

? GUIDING QUESTION

What benefits do trees that live in our community provide?

GRADES 6–8

FOREST IN THE CITY

PRACTICES

PLANNING AND CARRYING OUT INVESTIGATIONS

Students either create their own survey or use the example provided to conduct an investigation to answer a question about the benefits of trees.

ANALYZING AND INTERPRETING DATA

Students collate their data and create graphs to analyze the data.

CONCEPTS

BIODIVERSITY AND HUMANS

Students collect information from a survey and analyze data to learn how the presence or absence of trees can affect the ecosystem services on which humans rely.

PATTERNS

Students interpret graphical data to identify patterns in the data.

SCIENCE AND ENGINEERING PRACTICES

Planning and Carrying Out Investigations

Conduct an investigation to produce data to serve as the basis for evidence to answer scientific questions.

Analyzing and Interpreting Data

Analyze and interpret data to provide evidence for phenomena.

DISCIPLINARY CORE IDEAS

LS4.D: Biodiversity and Humans

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.

PERFORMANCE EXPECTATION

MS-LS2-5.Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Note: Keep in mind that no single activity can fully meet a Performance Expectation.

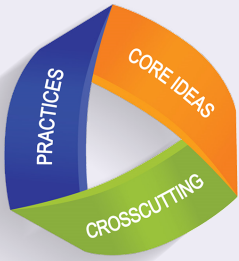
CROSCUTTING CONCEPTS

Patterns

Patterns can be used to identify cause and effect relationships. Graphs, charts, and images can be used to identify patterns in data.



NGSS CORRELATION



? GUIDING QUESTION: GROUNDED IN PHENOMENA

Phenomenon-based instruction is directly connected to students' homes, communities, and cultures, thus making teaching and learning more diverse, inclusive, and relevant. PLT identifies Guiding Questions that drive phenomenon-based, three-dimensional learning for each of the 50 Explore Your Environment K-8 Activity Guide activities.

CONNECTING PLT'S EXPLORE YOUR ENVIRONMENT K-8 ACTIVITY GUIDE TO NGSS

IN THE ACTIVITY

The left hand column details where science connections can be found in the PLT activity.

PRACTICES

ENGAGING IN THE PRACTICES OF SCIENCE helps students understand how scientific knowledge develops. Students gain skill in the wide range of approaches that are used to investigate, model, and explain the world.

CONCEPTS

THESE CORE IDEAS HAVE BROAD IMPORTANCE across science disciplines, providing tools for understanding or investigating complex ideas and solving problems, and can be taught at progressive levels of depth and complexity.

Project Learning Tree is committed to supporting educators in providing instruction that helps students meet science education standards.

The Next Generation Science Standards (NGSS) define what students should know or be able to do at the end of instruction. To demonstrate learning, NGSS identifies Performance Expectations (PEs) that may be used to assess a student's knowledge and proficiency. To meet benchmarks, students engage in the three dimensions of science— Science & Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts—to explain a phenomenon or design a solution.

Activities in the *Explore Your Environment K-8 Activity Guide* provide students opportunities to explore the three dimensions of science to build knowledge and understanding. In addition, activities offer phenomenon-based learning, which involves exploring the real world through learner-centered, multidisciplinary investigations that promote inquiry and problem solving.

The NGSS Correlation pages for each activity include a guiding question, science connections found in the activity, and explicit NGSS correlations. Activities are organized around the three dimensions of science, making it useful for educators even if their state has not adopted NGSS.

FROM NGSS

The right hand column identifies correlations to specific NGSS standards, including references to the relevant PE for focus on the grade level band.

SCIENCE AND ENGINEERING PRACTICES

The practices are what students do to make sense of phenomena and reflect how scientists and engineers investigate the world and design solutions.

DISCIPLINARY CORE IDEAS

These foundational ideas of science are grouped into four domains: physical sciences; life sciences; Earth and space sciences; and engineering, technology and applications of science.

CROSSCUTTING CONCEPTS

These concepts hold true across the natural and engineered world. Students use them to make connections across disciplines, connect to prior experiences, and engage with material in other dimensions.

