

OVERVIEW

In collaboration with The Georgia Forestry Foundation (GFF), Georgia Public Broadcasting produced an interactive, educational experience for the high school classroom. Georgia Forests: Virtual Learning Journey II is a free resource designed to teach high school students about the forestry industry, operations and forest products, sustainability efforts, and recreation and wildlife supported by Georgia's forests. Additionally, students will explore a variety of career opportunities in the forestry industry. Key concepts are presented through text, images, videos, and interactive elements. Georgia educators served as consultants on the project to ensure proper alignment to Georgia standards and to provide guidance on instructional best practices.

In this virtual learning journey, students can:

- Compare and contrast the forest characteristics in the different regions of Georgia
- Watch videos narrated by experts
- Interact with diagrams and maps
- Learn about forestry management techniques and the economic impact of the forestry industry
- Evaluate one's forest footprint by analyzing the products made from renewable and nonrenewable materials
- Explore a variety of forestry careers
- Analyze and synthesize content through standards-aligned writing prompts, activities, and vocabulary

ACTIVITIES

Section 1:

ID That Tree!

Students are tasked with using key characteristics to identify a variety of trees found in Georgia.

Measuring a Tree's Diameter

Students learn how logger's tape is used to measure Diameter at Breast Height (DBH) to determine a tree's volume. In this activity, they must record actual and rounded DBH measurements.

Measuring Tree Heights

In this activity, students must determine the top and base reading for each tree provided, as well as the tree's height and rounded height.

Calculating Timber Volume

Students use a volume table to determine and record the volume for each tree. A formula is provided to calculate the total cord volume and weight in tons.

My Carbon Footprint

In this activity, students create a pie chart that represents their carbon impact and use. They are then instructed to list ways they can reduce their own carbon footprint.

My Tree Calculator

Students learn about and use i-Tree, a public website that allows people to calculate how much a nearby tree helps mitigate air pollution, storm water, and energy use.

STANDARDS

SECTION 1: FORESTRY

Page 1: Human Needs

- Basic Agricultural Science 4.1 - Explain the three basic human needs and sources for food, clothing and shelter.
- Forest Science 5.4 – Display and illustrate examples of how trees are important to the economy and environment.

Page 2: Tree Life

- Basic Agricultural Science 10.2 – Label various parts of trees, explain their functions.
- Basic Agricultural Science 13.3 – Label the major parts of the plant and explain the functions of each plant part.
- Basic Agricultural Science 13.4 – Compare and contrast photosynthesis, respiration, and transpiration and state their importance.
- Forest Science 5.3 – Describe the physiological processes of tree growth.

Page 3: Trees in Georgia

- Basic Agricultural Science 10.5 – Identify important species of trees and wildlife in Georgia.

CAREER:

- Basic Agricultural Science 10.8 – Analyze skills, education requirements, income and advantages and disadvantages of careers in forest and natural resources industry.
- Forest Science 3.2 – Research the employment opportunities in the forestry industry.

Page 4: Milestones of Inventions

- Basic Agricultural Science 4.3 – Identify major agricultural milestones of inventions and analyze their impact on modern life and agriculture.

CAREER:

- Basic Agricultural Science 10.8 – Analyze skills, education requirements, income and advantages and disadvantages of careers in forest and natural resources industry.
- Forest Science 3.2 – Research the employment opportunities in the forestry industry.

Page 5: Forestry Equipment

- Basic Agricultural Science 10.4 – Identify basic equipment used in forestry.
- Forest Science 9.4 – Identify and demonstrate the use of forest measurement tools.

HANDOUT:

- Basic Agricultural Science 10.3 – Demonstrate the ability to measure forest products and forest related items.

STANDARDS

SECTION 2: OPERATIONS AND PRODUCTS

Page 1: Natural Resources and the Economy

- Basic Agricultural Science 10.1 – Describe the importance of forestry and natural resources industry to Georgia’s economy.
- Forest Science 5.4 – Display and illustrate examples of how trees are important to the economy and environment.

Page 2: Timber Cycle

- Forest Science 7.2 – Identify ways in which forest stands may be improved.
- Forest Science 8.1 – Identify and prescribe major silviculture practices for managing timber stand growth.
- Forest Science 8.2 – Describe techniques used to harvest timber.
- Forest Science II 10.1 – Identify and explain primary timber growing variables.
- Forest Science II 12.2 – Explain why reforestation is most important.

