Nature in the City

Linking Urban Schools with Neighborhood Green Spaces through Natural Science Education

2014-2015 Teacher Information & Program Descriptions
Welcome to the *Nature in the City* Program!

**What is Baltimore Woods Nature Center?**

Baltimore Woods Nature Center, Inc. (BWNC) is a not-for-profit (501(c)(3)) environmental education organization whose headquarters are located at Baltimore Woods in Marcellus, New York, about 12 miles west of Syracuse.

**What Baltimore Woods does...**

Baltimore Woods is a not-for-profit organization that offers people of all ages opportunities to enjoy and learn about nature first-hand in a positive environment that encourages lifelong respect for nature, for others, and for self. BWNC offers a Nature Interpretation Center, a 182-acre nature preserve, and six miles of hiking trails at Baltimore Woods that are open to the public from dawn to dusk 365 days a year free of charge.

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**What is**

**Nature in the City?**

Baltimore Woods’ *Nature in the City* program brings authentic, hands-on/minds-on natural science learning to K-6th grade urban school children. Now in its twelfth year with the Syracuse City School District, this award winning program is better than ever. *Nature in the City* lessons are relevant, meaningful and fun ways to learn science. Each participating classroom receives a series of three lessons throughout the year with a common learning objective and theme. The hour-long lessons are tied to the New York State Science Standards and have been tailored to support the Elementary Science Core Curriculum.

Each year Billy B. Brennan, the Natural Science Song and Dance Man, brings the *Nature in the City* show to participating schools. The concert is a great way to re-enforce science topics covered throughout the year, and a fun capstone to the program.

Through walking field trips to nearby parks and green-spaces, as well as lessons in the classroom, student learning is neighborhood based. By bringing the program to the students, our carbon footprint is reduced, while transportation costs and valuable instruction time are conserved. *Nature in the City* lessons support teachers and enhance the science being taught in the classroom. Most importantly, student science learning is enhanced, as evidenced through standardized and outcome based student assessments.

Supported by the Syracuse City School District, and local corporate sponsors; *Nature in the City* a great way to kick-off a lifetime of science learning!

**How does Nature in the City fit with the New York State Learning Standards?**

*Nature in the City* lessons correlate with the Elementary Science Core Curriculum. Programs chiefly focus on and support Standard 4: *The Living Environment*. Baltimore Woods provides opportunities for students to have direct experiences with the living environment by bringing natural science education into the classroom.
Program Overview

Nature in the City

Background Information

City parks and green-spaces within walking distance of schools are overlooked resources containing an array of cultural, ecological, and historic assets. They serve as a springboard to teach skills and cultivate a love of learning and sensible stewardship.

In 2002, Baltimore Woods created Nature in the City to showcase urban ecology and engage young children in learning about the culture, geography, natural resources and ecology of their neighborhoods. In October 2003, Billy B. Brennan, the Natural Science Song and Dance Man, gave the premier performances of the Nature in the City show he created with Baltimore Woods in Syracuse. In the 2013-2014 school year Nature in the City expanded to all 19 SCSD elementary schools.

Awards

Nature in the City is an award winning program. It has received: the Environmental Quality Award, the highest recognition that the United States Environmental Protection Agency (USEPA) bestows on any organization (2004), the Museums for America Award from the Federal Institute of Museum and Library Services (2004), the Women Taking the Lead to Save Our Planet Award from the Syracuse Commission for Women (2009), and award recognition from the Syracuse Mayor’s office.

“The curriculum moves the children from learning about science in the abstract and/or distant places, back squarely into their own cityscape, where they can observe and re-observe many of the scientific phenomena they studied through Nature in the City.”

Dr. Rob Bixler
Clemson University
Teacher Information

Program Logistics

Program Length—Nature in the City programs are typically 1-1.5 hours in length. Teachers are responsible for supervision at all times and are expected to remain with the class for the entire program.

Preparing for an Outdoor Program

Students, teachers, and chaperones should dress according to the weather. In inclement weather outdoor activities may be shortened, but unless the weather is severe we will still go outside. Please have students wear hats, gloves, boots, and coats in the cold weather and rain gear when needed. Clothes and apparel may get dirty or wet on outdoor programs—please advise your students of this.

Field Trip Funding

Transportation—Nature in the City programs are performed within the City of Syracuse limits to encourage awareness and appreciation for the nature each child is exposed to on a daily basis. Funding for the third grade field trip to Green Infrastructure Projects and Elmwood Park is pending approval by Onondaga County’s Save the Rain Green Infrastructure Education Program. Should any other field trips be arranged, transportation to the program location is the responsibility of the teacher or school.

