# Forestry

**Grade Level:** 6th – 8th Grade

**Approximate Length:** 125 – 180 minutes

## Objectives:

- Learn the importance of trees
- Discuss the relationships between plants, animals and people
- Learn how to pace
- Understand how to measure trees and determine their value for habitats or lumber

## Science Standards Available (Teacher will identify which standards to bundle):

- ESS3-3  Human Impacts on the Environment
- ESS3-4  Human consumption of natural resources
- LS1-4  Animal behavior and plant structures
- LS1-5  Environmental and genetic growth factors
- LS1-6  Photosynthesis: Matter cycling – energy flow
- LS2-1  Effects of resource availability
- LS2-2  Interdependent relationships in ecosystems
- LS2-3  Matter cycling and energy flow in ecosystems
- LS2-5  Biodiversity and ecosystem services solutions

## Outline for Program:

- **Interest Approach (5-10 min):** Students will start the lesson by working as a team in small groups to create a description of what a healthy forest looks like and give examples.  Then as a whole group we will come together to share our answers, to see how each groups perception might differ.
- **Opening Activity (15-20 min):** During this time, students will learn about Dendrochronology.  This activity will help students understand that the study of the age of trees can tell a lot about the future of a wood lot.  Students will see how tree types and their environment will have big effects on the growth rings produced.  Students will go around the stations to examine the tree cuttings and guess the age of the tree.   When the group is done, we will go over the answers together.
- **Presentation (45-60 min):**  The students will learn about the importance of a healthy forest and how forester support the lumber industry and habitats for animals.  We will go through the ways to identify trees, by using clues such as branching patterns, leaf types and bark.  Students will understand that certain trees are more suitable for lumber and some for habitats.  Together will explain how pacing is an important tool to measure distance in a wood lot and students will also learn how to use another tool, a Biltmore stick.  These tools are very important to foresters and help them find the height and diameter of trees.  Ultimately, students will be able to examine a forest, understand the industry standards and decide if trees should be harvested or saved for wildlife habitats.
- **IQhub Scavenger Hunt (45-60 min):** The IQhub is an interactive museum, that will help the students build on topics they have already learned and grab their attention for some new ones as well.  Students can work individually or in small groups to explore the IQhub and learn about agriculture and the environment.  This museum incorporates Science, Technology, Engineering and Math (STEM) to give students a well-rounded and fun learning experience.
- **Closing Activity (15-30 min):**  The students will put their skills from this lesson to the test and determine which trees they want to cut down for lumber and which trees to keep for wildlife habitats. Students will evaluate the area around the trees, identify the tree type and determine the volume.

## Additional Resources on YouTube:
https://youtu.be/BgnF0WvNgoc
https://youtu.be/ErJu0cWru4s