

## OVERVIEW

In collaboration with The Georgia Forestry Foundation (GFF), Georgia Public Broadcasting produced an interactive, educational experience for the classroom. Georgia Forests: Virtual Learning Journey is a free resource designed to teach students about forest ecosystems, food webs, and life cycles, as well as forestry management processes, career opportunities, and much more. Georgia educators served as consultants on the project to ensure proper alignment to Georgia standards and to provide guidance on instructional best practices. Students can:

- Compare and contrast the forest characteristics in the different regions of Georgia
- Watch videos narrated by experts
- Examine plant and animal cells with VR and AR technology
- Interact with photosynthesis and carbon sequestration diagrams
- Learn about forestry management techniques and the economic impact of the forestry industry
- Rediscover products we use in our everyday lives
- Explore a variety of forestry careers
- Analyze and synthesize content through standards-aligned writing prompts, activities, vocabulary, and STEAM challenges
- Take virtual reality tours of the forestry industry in action by downloading the free GPB Education VR/AR app

## ACTIVITIES & STEAM CHALLENGES

This virtual learning offers a variety of activities and STEAM challenges that are available at [gpb.org/forests](http://gpb.org/forests). The STEAM challenges include:

### STEAM Challenge #1: The Food Chain Lantern Festival

Students can join the parade by creating a lantern that models the role of producers, consumers, and decomposers to shed light on the flow of energy within a forest.

### STEAM Challenge #2: Wood You Believe How Much We Need Trees

Students can take on the role of an environmental scientist to investigate how and why it is important to conserve and use sustainable practices in forestry.

### STEAM Challenge #3: Welcome to My Neck of the Woods

Students can explore the different geographical regions in Georgia to discover the plants and animals that live in their neck of the woods.

### STEAM Challenge #4: The Importance of the Gopher Tortoise

Students can be an advocate for Georgia's official state reptile. The gopher tortoise is considered a keystone species, meaning they are a species on which other animals depend, and they need help to protect the biodiversity in our forest ecosystems.

### STEAM Challenge # 5: The Game of Life

Students can examine the game of life by designing their own adventure. They spin the wheel to learn about plant and animal cells and how good and bad microorganisms play a role in the game.

## GEORGIA STANDARDS

*The following are the core standards covered in Georgia Forests I. However, each STEAM challenge is aligned to cross-curricular standards that are outlined in the corresponding teacher guide, found at [gpb.org/forests](http://gpb.org/forests).*

### THIRD GRADE

**S3L1. Obtain, evaluate, and communicate information about the similarities and differences between plants, animals, and habitats found within geographic regions (Blue Ridge Mountains, Piedmont, Coastal Plains, Valley and Ridge, and Appalachian Plateau) of Georgia.**

- Ask questions to differentiate between plants, animals, and habitats found within Georgia's geographic regions.
- Identify external features and adaptations (camouflage, use of hibernation, protection, migration, mimicry) of animals to construct an explanation of how these features/adaptations allow them to survive in their habitat.
- Use evidence to construct an explanation of why some organisms can thrive in one habitat and not in another.

### FOURTH GRADE

**S4L1. Obtain, evaluate, and communicate information about the roles of organisms and the flow of energy within an ecosystem.**

- Develop a model to describe the roles of producers, consumers, and decomposers in a community.
- Develop simple models to illustrate the flow of energy through a food web/food chain beginning with sunlight and including producers, consumers, and decomposers.

### FIFTH GRADE

**S5L3. Obtain, evaluate, and communicate information to compare and contrast the parts of plant and animal cells.**

- Develop a model to identify and label parts of a plant cell (membrane, wall, cytoplasm, nucleus, chloroplasts) and of an animal cell (membrane, cytoplasm, and nucleus).
- Construct an explanation that differentiates between the structure of plant and animal cells.

### SEVENTH GRADE

**S7L2. Obtain, evaluate, and communicate information to construct scientific explanations to describe how cell structures, cells, tissues, organs, and organ systems interact to maintain the basic needs of organisms.**

- Develop a model and construct an explanation of how cell structures (specifically the nucleus, cytoplasm, cell membrane, cell wall, chloroplasts, lysosome, and mitochondria) contribute to the function of the cell as a system in obtaining nutrients in order to grow, reproduce, make needed materials, and process waste.

**S7L4. Obtain, evaluate, and communicate information to examine the interdependence of organisms with one another and their environments.**

- Develop a model to describe the cycling of matter and the flow of energy among biotic and abiotic components of an ecosystem.

## EIGHTH GRADE

### **SS8G1. Describe Georgia's geography and climate.**

- b. Distinguish among the five geographic regions of Georgia in terms of location, climate, agriculture, and economic contribution.

### **SS8E1. Explain how the four transportation systems (road, air, water, and rail) of Georgia contribute to the development and growth of the state's economy.**

- a. Evaluate the ways in which the Interstate Highway System, Hartsfield-Jackson International Airport, deepwater ports, and railroads interact to support the exchange of goods and services domestically and internationally.
- b. Explain how the four transportation systems provide jobs for Georgians.