Our Ecosystem, Our Community

Program Overview

In *Our Ecosystem, Our Community: Greening Urban Watersheds*, middle school students (grades 6-8) will investigate the guiding question, “How am I part of my local ecosystem?” The lessons in this program will provide students with a foundational understanding of biodiversity and interdependence in ecosystems, and opportunities to explore their local ecosystem through nature journaling and community science data collection. Students will build and test models to learn how restoring urban ecosystems benefits communities and wildlife and manages stormwater. At the conclusion of the program, students will transform their knowledge into meaningful action to understand and protect their local ecosystem.

Program Outline

<table>
<thead>
<tr>
<th>Lesson Name</th>
<th>Guiding Question</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Interdependence and Biodiversity in Ecosystems</td>
<td>Why is biodiversity important in an ecosystem?</td>
<td>In this introductory lesson, TWP staff will guide students through introductions and group agreements. Students will then move into a kinesthetic biodiversity game.</td>
</tr>
<tr>
<td>2. What’s in my Ecosystem?</td>
<td>How am I a part of my local ecosystem?</td>
<td>Students will learn of the local Indigenous stewards of the Bay Area through a land acknowledgment, followed by an exploration of their own schoolyard or surrounding neighborhood to find and identify native medicinal and edible plants, and a hands-on project with native plants.</td>
</tr>
<tr>
<td>3. People, Water, Ecosystems</td>
<td>How is my terrestrial ecosystem connected to bay and ocean ecosystems?</td>
<td>Students will create and analyze different types of watershed maps to learn how water flows through our Bay Area watershed and where water ends up in our watershed (the bay). Students are encouraged to complete an outdoor scavenger hunt before we return for our next lesson.</td>
</tr>
<tr>
<td>4. Gray and Green Watersheds or Field Trip</td>
<td>What is green infrastructure, and how does it help the bay?</td>
<td>Students will learn the difference between gray and green infrastructure by testing the amount, rate, and appearance of runoff on different infrastructure models. Students will analyze the outcome of the experiment and learn about local case studies of green infrastructure in their own community. On the optional field trip,</td>
</tr>
<tr>
<td>(Optional)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The Watershed Project's mission is to inspire Bay Area communities to understand, appreciate, and protect our local watersheds.*

If you have any questions about this program, please contact us at: education@thewatershedproject.org

# Our Ecosystem, Our Community

<table>
<thead>
<tr>
<th>5. Plants and Pollinators</th>
<th>How does green infrastructure increase biodiversity in an urban ecosystem?</th>
<th>Students will learn about the relationship between plant life and pollinators through a kinesthetic trivia game and, conditions permitting, an outdoor scavenger hunt to search for pollinators in the schoolyard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Restoring Urban Ecosystems</td>
<td>How can cities restore the relationship between water, people and ecosystems through the built environment?</td>
<td>In this closing lesson, students will design a drought-tolerant garden by creating a plant palette, followed by making seed spheres that they are encouraged to use in or near their own home!</td>
</tr>
</tbody>
</table>

## Program Goals

1. Students will learn about the interdependence between water, people, the earth, and ecosystems through hands-on, inquiry-based activities.
2. Students will participate in outdoor activities that strengthen their connection to nature.
3. Students will understand how community organizations are working to restore and protect local ecosystems, and take meaningful action to contribute to these efforts.

## Standards Connections

*Our Ecosystem, Our Community* supports learning in the following middle school Next Generation Science Standards Disciplinary Core Ideas:

- LS2.A - Interdependent Relationships in Ecosystems
- LS2.B - Cycle of Matter and Energy Transfer in Ecosystems
- LS2.C - Ecosystem Dynamics, Functioning, and Resilience
- LS4.D - Biodiversity and Humans
- ESS3.A - Natural Resources
- ESS3.C - Human Impacts on Earth Systems

The program also incorporates concepts from the following middle school Common Core Health Standards:

- Identify human activities that contribute to environmental challenges (e.g., air, water, and noise pollution).
- Analyze how environmental pollutants, including noise pollution, affect health.
- Analyze the relationship between the health of a community and the global environment.

*The Watershed Project’s mission is to inspire Bay Area communities to understand, appreciate, and protect our local watersheds.*

If you have any questions about this program, please contact us at: education@thewatershedproject.org

[www.thewatershedproject.org](http://www.thewatershedproject.org)  