HANDOUT:

- Forest Science 9.7 – Formulate timber volume from timber cruising techniques.

CAREER:

- Basic Agricultural Science 10.8 – Analyze skills, education requirements, income and advantages and disadvantages of careers in forest and natural resources industry.
- Forest Science 3.2 – Research the employment opportunities in the forestry industry.

Page 3: Forest Products

- Forest Science 8.5 – Explain techniques uses to process forest products.
- Forest Science 9.6 – Categorize forest products.

CAREER:

- Basic Agricultural Science 10.8 – Analyze skills, education requirements, income and advantages and disadvantages of careers in forest and natural resources industry.
- Forest Science 3.2 – Research the employment opportunities in the forestry industry.

Page 4: Forest Footprint

- Forest Science 3.1 – Differentiate between renewable and nonrenewable natural resources.
- Forest Science 3.3 – Identify products made from trees.

STANDARDS

SECTION 3: SUSTAINABILITY

Page 1: Carbon Cycle

- Forest Science II 4.5 – Explain how trees work to improve the environment.

Page 2: Sustainable Forestry

- Forest Science 5.4 – Display and illustrate examples of how trees are important to the economy and environment.
- Forest Science 8.3 – Research Best Management Practices (BMP) for forestry and sustaining forest land.
- Forest Science II 4.5 – Explain how trees work to improve the environment.
- Forest Science II 12.1 – Define the sustainable forestry initiative.
- Forest Science II 12.3 – Explain how water quality will be protected.
- Forest Science II 12.11 – Describe the benefits to companies for complying with sustainable forestry.
- Forest Science II 12.12 – Explain why education is important for the sustainable forestry initiative.

Page 3: Healthy Forests

- Forest Science 7.1 – Identify characteristics of a healthy forest
- Forest Science 10.2 – Discuss environmental factors that influence the establishment and spread of undesirable and invasive species.
- Forest Science 11.1 – Show the economic losses attributed by insects and diseases

Page 4: Prescribed Fires

- Forest Science 6.1 – Differentiate between desirable and undesirable fires and prepare a report on the role fire plays in a healthy forest
- Forest Science 6.2 – Explain the techniques used to suppress wildfires and manage prescribed fire.
- Forest Science 6.3 – Demonstrate the application of fire suppression and fire safety techniques.

CAREER:

- Basic Agricultural Science 10.8 – Analyze skills, education requirements, income and advantages and disadvantages of careers in forest and natural resources industry.
- Forest Science 3.2 – Research the employment opportunities in the forestry industry.

Page 5: Urban Forests

- Forest Science II 4.1 – Explain the history of the urban and community forest program in the U.S.

STANDARDS

SECTION 4: RECREATION & WILDLIFE

Page 1: Recreation Brochure

CAREER:

- Basic Agricultural Science 10.8 – Analyze skills, education requirements, income and advantages and disadvantages of careers in forest and natural resources industry.
- Forest Science 3.2 – Research the employment opportunities in the forestry industry.

Page 2: Wildlife In Georgia

- Basic Agricultural Science 10.5 – Identify important species of trees and wildlife in Georgia.
- Basic Agricultural Science 10.6 – Explain the relationship between wildlife and the environment.

CAREER:

- Basic Agricultural Science 10.8 – Analyze skills, education requirements, income and advantages and disadvantages of careers in forest and natural resources industry.
- Forest Science 3.2 – Research the employment opportunities in the forestry industry.

Page 3: Wildlife Habitats

- Forest Science II 6.5 – Describe the basic habitat requirements of a wildlife species.
- Forest Science II 6.6 – Analyze and describe wildlife ecosystems.
- Forest Science II 12.4 – Explain how wildlife habitat will be enhanced.
- Wildlife Management 4.4 – Determine the relationship between habitat availability and wildlife populations.
- Wildlife Management 4.11 – Identify plant materials that serve as food and/or cover for wildlife.

Page 4: Game Species

- Forest Science II 6.12 – Identify and provide examples of the most common game species found in the southern part of the United States.
- Wildlife Management 6.4 – Explain the importance of managing wildlife populations.
- Wildlife Management 6.5 – Identify methods of manipulating wildlife populations for management purposes.