

Neighborhood **Environmental Education** Project

PROGRAM
GUIDE
2025 - 2026

The Neighborhood Environmental Education Project (NEEP)'s innovative approach to environmental education offers a unique opportunity for you to supplement your science curricula. With NEEP, schools partner with the Urban Ecology Center (UEC) for an entire year (and ideally year after year!), transforming the experience from just another field trip to a consistent outdoor classroom. This reinforces science concepts taught in class with hands-on, outdoor activities during multiple visits.

For more information, contact Lynn Anders, Director of Environmental Education, at landers@urbanecologycenter.org or (414) 626-7300.

REGISTRATION

- We set dates for the entire school year in August so everyone can plan ahead. Check with your school's NEEP liaison for your scheduled dates.
- **As your date approaches, please register for your program at least two weeks in advance.**
- If we do not receive your registration at least two weeks before your program, UEC educators will either cancel the program or pick a topic of their choice.

PLANNING

Topics

Our science-based programs range from basic life sciences to the physics of sound or the geology of Lake Michigan, with some free play and exploration sprinkled in. Please select field trips that fit with your classroom curriculum. If your preferred topic is missing, ask our educators to create a program based on your needs.

Next Generation Science Standards

The Next Generation Science Standards (NGSS), based on the Framework for K-12 Science Education and indicate a shift toward a deeper, more student performance-centered science curriculum. The UEC is excited to have our programs aligned to these standards as well. Look for programs that list an NGSS standard indicating that they are aligned with the NGSS performance expectations and corresponding component ideas. Also note the "Crosscutting Concepts" and "Science and Engineering Practices" embedded in all of our programs.

LOGISTICS

Program Length/Location

Our programs are 2 – 2.5 hours in length, including transportation time. All programs are located at an UEC branch unless otherwise noted. If you wish to explore another place, check in with your educator

when you register to identify options (locations may include local parks, green spaces and the lakefront).

Programs may be shifted to in-school in the event of environmental hazards or policy requirements. Please contact your UEC educator, with advance notice, if adjustments must be made.

Optimal Season

Most of the programs are suitable for any season. However, some programs are best taught during a specific time of year. Please look for the seasonal icon below the program title for these seasonal programs.

 = Autumn  = Winter  = Spring

Transportation/Group Size

- Please divide your class into two Please divide your class into two groups that work well together.
- Students will be picked up in two UEC buses driven by the educators working with your program. (Please note: We are unable to transport children without an additional adult on each bus. See below for more chaperone information.)
- We can guarantee transportation for 26 students. With advance notice, we can transport 34 students. If you anticipate groups larger than 34, please contact us at least two weeks in advance to evaluate whether additional drivers and educators are available at an additional fee.
- Unfortunately, our buses do not accommodate students in wheelchairs. Please contact us if your group needs an accessible bus and we will try to help you arrange transportation.

Chaperones

- We require one adult from the school for every 12 students.
- In cases where a student needs 1-on-1 support, the support person may not be included in that count (to ensure students and staff have the support they need for a field trip).
- If there are insufficient numbers of chaperones, field trips may be canceled or shifted to in-school. We will make this choice together if there are insufficient chaperone numbers.
- Chaperones are expected to be positively engaged with the field trip, both to help with group management and support students and educators where necessary. We ask that chaperones be fully present (not on mobile devices unless necessary). This also includes going outside with the class. We can also provide chaperones with necessary clothing.

IMPORTANT PROGRAM INFO

Dress

All our programs have an outdoor component. 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 jackets in the winter and rain gear when needed. We keep a small supply of extra items but it is best to borrow items from your school. We strongly recommend that children wear closed shoes (or other footwear appropriate for hiking) as well as clothes and shoes that can get dirty.

Bathroom

While facilities are available, we strongly encourage classes to use their school facilities prior to the trip to allow optimum use of the time we have together.

