



FREE STEM Outreach Programs

For Detroit School Teachers*

EXPLORE YOUR SCHOOLYARD

with help from the OUTDOOR EXPLORATION VEHICLE

Through games and activities, your class will discover what an ecosystem is. Then, with handheld data loggers, probes, sensors, field microscopes, portable weather stations and a host of other observation and data-collection equipment, your students will measure the ecological parameters of your schoolyard. Your class will use this information to form hypotheses and answer questions about the environment around them.

We offer the Ecosystem Exploration program with different focuses, depending on your interests and the time available.

These programs are best suited for students in upper elementary through high school grades.

Most Ecosystem Exploration programs require 60 – 120 minutes, depending on components requested.



**School must participate at least 50% in the Federal Reduced Lunch Program*



ECOSYSTEM EXPLORATION

Choose a FOCUS:

1. ECOSYSTEM COMPARISON

How is your grassy lawn different from a native plant garden? Or from a stand of oak trees? Or even from a row of hedges by the side of the building? Using the tools of the Outdoor Exploration Vehicle, observe and measure the differences between the varied habitats around your school, no matter how large or how small the differences. Then figure out what this means for the animals and plants that call your schoolyard home.

Focus: ecosystem interactions – classification – environmental adaptations – survival – human impact

2. WATER QUALITY AND ENVIRONMENTAL CHEMISTRY

If you have a pond, ditch or stream nearby, have your students discover whether or not different aquatic life could survive based on the chemistry and hydrology of the water. We'll test for dissolved oxygen, pH, phosphates, nitrates and a host of other parameters before figuring out what ranges are required for local aquatic invertebrates and common fishes. What could survive in your water?

Focus: water quality – ecosystem interactions – classification – environmental adaptations – survival – human impact

3. SOIL AND THE FOREST FLOOR

Do you dig dirt? Check out what's going on beneath the grass as we take soil core samples to examine the soil horizons. We'll check for soil color, soil moisture, and the amount of organic matter present. We'll also use the rest of our Ecosystem Exploration tools and focus our measurements on the "lower" levels of the ecosystem.

Focus: ecosystem interactions – classification – environmental adaptations – survival – human impact

4. TEST A HYPOTHESIS

Does your class have a particular question or hypothesis they'd like to explore about their schoolyard? Then why not build your own program? Use the tools of the Outdoor Exploration Vehicle and the expertise of our staff to assist your classroom full of scientists as they run their own Ecosystem Exploration experiment!

Focus: ecosystem interactions – classification – environmental adaptations – survival – human impact

**For more information or to set up an outreach program at your school,
contact Justin Smith at 810-227-2757 ext. 6639 or email justin.smith@metroparks.com**