

What is FERN?

Maine TREE Foundation's Forest Ecology Research Network (FERN) is a forest-based science curriculum and community science initiative. Through interactive, outdoor lessons, students develop skills in measurement, data collection, analysis, and systems-thinking. FERN lessons take place in a consistent 1/10th acre forest plot, which is established and maintained near the host school. Maine TREE Foundation connects FERN classrooms with local forestry professionals who support plot setup and curriculum delivery while serving as a role model in a forestry profession for students.



The FERN curriculum introduces students to ways of seeing, exploring, and understanding a forested landscape, including canopy layers and indicators of forest health.

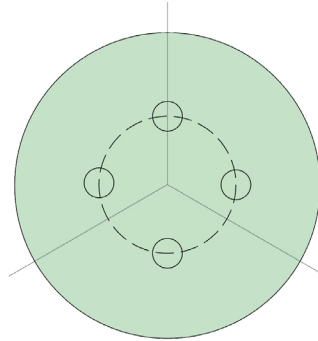
The FERN curriculum is composed of nine activities, which cover topics including tree measurement, forest structure, wildlife habitat, seasonal shifts, and climate change. Each activity in this guide includes a description of the data to be collected and its importance in the bigger picture of forest monitoring, a list of necessary materials, a procedure, and a datasheet. Also included in each activity are pull-ins to standards-aligned Project Learning Tree (PLT) lessons. These lessons allow teachers to expand curricula around the FERN program, further integrating these activities into their planning.



The FERN Plot

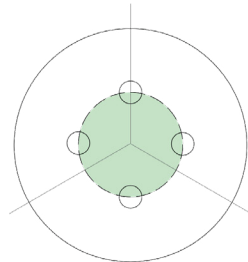
FERN programming takes place in a 1/10 acre circular forest plot. This plot can be established on school property, or on the property of a neighboring landowner, such as a local Land Trust.

Embedded in 1/10 acre FERN plots are one 1/50 acre plot, four 1/1000 acre plots, and three transect lines. These embedded plots, or subplots, allow students to collect data at a finer scale. Each FERN activity details which scale data should be collected at and facilitates student exploration of *why*. More information on FERN plots can be found in *Establishing a FERN Plot*.

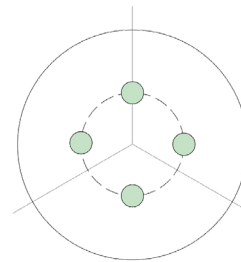


1/10 Acre FERN Plot

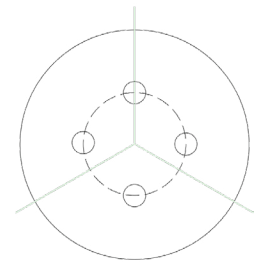
the 1/10th acre FERN Plot is the core of FERN programming



1/50 Acre FERN Plot



1/1000 Acre FERN Plot



FERN Plot Transect Lines

The FERN Network

Classrooms collect data in FERN plots across Maine, collectively creating a statewide network of forest monitoring. By sharing your data with Maine TREE Foundation, you continue to build this statewide database of ecological monitoring. Participating classrooms gain access to all FERN data, which can be incorporated into in-classroom analysis and activities.

Each green dot on this map represents a 1/10th acre FERN plot where Maine students have collected, recorded and shared forest monitoring data.