Cancellation Policy

If Baltimore Woods’ Education Manager does not receive a schedule containing the time and classroom number for each classroom’s program at least two weeks before the program date; that program will be cancelled. Baltimore Woods will make every attempt to reschedule programs cancelled due to school closings. We cannot guarantee rescheduling and the scheduled hours will be considered program hours for your school in the event that we cannot reschedule. In the case of severe weather, Baltimore Woods will determine if the program should be cancelled. Baltimore Woods Nature Center honors school snow
Kindergarten

These seasonal programs introduce students to the natural world all around them.

It’s Alive (or is it?)

Fall/Outdoor

Help your students become aware that everything that makes up their world is either living or non-living. Our exploration begins in the classroom and then works its way outside, as we travel to a local green space, searching for living and non-living items all along the way.

*This program will begin with a visit from one of our new Eastern Box Turtles.

Sensing Nature

Winter/Indoor & Outdoor

Why do birds call? Why are plants green? What does fur feel like? Students will engage in a variety of interactive sensory activities, including an outdoor nature walk, to discover the answers to these natural mysteries.

Habitat Hunt

Spring/Outdoor

Animals need certain habitats to survive. Students will learn what a habitat is and discover the different animals that live in their neighborhood habitats. Students will match animals with their preferred habitat. This activity includes an outdoor walk for students to explore and search for the variety of animal habitats around them that go so frequently overlooked.

Learning Standards:

Living Environment

Key Ideas I, V, & VI
Grade 1

These programs examine the cycles and changing states of matter surrounding students each season.

Pumpkin Circle

Fall/Outdoor

Get in the fall spirit with some pumpkin science! Like all living things, pumpkins have a life cycle. Students discover this circle of life by reading *The Pumpkin Circle* together and participating in a relay race that follows the plant from seed to pumpkin to seed again.

The Snowflake Bentley Story

Winter/Indoor & Outdoor

Bentley is credited with discovering the fact that no two snowflakes are alike. See Bentley’s photographs and discover the different shapes and symmetry that make each snowflake unique! Students will be read to from the richly illustrated book, *Snowflake Bentley*, and play “Snowflake Shuffle” to test their observation skills. A discussion of liquids, solids, and crystals will help students understand how snowflakes are made. Students make snowflake collecting apparatuses that can be used to study snowflake symmetry first-hand.

Maple Magic

March/Outdoor, will need to meet BWNC staff at green space.

Meet us at your local green space to study the magical transformation of sunlight into sweet maple syrup. Using up-close observations of maple trees and a real demonstration of the maple sugaring process, students will learn about life cycles and states of matter. The program then concludes with a sweet reward, students get a taste of real maple syrup made right here in Central New York!
Grade 2

A fall or spring series focused on urban birds and how we can use science to learn more about them. A one-hour program per week for three weeks.

**Birds of a Feather**

**Fall/Indoor & Outdoor**

Your students will hatch from an egg, build a nest, and examine a feather up close. They will learn what amazing adaptations birds have that make them unique in the animal world. By using common household objects students will discover the adaptive features that help birds survive; such as how beak shape determines what foods birds can eat.

**Discover Urban Birds!**

**Fall/Outdoor**

Birding is like treasure hunting—your students may be surprised by how many different kinds of birds actually live in their neighborhood! This creative program raises awareness and appreciation for birds in the city while discussing their behavior, adaptations, and unique roles in our ecosystem. Baltimore Woods educators will tap into your students’ musical ability to create a “dawn chorus” and lead them in a walk around your school to exercise their observation skills with all that they’ve learned!

**Wings in the City**

**Fall/Indoor**

Students will use their newly gained knowledge of which birds are found around their school to collect and analyze scientific data. Students will create graphs and discuss human bird interactions. Through an interactive obstacle course students will learn first-hand about the challenges urban birds face every day in their struggle to share our cities.

**Learning Standards:**

*Living Environment*
- Key Ideas I, III, IV & VI

*Scientific Inquiry*
- Key Ideas I, III
Save the Rain
Indoor
This program introduces students to Onondaga County’s Save the Rain Program. Baltimore Woods educators will use a watershed model to demonstrate how urban lakes, like Onondaga Lake, can easily become polluted from storm water runoff. Then we will discuss Green Infrastructure projects Onondaga County is implementing to help clean-up the lake. Many students may see these projects in their neighborhood. By adding models of Green Infrastructure to the watershed model students can see first hand how much cleaner the lake will be. To wrap up, students will brainstorm things they can do to help clean-up the lake.

Creatures of the Deep
Indoor
Students get an up-close encounter with some of the aquatic creatures they can help protect by cleaning up Onondaga Lake when they examine pond water in the classroom. This program will also incorporate concepts from the SCSD science curriculum, including adaptations, life-cycles, and metamorphosis.

