

Lesson Overview

Project Learning Tree has a well-known and loved activity called Adopt a Tree. This activity guides children to "adopt" a tree, deepening their awareness of individual trees over time and encouraging a greater understanding and appreciation of their local environment.

In Melbourne, Australia, the city decided to create emails for each of the trees within its urban area in response to a prolonged drought, which was causing many trees to decline in health. What visitors and residents began using the tree email addresses for was a surprise; the <u>BBC describes</u>:

"Instead of identifying a tree in need of attention and emailing the council to get it done, people in Melbourne began sending personal messages to the trees... 'People literally are talking to these trees as if they are people, telling them how much they love them, thanking them for protecting them against the sun, apologising when their dog pees on them in the morning,' he says."

Hearing this story inspired our team to create this year-long unit of indoor/outdoor activities and nature journaling prompts. When done in full, we've created methods for engaging students in noting and engaging in using their tree as a lens to watch the seasons change over time.

As the most forested state in the United States, encouraging students to become aware of and connected to our forests is crucial in building environmental literacy. Nature journaling and a routine practice of forest/outdoor time allow students to build confidence and comfort in outdoor spaces. In our adaptation to Project Learning Tree's Adopt a Tree activity, we have created a way for students to connect with the tree they adopted at the beginning of the school year and continue to come back and notice changes over time. This skill of noting change within ecosystems is critical to understanding climate change and the environment as a whole. This teacher guide accompanies a set of student pages that are also available as a nature journal created by Maine TREE to guide students through the process of noting changes in their adopted tree throughout the year.

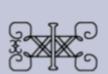


Key Concepts

Cumulatively, having students return to their adopted tree throughout the school year and observing, wondering about, and witnessing the changes that happen covers many concepts and standards. Here's a general overview of what can be included:

- Environmental Awareness: The activity promotes understanding and appreciation of the local
 environment, particularly Maine's forests. The overall goal is to enhance environmental literacy by
 fostering knowledge, awareness, and a sense of reciprocity towards the environment.
- Phenological Observation: Students learn to observe and record changes in their adopted tree over time (phenology), developing a deeper understanding of seasonal cycles and natural processes.
- Change Detection: The core focus is on noticing and documenting changes in the tree, a crucial skill for understanding broader environmental shifts, including those related to climate change.
- **Ecosystem Connection:** By observing a single tree, students begin to understand the interconnectedness of living things within an ecosystem.
- Outdoor Confidence and Comfort: The activity encourages students to spend time outdoors, building comfort and familiarity with natural spaces.

Establish a Land Acknowledgement and Honor Code



Create a Code of Honor and a Land Acknowledgment -

These Wabanaki Studies lessons are a really wonderful way to center students at the beginning of the school year and in establishing a practice of going outside, which will hopefully also blend into their relationship with the environment!

■ Create a Code of Honor ■ Land Acknowledgment

Establishing Expectations and a Routine around Nature Journaling/Outdoor Time

Determine how often students will observe the tree (e.g., weekly, bi-weekly). Schedule observation times into the class calendar; create a routine and a code of honor with students (Wabanaki Studies lesson above!), making these excursions more enjoyable and predictable for everyone!

Being intentional about this process with students at the beginning of the year can also help gauge their comfort levels and apprehensions about being outdoors!



Lesson Overview

This hands-on, inquiry-based lesson takes students outdoors to investigate the characteristics of trees. Students will select an individual tree and use scientific observation skills to analyze its structure, identify signs of life, and understand its ecological role. The lesson culminates in a nature journaling activity where students document their findings through sketches, qualitative data collection, and verbal analysis.

Outcomes

Alignment with Maine Learning Results (MLRs) Content Areas

The "Grow with a Tree" guide connects to several specific content standards within the Maine Learning Results:

- Science and Engineering: The core of the unit is rooted in scientific observation and inquiry.
 Students learn about phenology (the study of seasonal cycles) by observing and recording changes in their trees throughout the year. The guide's key concepts include phenological observation, change detection, and understanding ecosystem connections, which directly align with life science and ecology standards.
- Social Studies: The inclusion of Wabanaki Studies lessons specifically addresses Maine's
 requirement for education in this area. The "Land Acknowledgement" and "Code of Honor"
 activities provide a context for understanding local history and cultural connections to the
 environment.
- English Language Arts: The frequent use of nature journaling encourages students to practice narrative, expository, and poetic writing. The activities also support the development of vocabulary related to science and the environment.

