



# Deforestation: A GeoInquiry

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**Grade Level** 7-8  
**Duration** 1-3 class periods

## National Standards

### GEOGRAPHY

#### Element 1: The World in Spatial Terms

1. How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

3. How to analyze the spatial organization of people, places, and environments on Earth's surface

#### Element 2: Places and Regions

4. The physical and human characteristics of places

5. People create regions to interpret Earth's complexity

#### Element 3: Physical Systems

8. The characteristics and distribution of ecosystems and biomes on Earth's surface

#### Element 5: Environment and Society

14. How human actions modify the physical environment  
16. The changes that occur in the meaning, use, distribution, and

## AZ Standards

### ELA

#### Writing Production and Distribution of Writing

7.W.4 and 8.W.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

#### Research to Build and Present Knowledge

7.W.7 Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

8.W.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

7.W.8 and 8.W.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions

## Arizona Social Science Standards

### The use of geographic representations and tools helps individuals understand their world.

7.G1.1 Use and construct maps and other geographic representations to explain the spatial patterns of cultural and environmental characteristics. Key tools and representations such as maps, globes, aerial and other photos, remotely sensed images, tables, graphs, and geospatial technology

7.G1.2 Analyze various geographic representations and use geographic tools to explain relationships between the location of places and their environments.

8.G1.1 Use geographic tools and representations to analyze historical and modern political and economic issues and events.

### Human-environment interactions are essential aspects of human life in all societies.

7.G2.1 Explain how cultural demographic patterns, economic decisions, and human adaptations shape the identity of nearby and distant places.

7.G2.2 Analyze cultural and environmental characteristics that make places both similar and different.

8.G2.1 Examine impact of and responses to environmental issues such as air, water, and land pollution, deforestation, urban sprawl, and changes to climate.

8.G2.2 Evaluate how political, social, and economic decisions throughout time have influenced cultural and environmental characteristics of various places and regions.

### Examining human population and movement helps individuals understand past, present, and future conditions on Earth's surface.

7.G3.2 Analyze how relationships between humans and environments extend or contract patterns of settlement and movement.

7.G3.3 Evaluate the influences of long-term, human-induced environmental change on spatial patterns and how it may cause conflict and promote cooperation.

8.G3.1 Evaluate the impact of economic, political, and social decisions that have caused conflict or promoted cooperation throughout time.

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importance of resources

### Element 6: The Uses of Geography

17. How to apply geography to interpret the past

18. How to apply geography to interpret the present and plan for the future

of others while avoiding plagiarism and following a standard format for citation.

7.W.9 and 8.W.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

### SCIENCE

#### Physical Science

8.E1U3.8 Construct and support an argument about how human consumption of limited resources impacts the biosphere.

**Global interconnections and spatial patterns are a necessary part of geographic reasoning.**

7.G4.1 Analyze cultural and environmental characteristics among various places and regions of the world.

7.G4.3 Analyze how changes in population distribution patterns affect changes in land use in places and regions

7.G4.4 Explain an issue in terms of its scale (local, regional, state, national, or global)

8.G4.1 Take an active stance on a geographic issue reflecting its scale (local, regional, state, national, or global)

## SLOP Elements

<p><b>Preparation</b> Adapting content <b>Linking to background</b> <b>Linking to past learning</b> Strategies used</p>	<p><b>Scaffolding</b> <b>Modeling</b> Guided practice Independent practice <b>Comprehensible input</b></p>	<p><b>Grouping Option</b> Whole class <b>Small groups</b> Partners Independent</p>
<p><b>Integrating Processes</b> Reading Writing <b>Speaking</b> <b>Listening</b></p>	<p><b>Application</b> Hands on <b>Meaningful</b> Linked to objectives <b>Promotes engagement</b></p>	<p><b>Assessment</b> Individual Group <b>Written</b> Oral</p>

## Arizona ELP Standard

### Stage IV

#### Basic

#### Reading

**Standard 4: The student will analyze text for expression, enjoyment, and response to other related content areas. The student will demonstrate knowledge of reading comprehension by:**

B-23: locating information in print and electronic reference sources (*e.g., encyclopedia, atlas, almanac, dictionary, thesaurus, periodicals, website, and textbooks*) periodicals for a specific purpose.