Green Infrastructure and Elmwood Park Field Trip
Outdoor, Bus provided
The field trip starts with a visit to a Green Infrastructure Project in Syracuse. Students will be able to see rain gardens and porous pavement in action! Next it is on to Elmwood Park to learn how scientists measure water quality. During this hands-on experiment students will learn about water quality by studying the aquatic invertebrates found in Furnace Brook. Since Furnace Brook flows into Onondaga Creek, and from there in to Onondaga Lake, its water quality is a good indication of how clean the lake can become. We also discuss factors around the park that may affect the water quality of the brook and what simple actions the students can take to help keep Onondaga Lake and its tributaries clean. This experiment works best if the students are able to get their feet wet, so please come prepared!

GRADE 3 - Pending funding from Save the Rain
A three part series funded through Onondaga County’s Save the Rain Green Infrastructure Education Program.
One hour-long program per week for three weeks.

Learning Standards:
Living Environment
Key Ideas I, II, III & VII
Physical Settings
Key Ideas II & III
Scientific Inquiry
Key Idea I
Grade 4

This series of programs uncover the usually hidden predator/prey relationships that surround us all the time. One hour-long program per week for three weeks.

Snow Stories—Tracking I

Winter/Indoor

Discover how to read the stories animals leave behind in nature! By learning the three P’s (Place, Pattern, and Print) students will learn a story’s setting, characters, and plot. BWNC educators use mounts, posters, books, and animal traces to teach the basics of animal tracking and predator/prey relationships. The program culminates with groups of students working together to create their own track stories using track stencils on poster size paper.

CSI: Baltimore Woods

Winter/Indoor

Help us solve this mystery and identify the suspect! Every night natural deaths are happening around your school. Baltimore Woods staff will train students as lab technicians. As CSI lab technicians, students will handle and examine animal skulls and traces to uncover clues and identify the prime suspects in these natural murders. Topics include predator/prey relationships.

Snow Stories—Tracking II

Winter/Outside, will need to meet BWNC staff at green space

The second portion of the Snow Stories program will bring students outside. Using the skills they learned from the previous lessons students will search for snow stories. Hope for a snowy winter because this program is best on snowshoes! Snowshoes will be provided by Baltimore Woods Nature Center, but please make sure all your students are prepared for the cold winter weather. We will look for the three P’s snow or shine!
Grade 5

This winter series takes a closer look at the energy that surrounds us all the time. One hour long program per week for three weeks.

Falcon Food

Indoor

Energy flows through the city of Syracuse. When we turn on the lights or drive home after school; energy flows. When we eat lunch; energy flows, and when we watch a predator catch and eat its prey; energy flows. Studying data collected by wildlife biologists students will learn about energy flow through the food chain of one of Syracuse’s best known feathered friends: the peregrine falcon!

Bright Ideas

Indoor

Your students will develop a feel for energy as they turn the crank of the table-top energy cycle. Which is easier to light, an incandescent or compact fluorescent bulb? The hands-on approach will help your students understand some of the different forms that energy can take in our everyday lives. They will also appreciate how energy is conserved as they compare the amount of "waste heat" generated by the different types of light bulbs.

It’s Gettin’ Hot in Here

Indoor

Did you know that Earth is the Goldilocks planet? It’s “just right” for supporting life. Students will do an experiment to examine the heat retaining properties of our atmosphere that help Earth stay just right, and compare them to the atmospheres of two other planets. We will learn what effect the amount of carbon dioxide found in our atmosphere could have on global temperatures. Using P-3 Kill-A-Watt Meters, students will measure the amount of energy used by incandescent and compact fluorescent light bulbs. To wrap up students will write a Conservation Pledge they will live by in an effort to limit the effect they have on rising global temperatures by limiting the amount of energy they use.

Learning Standards:

Unit 5: Ecosystems and Energy Flow—How do organisms interact with each other and their environment, and what impact do humans have on these interactions?
Grade 6

These geological programs will give students the tools they need to piece together the history of our State looking at the clues left behind. One hour long program per week for three weeks.

Under Pressure!

Through the scientific method students will learn about the rock cycle and how to identify the rocks around us. They will use this information during the next two programs to reveal the stories hidden in our landscape.

Carved in Stone

Do you ever day dream about far-way places? Tropical oceans, volcanoes, giant reptiles or mountains of ice? Believe it or not, all these things have had their role to play in Syracuse’s past. Students will learn how to read the clues found in our landscape that reveal this area’s ancient and recent past.

Ancient Animals

Students will use their new found scientific skills to help them uncover the history of a mysterious fossil found in a farmer’s pond in New York State. Based on actual finds, and by examining dirt and fossils that are thousands of years old, students will learn what life in their neighborhood was like thousands of years ago!

Learning Standards:

Unit 11: How can rocks help explain history?

Programs also touch on:

Unit 12: How do crustal movements affect landforms?

Unit 10: Weathering and Erosion

Unit 9: Climate