

# Forestry Day Camp Activity Guide

## Objectives:

Forestry Day Camp is design to introduce the basic concepts of the 4-H Forestry Field Day Competition to 4-H'ers and recruit them to become a part of the county Forestry Team. After taking part in the Forestry Day Camp, students will:

- Have a general understanding of Tree Identification and be able to identify 15 or more trees on the 4-H Forestry Field Day list.
- Be able to measure distance by means of counting their pace.
- Have a general understanding of Saw timber volume estimation and be able to measure the diameter and height of a tree using a tree scale stick.

## Preparation:

Prior to the start of the Day Camp, the coach/instructor should identify an area where the day camp can be conducted. The area selected should have a place for the students to sit for general instruction, a wooded area or nature trail where trees can be found for identification purposes, and an open field or area where students may learn pacing. A county park with an open area, nature trails and shaded picnic area makes an ideal place. Regardless of the site that is chosen, make sure that the trees listed on pages 7 & 8 of the student workbook can be find onsite along with at least 10 additional trees from the Fictional Key found on pages 9-11.

Before advertising your day camp, determine if it will be a whole or half day event. You will need to plan accordingly for snacks, lunch and drinks. Since day camp will be conducted as a summer activity, make sure you have constant access to water and have the 4-H'ers keep hydrated. Schedule water breaks throughout the class.

## Materials Needed:

- **Forestry Day Camp Workbook** – The workbook is formatted as a booklet that is designed to be printed front to back. The front and back cover hve areas that you can customize for county, training dates and contest dates for each year. One workbook is needed per student.
- **Clip Board and Pencil for each student.** – have extra pencils on hand. Instead of clipboards, a 5 ½ x 8 ½ sheet of cardboard and gym clip can be used as a clip board for the workbook.
- **Tree Scale Sticks** – 1 stick for each 1-2 students.
- **Calculator** (optional but helpful) – 1 for each 1-2 students
- **Measuring Tape (100 ft) and Marking Flags (20-25).**
- **Role of Flagging Tape**
- **Hand pruners for cutting Tree ID samples** (optional)

### **Class Outline:**

The Student Workbook serves as the basic class outline for the Day Camp. The instructor or coach can incorporate or change any activity to best suit the location and number of students involved.

1. **Introduction** – Begin with a welcome and introduction of the 4-H Forestry Field Day Event. Provide students with an overview what they will be doing today. Make sure to remind students to drink plenty of water throughout the day.
2. **Adopt a Tree Activity** (page 2) – adapted from Project Learning Tree. Send students out to find a tree for them to adopt and have them complete the questions on page 2 of the student workbook about their tree. Allow 5-10 minutes for students to find a tree and do their investigative work. When the group assembles, have a few students share their tree. Point out what makes each tree unique.
3. **Introduction to Tree ID** (pages 3-6) – Build upon the concept of the unique features of the trees that the students adopted. What makes each tree unique is how we go about identifying it. Using the info on pages 3-6, point out to students some of the key features that make trees unique. Using the plates on pages 4-6 or sample leaves, teach students about leaf shape, margins, etc.
4. **Tree Scavenger Hunt** – have students search the area (define boundaries) for the trees described on pages 6-7. You will need to do your homework ahead of time to make sure the trees are there. If not, you can create your own list of tree to look for that can be found in the area.
5. **Take a Walk** – explore the area (natural trails) with the students looking for different trees. Have students try to identify the trees along the way using the Fictional Key on pages 9-11. (This key was made up by a group of 4-H'ers over the years to help them remember trees based on what they associated each tree with. This is not a real key). While walking the trail, you may want to collect samples of trees that you find to they can be reviewed after the walk.
6. **Pacing** – Introducing pacing on page 12 and have kids determine their “magic number,” step factor or pace factor. The workbook outlines teaching based on step rather than pacing. Pacing can be more accurate, but “newbie’s” seem to understand and get the hang of counting every step quicker. You will need to mark off a 100ft area using flags on a reality level area.
7. **Pacing Practice** – Set up a pacing course and walk the group through completing a pacing exercise. After each student understands, you may set up several additional courses to allow them to practice. The easiest way is to

quickly place out the flags for each course. You can measure them after the students finish the course to see how well they did.

8. **Measuring DBH** - Teach students how to use a scale stick to measure the diameter of a tree at breast high. Have students work in pairs and help each group so you know they understand how to measure the tree. Mark 10 trees with flagging tape and have students measure each one. You will need to measure also using a scale stick or a diameter tape to check their work. For this first session you want the students just to be close (1-2 inches off). You can iron the details out during later practice sessions to help them be more exact.
9. **Merchantable Height** – Using the scale stick, teach students how to measure the height of a tree. To measure height, you will need to be 66 ft away from the base of the tree. To start with, set up flags 66 ft apart and have students determine how many steps they need to take to walk 66 feet away from the tree. They can use the chart on page 17 to help record their steps. Mark a minimum of 5 trees and have the students measure the high of each. Have the students work in pairs. Again, for this first session, you want the kids to be close. As long as they understand the concept of measuring the tree, you can help them be more exact in future sessions.
10. **Sawtimber Volume Estimation**( putting it all together) - Introduce students how DBH and Merchantable Height will be used to calculate Sawtimber Volume for the contest. In small groups, practice on several trees checking their results as they go. Work through at least 5 trees completing one of the charts on page 18. Show students how to use the table on page 19 to calculate sawtimber volume.
11. **Sawtimber Practice**. – Mark 5 additional trees and have students complete a sawtimber volume estimation exercise using the second chart on page 18.

A Forestry Day Camp is not limited to activities outlined in the student workbook. A coach may also use this time to introduce insects or diseases, visit an area attraction related to forestry or incorporate other activities or games to make the day fun.