#### Writing

**Standard 1: The student will express his or her thinking and ideas in a variety of writing genres. The student will express his or her thinking and ideas by using a variety of writing genres, as demonstrated by:**

B-6: writing a variety of functional text (*e.g., instructions, directions*) that addresses the audience, stated purpose and context.

## Overview

Everything humans do, both intentional and unintentional, affects the natural systems in which we live. We frequently try to modify our environment in an attempt to improve our lives in various ways. While the modifications may benefit some, rarely do they benefit all. This most often results in a debate as to how beneficial or detrimental the modifications are.

## Purpose

In this lesson, students will learn about rainforests as well as the process and effects of deforestation. This lesson contains adaptations for diverse learners (ELLs).

## Materials

- Rainforests of the World map (rainforests labeled)  
<https://geoalliance.asu.edu/sites/default/files/maps/Rainforests.pdf>
- World map  
<https://geoalliance.asu.edu/sites/default/files/maps/World-at.pdf>
- Computers and projection device
- What are Deforestation Fronts? (1.54 min)  
[https://wwf.panda.org/our\\_work/forests/deforestation\\_fronts2/](https://wwf.panda.org/our_work/forests/deforestation_fronts2/)
- Sky News Deforestation in Amazon Soars to Highest in Decade (1.52 min)  
<https://video.search.yahoo.com/yhs/search?fr=yhs-Lkry-SF01&hsimp=yhs-SF01&hspart=Lkry&p=deforestation+in+the+amazon#id=1&vid=7198bc79b2f095f131286441bb864578&action=click>
- Project Climate 101: Deforestation/National Geographic (2.48 min)  
<https://www.youtube.com/watch?v=Ic-J6hcSKa8>
- Deforestation Questions worksheet and Upcoming Assignment
- Geolnquiry Planning sheet
- Scoring Guide for Geolnquiry

## Objectives

The student will be able to:

- Locate tropical rainforests on a world map.
- Identify questions surround deforestation issues.
- Conduct a Geolnquiry with specified criteria.
- Design a product suitable for taking action with policymakers.

## Procedures

### SESSION ONE

1. Begin the lesson by having students define a tropical rainforest (a forest, usually of tall, broad-leaved evergreen trees in an area with high amounts of rainfall) and identify some products that come from rainforests (bananas, nuts, mangos, cocoa, pineapples, oils, latex, resins, waxes, bamboo, dyes, timber, medicines, oxygen, scents for perfumes, etc.).  
**(Preparation: Linking to background or Past learning)**
2. Divide students into partner or small groups and instruct them to identify at least one question that they would like to pursue regarding deforestation of tropical rainforests. Distribute the Deforestation Questions worksheet and have them write their question(s) under Round One. Assure students that this is a first idea and that their question may evolve into another question later. **(Grouping Option: Small groups; Integrating Processes: Listening and Speaking; Application: Meaningful and Promotes engagement)**
3. Distribute the World map and colored pencils.  
<https://geoalliance.asu.edu/sites/default/files/maps/World-at.pdf> Project the labeled Rainforest of the World map.  
<https://geoalliance.asu.edu/sites/default/files/maps/Rainforests.pdf> Assist students in locating tropical rainforest regions of the world. Be sure students create a legend on their maps.  
**(Scaffolding: Modeling)**
4. Project the Vimeo found at [https://wwf.panda.org/our\\_work/forests/deforestation\\_fronts2/](https://wwf.panda.org/our_work/forests/deforestation_fronts2/) (1.54 min) that describes what is happening to 11 deforestation fronts. Have students return to their Deforestation Questions worksheet and write another question(s) under Round Two. **(Grouping Option: Small groups; Integrating Processes: Listening and Speaking; Application: Meaningful and Promotes engagement)**
5. Project the Sky News Deforestation in Amazon Soars to Highest in Decade (1.52 min)  
<https://video.search.yahoo.com/yhs/search?fr=yhs-Lkry-SF01&hsimp=yhs-SF01&hspart=Lkry&p=deforestation+in+the+amazon#id=1&vid=7198bc79b2f095f131286441bb864578&action=click> Have students identify another question that they now have and write it under Round Three Questions. **(Grouping Option: Small groups; Integrating Processes:**

