

Ecosystem Services

GRADES 3–5

Guiding Question

What benefits, or ecosystem services, do trees provide?

Connecting Concepts

- Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. (NGSS, LS2.B: Cycles of Matter and Energy Transfer in Ecosystems)
- Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not. (NGSS, ESS3.A: Natural Resources)
- Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling. (NGSS, LS4.D: Biodiversity and Humans)
- Forests provide multiple economic benefits that include financial returns to owners and investors. They also provide ecosystem service benefits, such as carbon storage, clean water, recreation, and tourism. (PLT FLF, 2.C.4; see related FLF Concepts 1.B.6, 2.A.2, 2.B.4, and 2.B.7)

Scope and Sequence

The collection and arrangement of content below supports an intentional student learning progression.

Activity	Description
Trees for Many Reasons	Students read and analyze a fictional story highlighting trees as a natural resource.
We All Need Trees (in Grades K–2, see 3–5 Variation)	Students examine various products and determine which ones are made from trees.
Poet-Tree	Students express their thoughts about trees using poetry.
Get Outside!	Students investigate the psychological and physical effects of working or playing outside, compared with inside.
Plant a Tree (in Grades 6–8, see 3–5 Variation)	Students express their appreciation of trees while participating in a tree-planting project.

See plt.org/academic-standards for detailed standards correlations for each activity.

Storyline

Students explore the concept that trees and plants are renewable natural resources that benefit humans in a variety of ways.

Storyline continued on next page.



Ecosystem Services (cont.)

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- Begin with the activity Trees for Many Reasons, which introduces the idea that trees are an important resource. Ask students to name some of the many ways we depend on trees.
- Next, conduct the Variation for Grades 3–5 of the activity We All Need Trees, to examine the variety of products that come from trees.
- Next, use the activity Poet-Tree to help students focus on their personal experience and express their thoughts and feelings about trees through different poetic forms.
- Then, use the activity Get Outside! to help students plan an investigation to compare being outside with being inside. You might encourage them to compare outdoor areas with different tree densities.
- Finally, conclude the unit by involving students in planting a tree. The Variation for Grades 3–5 in Plant a Tree encourages them to think about what they like about trees, how trees help people, and how planting trees helps the world.

