



Project Title: Healthy Trees, Healthy Communities		Grade Level: 3-5
Driving Question: What is the relationship between forests and our communities?		
<p>Standards:</p> <p>S3L2. Obtain, evaluate, and communicate information about the effects of pollution (air, land, and water) and humans on the environment.</p> <p>S3E1 Define and give examples of the four types of productive resources.</p> <p>S4L1. Obtain, evaluate, and communicate information about the roles of organisms and the flow of energy within an ecosystem.</p> <p>SS5E2 Describe the functions of four major sectors in the U. S. economy.</p>		
<p>Guiding Background Knowledge:</p> <p>Healthy forests are a vital part of our communities and world. Our forests keep us healthy by storing and filtering water as well as cleaning the air and providing the oxygen we breathe. Trees also provide many of the products we use day-to-day. As trees are cut down to create new products and homes, we lose these resources if they are not replaced.</p> <ul style="list-style-type: none"> ● What is the relationship between trees and living things? <ul style="list-style-type: none"> ○ Food, shelter, water quality, products made from trees ● What sort of items do you use that are made from trees? <ul style="list-style-type: none"> ○ Allow students to share their items ● How are products created from trees? <ul style="list-style-type: none"> ○ Product life cycles <p>Fun facts about Georgia Forestry:</p> <ul style="list-style-type: none"> ● Forests – with stands of varying ages – account for 67 percent of the state’s total land area. ● Two out of every three raindrops that fall in Georgia land on forest lands. ● #1 in Commercially Available Timberland- Georgia has 22 million acres of commercially available, private timberland, more than any other state. ● #1 in Annual Timber Harvest Volume- Georgia tops every other state in the nation in terms of pure volume of timber harvested all while overall tree volume in Georgia has been net increasing since 1953. ● #1 Exporter of Forest Products- Leading the nation in the export of 21 commodities with an estimated trade value of \$3.9 billion. ● #1 in Seedling Production for Reforestation- Growing more than 331 million seedlings annually. ● #1 in U.S. South in Wood Harvested for Pine Production and Pine Pulpwood Production. ● \$36.5 Billion- Overall annual economic impact in 2019 from the forest industry. ● 141,214 Jobs- Total direct and indirect employment in Georgia from the forest industry. 		
<p>Video Suggestions:</p> <p>Meet a Georgia Forester</p> <p>What is a working forest?</p> <p>What makes up a forest?</p> <p>What makes a healthy forest?</p> <p>Timber Harvester</p>	<p>Book Suggestions:</p> <p>Forestry By Jane Drake</p> <p>The Tree Farmer By Chuck Leavell</p> <p>My Family’s Tree Farm By Steve McWilliams</p>	<p>Community Partner Suggestions:</p> <p>Local Farm Bureau Office</p> <p>Local UGA Extension Agent</p> <p>USDA- Natural Resources Conservation Service (NRCS)</p> <p>Ask an Expert- Georgia Forestry Commission</p>

Agricultural Career Connections:

Arborists	Research Technician
Environmental Scientist	Horticulturist
Plant Scientist	Ecologist
Agriculture Manager	Tree Farmer
Extension Agent	Soil Scientist
Agronomist	Forester
Soil Conservationist	Logger
Landscaping Businesses	Wildland Firefighter
Lumber Mill Worker	Park Ranger
Equipment Operator	Teacher

Materials and Resources:

(These are optional, but will make the project more impactful.)

- [NACD Healthy Forests, Healthy Communities classroom FREE resources](#)
 - PowerPoint
 - Activity sheets
 - Booklets
- [GPB's Georgia Forests virtual learning collection](#)

Lesson Procedures:**Engage:**

Students will begin the challenge by discussing products that are made from trees. Why are these items important? Can you live without the items? What part of the tree do they come from? Are they made with renewable or nonrenewable resources? Teachers should facilitate discussion with the students and reference resources.

Explore:

Students will be asked to research items made from trees with simple internet search. (Students can search for items made with solid wood, chips/sawdust, pulp wood, bark/cork, cellulose fibers and tree chemicals.) Two helpful websites are [USDA Forest Service, Forest Products Laboratory](#) and [International Society of Wood Science and Technology](#). Make a chart of the importance of these items as a class or in groups (see example). Using this chart students will select their favorite product made from wood for their project focus. Students should research, read and study several sources of information on the product until they are confident in their knowledge of how it's made and what it's made of. What additional resources are used to make the item? Are the resources renewable or non-renewable resources?

Example: Wood product and dependency chart

Product	How long would you be willing to give it up?					
	Day	Week	Month	Year	Forever	NEVER
Toilet Paper						x
Ice Cream			x			
Guitar		x				

Test and Improve: Students will be asked to use the data gathered to calculate the number of the chosen product that can be made from one tree and the impact the item has on their everyday lives. What is the cost of making the item? What is the product's life cycle? (see example product life cycle attachment). How would it affect your community if the item was no longer available?

Share Results: Students will select one product to create a unique informational "How it's Made and More" video discussing the process of how the product is made (life cycle), cost, impact on day-to-day lives, and its sustainability.

Reflections: Students will reflect on the following questions.

- **What have I learned about trees and the relationship between our communities and forests?**
- **How can I ensure sustainability of products made from trees?**

Submission Guidelines:

Student Presentation:

- Must include a video presentation on the process of how the item is made.
- Video must include demonstrated knowledge of the relationship between communities and the need for tree resources.
- Video must discuss sustainability and non-sustainability.
- Each student should create a poster using 2021 Stewardship Theme: Healthy Forests, Healthy Communities (pictured below).

Rules:

- The video should not be longer than 5 minutes.
 - One video submission per teacher.
 - **Upload the final class presentation to the STEM Challenge portal for judging by November 12, 2021.**
- [Poster contest rules](#)
 - Each student should complete a poster.
 - Classrooms will vote on an overall class winning poster. Students, teachers, principals, etc. can assist with judging.
 - **Class Poster should be submitted to GACD at info@gacd.us by November 1, 2021.**



2021 Stewardship Theme

"Healthy Forests, Healthy Communities" was the 66th Annual Stewardship Theme developed by NACD.

If you are having trouble connecting to a community partner please email info@georgiaagexperience.org.