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### Listening and Speaking; Application: Meaningful and Promotes engagement)

6. Project Climate 101: Deforestation/National Geographic (2.48 min)  
<https://www.youtube.com/watch?v=Ic-J6hcSKa8>  
Have students identify another question that they now have and write it under Round Four Questions. **(Grouping Option: Small groups; Integrating Processes: Listening and Speaking; Application: Meaningful and Promotes engagement)**
7. Conclude the class by having students work within their small groups to identify the one question that they wish to pursue and write it under Our/My Research Question. **(Grouping Option: Small groups; Integrating Processes: Listening and Speaking; Application: Meaningful and Promotes engagement)**

### SESSION TWO and More

*Note: Diverse learners may need support in framing the research question, in actually reading and understanding the website resources, and in creation of a product. Allowing these students to participate in a group with English proficient students will be important as well as perhaps tailoring the question to easier concepts (products derived from rainforests or why do we need rainforests). Also, some websites might be useful like Newsela where the information is leveled by reading ability.*

8. Begin class by looking at the Upcoming Assignment on the Deforestation Question worksheet. Explain the assignment and how it will be graded. **(Scaffolding: Comprehensible input, Assessment: Group, Written or Oral)**
9. Distribute the GeoInquiry Planning sheet and explain the steps in the process. Explain certain decisions need to be made prior to beginning the project. For example, they will need to decide to whom this action will be directed (#5) because this will determine possibilities for the product (#4).
10. Refer back to Session One website (WWF) [https://wwf.panda.org/our\\_work/forests/deforestation\\_fronts2/](https://wwf.panda.org/our_work/forests/deforestation_fronts2/) At the end of the written material it discusses who (companies, consumers, etc..) could be contacted to turn back deforestation.
11. Discuss and encourage use of credible websites and how sources should be documented. (#2)
12. Provide time for research and creation of the products.

## Assessment

### Geography

The World map showing the tropical rainforests can be graded for completeness and accuracy. Mastery will be considered a score of 90% or higher.

### Geography, Science, and ELA

The products can be graded using the Scoring Guide for GeoInquiry. Mastery will be considered a score of 80% or higher.

## Extensions

Students can research one life form found in the rainforest or one product derived from the rainforest environment. After researching this topic, the students can make decisions about the importance of this life form or product to the world. On a scale of 1 to 10 (ten being the highest), this life form is how important to protect at all costs.

On a scale of 1 to 10 (ten being the highest), this product is important to humans and should be provided at the cost of cutting down the rainforest.

## Sources

Products, Medicines, and Perfumes

<http://factsanddetails.com/world/cat52/sub329/item1304.html>

Deforestation Issues

[https://wwf.panda.org/our\\_work/forests/deforestation\\_fronts2/](https://wwf.panda.org/our_work/forests/deforestation_fronts2/)

<https://video.search.yahoo.com/yhs/search?fr=yhs-Lkry-SF01&hsimp=yhs-SF01&hspart=Lkry&p=deforestation+in+the+amazon#id=1&vid=7198bc79b2f095f131286441bb864578&action=click>

<https://www.thebalance.com/deforestations-economic-impact-4163723>

<https://www.internetgeography.net/topics/deforestation-in-the-tropical-rainforest/>

How they Track Deforestation (4 parts) for very capable students

<https://earthobservatory.nasa.gov/images/145988/tracking-amazon-deforestation-from-above>