Elementary Student Journaling Page

Middle/High Student Journaling Page



Instruction

Finding Your Tree

Engage (indoors before you go outside):

- 1. Before you go outside, have students close their eyes and think about what comes to mind when they think of a tree and of a forest.
- 2. Have them draw what they picture when you ask them to visualize a tree.

 This model or the stereotypical tree drawing will make their own tree and a drawing of it much more special later!

Prompts for Nature Journaling (outdoor):

Elementary: EXCERPT from PLT's Explore Your Environment, Adopt a Tree Lesson pg 21 (Grades K-2)

- 1. Bring students out to the border of the school yard where the forest abuts and/or into a forested area close to school. Give students a few minutes to use their senses of sight, hearing, smell, and touch to get acquainted with the area. Have each student choose an individual tree to observe.
- 2. Invite them to draw or write their responses on the My Tree Journal student page. Encourage students to complete the student page questions about leaves, either as a group or individually.
 - a. Ask individuals to complete this sentence and record it on the student page: "My tree is." If their language skills are limited, students can draw pictures instead.
 - b. Share out: Ask volunteers to describe the tree using their sense of sight and then their other senses. Summarize each student's description by making comparative statements.
 - i. Invite them to share their leaf drawings or a leaf from their tree with the group.
 - ii. Ask students whether they think the tree is alive or not—and how they know.
 - iii. Depending on your group, pose additional questions for discussion, such as: How are all the trees here alike? How are they different? Are they all alive? What else is alive here? What things do these trees give to humans? How do these trees help the environment?

NONLINGUISTIC REPRESENTATIONS: Conduct a variety of journaling activities, such as taking photos of students with their trees; creating drawings, poems, or stories about students' trees; or collecting pressed leaves, rubbings, flowers, or twigs from the trees.



Middle and High School Variation:

- Bring students out to the border of the school yard where the forest abuts and/or into a forested
 area close to school. Give students a few minutes to use their senses of sight, hearing, smell, and
 touch to get acquainted with the area. Have each student choose an individual tree for the whole
 group to observe.
- 3. Before you let students go off to a nature journal, have them create a definition of a forest and how individual trees are part of it.
- 4. Bring students out to the border of the school yard where the forest abuts and/or into a forested area close to school. Give students a few minutes to use their senses of sight, hearing, smell, and touch to get acquainted with the area. Have each student choose an individual tree OR collectively select one for the whole group to observe.
 - a. Noting the weather, time of day, and where you are is a great habit to get into if you're starting a nature journaling practice!
 - b. For a Social Emotional Learning integration, have students describe their "internal weather" as well!
- 5. Give students time to journal independently, covering as much or as little of the below aspects of their tree as you like:
 - a. Do you know the species of your tree? How do you know?
 - i. What characteristics could you note and draw to help you find out if you don't know?
 - b. Assess the health of your tree. Is it alive? What makes you think or know that?
 - i. Are there signs of disease (fungal growth, cankers, defoliation), insect damage (galls, boreholes), or stress (stunted growth, dead limbs)?
 - c. If you see another tree that looks like the same species nearby, what differences do you observe? How might environmental factors have caused these variations?
 - d. What is one ecosystem service your tree provides to humans and/or other species within the ecosystem?



Wrap Up (indoor or outdoor):

- e. Compare the drawing that students did of a tree before they went outside. Have them spend a few minutes noting (metaphorically or literally) the difference between the two drawings.
 - i. What makes their tree unique? How is it different from the model of a tree that they visualized and/or drew before you went outside?
 - ii. What aspects of your trees left you with more questions or curiosities to investigate? This can be a great way to gauge what students are most interested in and what they notice/are eager to learn more about!

Extension Activities:

- **ID your tree!** This lesson creates a segway into tree identification (with a dichotomous key!) and gives students an opportunity to identify which species are around the school yard/observation area, which can lead to all sorts of exciting extensions!
 - You can use our Maine Tree ID lesson and contact your <u>Maine Forest Service District</u>
 Forester to see if they'd be able to do a tree ID walk too!