Students with Special Needs

Our professional educators are prepared to work with students with a wide variety of needs. Please

communicate your students' physical, intellectual, and emotional needs with UEC educators so that we can make modifications to our programming to meet everyone's needs. UEC branches and many outdoor spaces are accessible for students who use wheelchairs.

Cancellation Policy

We honor your school's cancellation policy and will prioritize snow day reschedules.

If a trip needs to be canceled for another reason, we will do our best to reschedule but cannot guarantee a new date.

Due to our full schedule, last minute cancellations by the school will not be rescheduled.

Cold Weather Policy

Part of the program will take place outdoors, unless the temperature is below 0°F or there is a Wind Chill Advisory or Warning in effect. For the outdoor portion, we will provide cold-weather clothing to students who need it and adjust outdoor time depending on the temperature and wind chill to ensure all students are safe. Program activities may be modified in response to environmental, health, safety and/or behavior conditions.

K4

Create a Program

Provide us with a topic, educational goal or Next Generation Science Standard and we will create a program for you! This option allows the Urban Ecology Center to offer programs directly related to what the students are studying in school.

Naturalist's Choice

In this program, Urban Ecology Center educators will choose a program or outdoor adventure appropriate to the season and natural happenings in the park.

Beetles and Ants and Flies, Oh My!

 and  ONLY

What makes a bug a bug, and when is it really an insect? Find out through various activities such as stories, songs or a puppet show. Students will also use nets, magnifying lenses and other tools to take a closer look at what lives in the park.

NGSS Crosscutting Concepts:

Structure and Function

NGSS Science and Engineering Practices:

Asking Questions

Creatures of the Water



Visit our animal classroom and learn about native aquatic animals. Discover which animals make their home in a water habitat. Activities may include games based on various aquatic animals.

NGSS Crosscutting Concepts:

Patterns, Structure and Function

NGSS Science and Engineering Practices:

Asking Questions

NGSS Component Idea:

ESS3.A: Natural Resources

- Living things need water, air, and resources from the land (or water), and they live in places that have the things they need. Humans use natural resources for everything they do.

Nature's Palette

Natural objects display colors and shapes of all kinds! Students will practice observation skills by searching for shapes and colors on a hike through the forest.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Asking Questions

Nature Play

Celebrate the season with activities and exploration outside in our natural areas.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Asking Questions

Sensory Awareness

Students sharpen their senses and improve observation skills while becoming more aware of the natural world. They will focus on each of the five senses and will practice listening, smelling, tasting, touching and seeing in a natural setting.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data

KEY

NGSS = Next Generation Science Standards:



= Earth and Space Science



= Life Science

Optimal Season:



= Autumn



= Winter



= Spring

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Patterns

NGSS Science and Engineering Practices:

Asking Questions

Animal Homes

Animals are everywhere—from your neighborhood to forests and fields—but most go unseen. During this hands-on experiential program, students will get a chance to explore animal habitats up close. Students may also build an animal home themselves!

NGSS Crosscutting Concepts:

Patterns, Structure and Function

NGSS Science and Engineering Practices:

Develop and Use Models

NGSS Component Idea:

LS4.D: Biodiversity and Humans:

- There are many different kinds of living things in any area, and they exist in different places on land and in water.

Caterpillar to Butterfly

 and  ONLY

Ever wonder what it's like to be a butterfly? Come find out as we learn all about butterfly habitats and their life cycle! Students will participate in hands-on activities and search for caterpillars and butterflies in the park (during fall and spring).

NGSS Crosscutting Concepts:

Stability and Change

NGSS Science and Engineering Practices:

Develop and Use Models

Fantastic Frogs

 and 

Follow the life cycle of frogs as they grow from eggs to tadpoles to full grown fly-snatchers. Students will learn all about what makes frogs special through a variety of fun activities. And if it's warm enough, look for even more out in the park!

NGSS Crosscutting Concepts:

Patterns, Structure and Function

NGSS Component Idea:

LS1.C: Organization for Matter and Energy Flow in Organisms

- All animals need food in order to live and grow. They obtain their food from plants or from other animals.

