are as follows:
- Aesthetic refers to an appreciation of beauty through the senses.
- Cultural refers to the maintenance of the integrity of natural systems.
- Economic refers to the exchange of goods and services for money.
- Educational refers to the benefits derived from learning or instruction.
- Egocentric refers to a focus on self-satisfaction and personal fulfillment.
- Legal refers to the law and its enforcement.
- Recreational refers to the use of leisure time.
- Social refers to shared human empathy, feelings, and status, or to an interaction of the human condition.

**Players and Positions** are terms for the individuals, groups, or both that are involved in an issue, plus where they stand on the issue.

**Beliefs** is a term for the ideas concerning the issue, whether true or not, held by the players. A belief is strongly tied to a person’s values.

**Solutions** as a term means the various strategies proposed to resolve the issue.

**What Makes Up an Acceptable Solution?**
The following criteria should be met when reading an acceptable solution:
- The public is involved in the decision-making process.
- The interested public sectors reach a compromise.
- The compromise meets objectives for managing the resource.
- The compromise conforms to law.
# Appendix L: Metric Conversion Chart

## Appendix L. Metric Conversion Chart

<table>
<thead>
<tr>
<th>When You Know</th>
<th>Multiply by</th>
<th>To Find</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>inches (in)</td>
<td>2.5</td>
<td>centimeters (cm)</td>
</tr>
<tr>
<td>feet (ft)</td>
<td>30</td>
<td>centimeters (cm)</td>
</tr>
<tr>
<td>yards (yd)</td>
<td>0.9</td>
<td>meters (m)</td>
</tr>
<tr>
<td>miles (mi)</td>
<td>1.6</td>
<td>kilometers (km)</td>
</tr>
<tr>
<td>centimeters (cm)</td>
<td>0.4</td>
<td>inches (in)</td>
</tr>
<tr>
<td>meters (m)</td>
<td>3.3</td>
<td>feet (ft)</td>
</tr>
<tr>
<td>kilometers (km)</td>
<td>0.6</td>
<td>miles (mi)</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>square inches (in²)</td>
<td>6.4</td>
<td>square centimeters (cm²)</td>
</tr>
<tr>
<td>square feet (ft²)</td>
<td>0.09</td>
<td>square meters (m²)</td>
</tr>
<tr>
<td>square yards (yd²)</td>
<td>0.11</td>
<td>square meters (m²)</td>
</tr>
<tr>
<td>acres</td>
<td>2.47</td>
<td>hectares (ha)</td>
</tr>
<tr>
<td>square centimeters (cm²)</td>
<td>1.16</td>
<td>square inches (in²)</td>
</tr>
<tr>
<td>square meters (m²)</td>
<td>12.5</td>
<td>square yards (yd²)</td>
</tr>
<tr>
<td>square kilometers (km²)</td>
<td>3.86</td>
<td>square miles (mi²)</td>
</tr>
<tr>
<td>hectares (ha)</td>
<td>2.47</td>
<td>acres</td>
</tr>
<tr>
<td><strong>Mass (weight)</strong></td>
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<td></td>
</tr>
<tr>
<td>ounces (oz)</td>
<td>28</td>
<td>grams (g)</td>
</tr>
<tr>
<td>pounds (lb)</td>
<td>0.45</td>
<td>kilograms (kg)</td>
</tr>
<tr>
<td>tons (2,000 lb)</td>
<td>0.9</td>
<td>tonnes (T)</td>
</tr>
<tr>
<td>grams (g)</td>
<td>0.04</td>
<td>ounces (oz)</td>
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<tr>
<td>kilograms (kg)</td>
<td>2.2</td>
<td>pounds (lb)</td>
</tr>
<tr>
<td>tonnes (T)</td>
<td>1.1</td>
<td>tons (2,000 lb)</td>
</tr>
<tr>
<td><strong>Volume</strong></td>
<td></td>
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<tr>
<td>fluid ounces (fl oz)</td>
<td>30</td>
<td>milliliters (mL)</td>
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<tr>
<td>gallons (gal)</td>
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<td>cubic feet (ft³)</td>
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<td>cubic yards (yd³)</td>
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<td>cubic meters (m³)</td>
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<tr>
<td>milliliters (mL)</td>
<td>0.033</td>
<td>fluid ounces (fl oz)</td>
</tr>
<tr>
<td>liters (L)</td>
<td>33</td>
<td>cubic feet (ft³)</td>
</tr>
<tr>
<td>cubic meters (m³)</td>
<td>1.3</td>
<td>cubic yards (yd³)</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
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<td></td>
</tr>
<tr>
<td>degrees Fahrenheit</td>
<td>5/9 (after subtracting 32)</td>
<td>degrees Celsius (°C)</td>
</tr>
</tbody>
</table>

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Global Ecological Zone Map
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