

Deforestation

Becky Herman, Marion High School

Grade Level (Req.): 9th/10th	Content Area (Req.): Global Studies	Unit (Opt.): Resource Issues
<p>Connections to Other Disciplines (Opt.):</p> <ul style="list-style-type: none"> • Environmental science • • 		
Time Frame (Req.): 90 min (or less, depending on how many facts about deforestation you give them ahead of time versus having the students research deforestation themselves.)	Goal (Req.): Students will explore the causes and effects of deforestation and recognize that it is happening and has happened all over the world.	
	Objective (Req.): Students will research about the causes and effects of deforestation and will take the role of a special interest group that has a vested interest in either the conservation or destruction of existing forest.	
<p>Materials Needed (Req.):</p> <ul style="list-style-type: none"> • Internet access or fact sheets provided by the teacher • • • • • • 	<p>New Vocabulary (Opt.):</p> <ul style="list-style-type: none"> • deforestation • desertification • erosion • indigenous • hectares 	
<p>Anticipatory Set/Introduction [Inquiry Question is required] (Req.): If we know why conserving forests is so important, why does the world continue to experience deforestation at such an alarming rate?</p>		
<p>Instructional Sequence/Procedure (Req.):</p> <ol style="list-style-type: none"> 1. Have students read the handout on deforestation upon entering the classroom. Give them enough time to read it. (Handout: http://www.pachamama.org/effects-of-deforestation) 2. Ask the students the inquiry question. Allow time for discussion and inquiry. 3. Tell the students that they will be doing a simulation in which they will represent special interest groups that will argue about who has control over the Brazilian rain forests. They will be researching current statistics as well as why each of these groups is interested in the fate of these forests. 4. Split the students into groups of five and give each student in the group a role to research and represent. These roles are: Brazilian farmer, Brazilian timber company executive, Brazilian environmentalist, Brazilian indigenous person that currently lives in that territory, and a Brazilian government representative. 5. Hand out text sets (except for text F) so all students are given the same background information. Give students between 25-45 minutes to read about and research their stance they are representing. 6. The groups then should be allowed to debate and share the facts and statistics they uncovered that back their argument. The person who is playing the role of the government representative will be the one to decide the best argument. 		

7. Come back together in a large group and ask the groups whose argument was the most compelling. Ask them what excellent points were brought up from everyone that you hadn't thought of originally.
8. After they have shared their thoughts, share the final text (F) that shows the deforestation of the United States. Ask students if they had known about the extent of the deforestation in the U.S. Why were these forests cut down? Was the U.S. better off because of this? (think in terms of economy, agriculture, etc.) Ask the students if countries that are now facing pressure to conserve forests have a reason to ignore developed countries like the U.S?
9. Have students journal for 5-10 minutes about what they have learned about the complexities surrounding the causes and effects of deforestation.
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Formative Evaluation (Req.): During the opening discussion, assess what the students already know about deforestation including the causes and effects. Check to see if students know the definition of desertification, indigenous, erosion and if they know the approximate size of a hectare.

Assessment (Req.): At the end of the activity, give students the last 5-10 minutes to journal about what they have learned about the causes and effects of deforestation.

Iowa Core Curriculum Standards Used (Req.):

- SS.9–12.G.3 Essential Concept and/or Skill: Understand how human factors and the distribution of resources affect the development of society and the movement of populations
- SS.9–12.G.4 Essential Concept and/or Skill: Understand how physical and human processes shape the Earth's surface and major ecosystems.
- SS.9–12.G.5 Essential Concept and/or Skill: Understand how human actions modify the environment and how the environment affects humans.
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Common Core Curriculum Standards Used (Opt.):

- Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account. (CCSS.ELA-LITERACY.RI.9-10.7)
- By the end of grade 9, read and comprehend literacy nonfiction in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range. By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9-10 text

complexity band independently and proficiently. (CCSS.ELA-LITERACY.RI.9-10.10)

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NGS Standards Used (Req.):

- How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information.
- The patterns and networks of economic interdependence on Earth's surface.
- How human actions modify the physical environment.
- The changes that occur in the meaning, use, distribution, and importance of resources.
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Five Themes of Geography Used (Req.):

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School District Standards and Benchmarks (Opt.):

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21st Century Universal Constructs (Opt.):

Other Disciplinary Standards (Opt.):

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Other Essential Information (Opt.):

Other Resources (Opt.):

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Text A:

History of Timber Consumption

“The crucial new aspect of the global wood-products economy is this: the industrialized nations of Europe, Japan and North America had the opportunity to relax exploitation of their own hardwood forests and utilize the forest of other regions of the world. The new developing nations not only need the income that comes from selling their hardwoods but have no alternative regions to exploit to meet their own needs to slow down the exploitation of their own resources. Combined with the unstoppable growth of the human population, the “new global economy/ecology” implications are obvious: the regeneration and long-term sustenance of the developing world’s forests will have to come from a very different organizational and financial base than now exists.”