Pushes and Pulls

Come explore the world of forces. We will do experiments pushing and pulling with different amounts of strength. Experiments will be done inside and outside.

NGSS Crosscutting Concepts:

Cause and Effect

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data, Planning and Carrying Out Investigations

NGSS Component Ideas:

PS2.A: Forces and Motion

- Pushes and pulls can have different strengths and directions.
- Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.

PS3.C: Relationships between Energy and Forces

- A bigger push makes things go faster.

The Fabulous Four Seasons

Students will discover what makes the current season special by exploring seasonal changes in the park, playing educational games and participating in other hands-on activities.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data

NGSS Component Idea:

ESS2.D: Weather and Climate

- Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time.



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Nature Play

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NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Asking Questions

Animals in Winter



Ever wonder where animals go in the winter? Students will think about different ways animals survive the winter, from building shelters to hiding food. We'll explore the various habits of winter animals, the shelters they use, and perhaps build some of our own!

NGSS Crosscutting Concepts:

Systems

NGSS Science and Engineering Practices:

Construct Explanations and Design Solutions

NGSS Component Idea:

ESS2.E: Biogeology

- Plants and animals can change their environment.

Seasonal Science

Phenology is a big word for a simple concept: making observations of natural phenomena like weather, animal behavior, or plant life cycles. Your budding phenologists will make observations of the world on a hike through the park, and will connect what they see to the time of year and time of day.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data

NGSS Component Ideas:

ESS1.B: Earth and the Solar System

Seasonal patterns of sunrise and sunset can be observed, described, and predicted.

Land Dwellers

Meet and discover the animals living in our parks! Observe the special traits and adaptations that help these animals survive in Wisconsin.

NGSS Crosscutting Concepts:

Patterns, Structure and Function

NGSS Science and Engineering Practices:

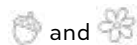
Analyzing and Interpreting Data

NGSS Component Ideas:

LS1.A: Structure and Function

- All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.

Life Cycles



Examine the life cycle of several native Wisconsin organisms. Act out a plant's story from seed to tree, and observe plants and animals at various stages in their life cycles on an outdoor expedition.

NGSS Crosscutting Concepts:

Patterns, Stability and Change

NGSS Science and Engineering Practices:

Construct Explanations and Design Solutions

NGSS Component Idea:

LS3.A: Inheritance of Traits

- Young animals are very much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents.

Music of Nature

Students will be introduced to the relationship between vibrations and sound through nature-inspired instruments and music. On a hike they will listen for sounds in nature and mimic what they hear outdoors.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

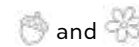
Planning and Carrying Out Investigations

NGSS Component Ideas:

PS4.A: Wave Properties

Sound can make matter vibrate, and vibrating matter can make sound.

Plant Power



By exploring the diversity of plants within a park, students will learn the parts of plants and their functions. They will learn what plants need to survive, hunt for different types of plants, and look for patterns in leaves and flowers.

NGSS Crosscutting Concepts:

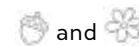
Structure and Function

NGSS Component Idea:

LS1.A: Structure and Function

Plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.

Spiders that Spin



Students will discover the amazing skills and characteristics of spiders. They will learn about a spider's sensory system and look for spiders on a hike.

NGSS Crosscutting Concepts:

Structure and Function

NGSS Science and Engineering Practices:

Develop and Use Models

NGSS Component Ideas:

LS1.A: Structure and Function

- All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air.



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Naturalist's Choice

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Nature Play

Celebrate the season with activities and exploration outside in our natural areas.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Asking Questions

Build It!

Get out your hard hat! It's time to put some materials to the test. Use what you learned about their properties to build something - inside and outside.

NGSS Crosscutting Concepts:

Cause and Effect, Structure and Function

NGSS Science and Engineering Practices:

Analyze and Interpret Data

NGSS Component Idea:

PS1.A: Structure and Properties of Matter

- Different properties are suited to different purposes

Busy Bees and Butterflies

 and 

Come find out what it means to be a pollinator. Students will participate in hands-on activities and search for bees, caterpillars and butterflies in the park.

