TEACHING WITH i-Tree

TEACHING WITH i-TREE

Produced by Project Learning Tree (PLT) in collaboration with the U.S. Forest Service (USFS), *Teaching with i-Tree* is designed to engage middle and high school students in STEM (science, technology, engineering, and math) as they calculate the economic and environmental benefits of trees.

The activities can be used in formal classroom settings or with nonformal groups, such as scouts and students enrolled in afterschool programs.

Download PLT's *Teaching with i-Tree* unit at **www.plt.org/curriculum/teaching-with-itree/**

"This is something we can actually use with real-world application."
— PATTI FARRIS, 7TH GRADE SCIENCE TEACHER, RAMSEY JUNIOR HIGH SCHOOL

i–TREE DESIGN

PLT'S *Teaching with i-Tree* lessons accompany i-Tree Design, a suite of free online tools developed by USFS and its partners, to help students discover and analyze the many ecosystem services that trees provide.

How does i-Tree Design work?

- Select a tree.

- Visit https://design.itreetools.org/

- Input your location and the tree species, circumference, and condition.

- You'll get reports and a dollar value for the benefits the tree provides, such as:
  - Reducing greenhouse gas
  - Improving air quality
  - Intercepting stormwater

TEACHING WITH i-TREE LESSONS

PLT's *Teaching with i-Tree* unit contains three hands-on and fun activities that teachers can use in conjunction with i-Tree Design to stimulate students' critical thinking and problem solving. The lesson plans include video tutorials and student worksheets. The activities provide a structured alignment to Next Generation Science Standards and the Common Core State Standards for English Language Arts.

Activity 1—Tree Benefits and Identification
Students identify trees using free apps and online tree guides. They discover the products we obtain from trees, how we depend on trees in our daily lives, and the value that trees provide to their community and the environment.

Activity 2—Tree Value
Students identify, measure, and assess the health of trees. They calculate the dollar value and ecosystem services of the trees using i-Tree Design software and create an Ecosystem Services Guide for their study site. They generate a tree improvement action plan and, if feasible, implement part or all of it.

Activity 3—Land Manager Role Play
Students are challenged to apply what they've learned as they role-play being land managers. They gain skills in communicating and presenting scientific information. They also learn about a variety of forest-related careers.

EXTEND THE LEARNING

Students can combine the data they have gathered about trees on their school site with other investigations to develop a comprehensive plan to make their schools greener and healthier. Learn more at www.plt.org/greenschools.

> *"Very cool program."*
> — JANE HOUSEAL,
> ARKANSAS MASTER NATURALISTS

ABOUT PROJECT LEARNING TREE

Project Learning Tree® uses trees and forests as windows on the world to increase students' understanding of the environment and actions they can take to conserve it. Learn more at www.plt.org.

The Sustainable Forestry Initiative® Inc. is a sustainability leader that stands for future forests. PLT is an initiative of SFI. Through PLT and other initiatives, SFI supports getting youth outdoors and into nature in ways that inspire them to become environmental stewards and future forest leaders, and to introduce them to green careers. Learn more at www.sfiprogram.org.

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