(excerpt from “The Political Economy of Deforestation” by Peter Warshall, *Whole Earth Review*, Fall 1989)

Text B:



(From *Revealing the Hidden: Indigenous perspectives on deforestation in the Peruvian Amazon*, compiled by the AIDSESEP, 2014)

Text C:

“Indigenous territories are an effective barrier against deforestation - in legally recognized indigenous communities alone, covering approximately 11 million ha, only 12,000 ha, or 0.1%, per year or about 0.04ha/ person are deforested. If this is combined with the territories of indigenous people in isolation and customary indigenous territories that are classified as protected areas or remain without legal recognition, rates are even lower. However, there are some exceptional examples involving some communities, particularly in the upper River Mayo in San Martin, or in Peru’s *selva central* along the highway linking Pucallpa to Lima, or Madre de Dios (impacted by IIRSA south) where severe pressures from both public and private sector has resulted in high rates of deforestation.”

(From *Revealing the Hidden: Indigenous perspectives on deforestation in the Peruvian Amazon*, compiled by the AIDSESEP, 2014)

Text D:



(From *Revealing the Hidden: Indigenous perspectives on deforestation in the Peruvian Amazon*, compiled by the AIDSESEP, 2014)

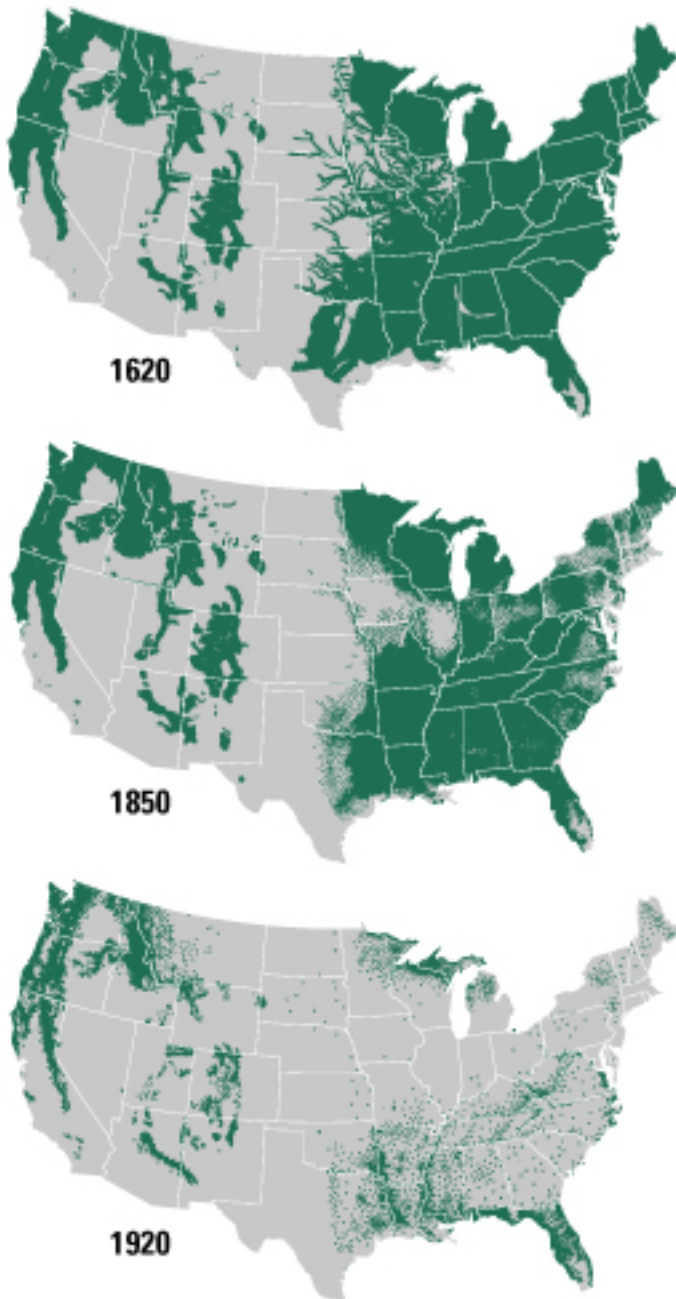
Text E:

“A large portion of deforestation is caused by the traditional practices of poor farmers who are encouraged to settle on forest lands by the current government land policies. Brazilian officials and environmentalists agree that cattle ranching is the biggest cause of deforestation of the nation's Amazon, an area the size of the U.S. west of the Mississippi River, about 20 percent of which has been destroyed (Brooks).

In Brazil, each farmer acquires the right ("usufruct" right) to continue using a single piece of land simply by living on said plot of unclaimed public land, no matter how marginal it may be, and "using" it for at least one year and one day. After five years the farmer acquires ownership of said land and hence the right to sell the land at their will. Up until at least the mid-'90s this system was made worse by the government policy that allowed each farmer to gain title for an amount of land up to three times the amount of forest cleared (Pacheo). Poor farmers use fire for clearing land and every year satellite images pick up innumerable fires scattered across the Amazon. Typically the under-shrubbery is cleared and then the bulk of the forest trees are cut down for timber. The area is left to dry for a few months and then it is burned to a clearing (Brooks). The land is planted with many various crops like bananas, palms, manioc, maize, and/or rice. After a year or two the general fertility and productivity of the soil declines and the poor farmers press a little bit deeper and clear even more new forest for even more short-term agricultural land. The old, now infertile fields are used for small-scale cattle grazing or left for waste (Shriar).

(From "Smarter Farming Practices to." *Farming in the Amazon*. Web. 6 July 2015.
http://www4.ncsu.edu/~dthollom/world_forestry/)

Text F:



"Forest Products." *Deforestation*. Web. 6 July 2015.
<http://www.globalchange.umich.edu/globalchange2/current/lectures/deforest/deforest.html>