

## ? GUIDING QUESTION

How is environmental justice relevant to our community?

GRADES 6–8

ENVIRONMENTAL JUSTICE FOR ALL

### PRACTICES

#### ANALYZING AND INTERPRETING DATA

Students gather and analyze data using the EJSCREEN mapping tool to explore environmental justice in their community.

#### OBTAINING, EVALUATING, AND COMMUNICATING INFORMATION

Students obtain information about environmental justice through case studies and internet research and create a visual presentation.

### CONCEPTS

#### HUMAN IMPACTS ON EARTH SYSTEMS

Students learn about changes that have damaged their community's environment and propose solutions.

#### PATTERNS

Students use the EJSCREEN tool to look for patterns in the data that indicate causes of possible environmental justice issues.

### SCIENCE AND ENGINEERING PRACTICES

#### Analyzing and Interpreting Data

Analyze and interpret data to provide evidence for phenomena.

#### Obtaining, Evaluating, and Communicating Information

Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and methods used, and describe how they are supported or not supported by evidence.

Communicate scientific and/or technical information (e.g., about a proposed object, tool, process, or system) in writing and/or through oral presentations.

### DISCIPLINARY CORE IDEAS

#### ESS3.C: Human Impacts on Earth Systems

Human activities have significantly altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth's environments can have different impacts (negative and positive) for different living things.

#### PERFORMANCE EXPECTATION

**MS-ESS3-3.** Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

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

### CROSCUTTING CONCEPTS

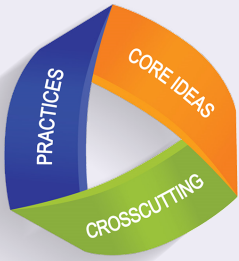
#### Patterns

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.