NGSS Crosscutting Concepts:

Structure and Function

NGSS Science and Engineering Practices:

Analyze and Interpret Data

NGSS Component Idea:

LS2.A: Interdependent Relationships in Ecosystems

- Plants depend on animals for pollination or to move their seeds around.

Life in the Pond

 and 

Who's living in our water? Focusing on animal observation and identification, students will collect organisms from the pond/lagoon/river and discuss their adaptations.

NGSS Crosscutting Concepts:

Structure and Function

NGSS Science and Engineering Practices:

Planning and Carrying Out Investigations

NGSS Component Idea:

LS4.D: Biodiversity and Humans

- There are many different kinds of living things in any area, and they exist in different places on land and in water.

Landforms

Landforms are all around us — valleys, hills, caves, rivers, lakes and more! Using models and exploring the park, students will learn how the surface of the earth changes over time.

NGSS Crosscutting Concepts:

Stability and Change

NGSS Science and Engineering Practices:

Constructing Explanations

NGSS Component Idea:

ESS2.A: Earth Materials and Systems

- Wind and water can change the shape of the land.

Rock and Roll

Learn about different types of rocks and minerals, including how they are formed and used. Explore and identify various rocks and minerals in natural and human-made environments.

NGSS Crosscutting Concepts:

Patterns, Stability and Change

NGSS Component Idea:

ESS1.C: The History of Planet Earth

- Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe.

Soil Sleuths

 and 

Dig into the processes that result in the formation of soil. Students will examine soil characteristics and may study the Urban Ecology Center's soil factories - the worms in our vermicomposting systems.

NGSS Crosscutting Concepts:

Energy and Matter, Patterns

NGSS Science and Engineering Practices:

Asking Questions

Solids, Liquids, and Gases

Through hands-on activities and demonstrations, students will identify the properties of matter and observe solids, liquids and gases in nature.

NGSS Crosscutting Concepts:

Patterns, Cause and Effect

NGSS Science and Engineering Practices:

Planning and carrying out investigations

NGSS Component Idea:

PS1.A: Structure and Properties of Matter

- Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified

KEY

NGSS = Next Generation Science Standards:



= Earth and Space Science



= Life Science



= Physical Science

Optimal Season:



= Autumn



= Winter



= Spring

Create a Program

Provide us with a topic, educational goal or Next Generation Science Standard and we will create a program for you! This option allows the Urban Ecology Center to offer programs directly related to what the students are studying in school.

Service Learning

All seasons, 🌱 and 🌸 are preferred

Give your students the opportunity to give back to their community by scheduling a service learning field trip. We can design an educational service field trip, or incorporate service into most of our programs. NEED 2 weeks advance notice in order to schedule.

Naturalist's Choice

In this program, UEC educators will choose a program or outdoor adventure appropriate to the season and natural happenings in the park.

Let's Be Explorers

Inquiry-based exploration outside in our natural areas through activities such as hiking, using maps, climbing and investigating seasonal changes.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Asking Questions

Natural Resources:

Origins of Stuff 🌱

Where does our "stuff" come from? Through a series of observations and explorations, discover the origins of common objects. Trace the natural resources in objects from their beginnings to the final product. We will also explore our own parks for natural resources.

NGSS Crosscutting Concepts:

Energy and Matter

NGSS Science and Engineering Practices:

Obtaining, Evaluating, and Communicating Information

NGSS Component Ideas:

ESS3.A: Natural Resources

- Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not.

Birds of a Feather 🌱

Using binoculars and identification keys, students will identify and study the unique adaptations of birds.

NGSS Crosscutting Concepts:

Patterns, Cause and Effect

NGSS Science and Engineering Practices:

Constructing Explanations and Designing Solutions

NGSS Component Idea:

LS4.C: Adaptation

- For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.

Botanical Basics 🌱

🌱 and 🌸

Students will take a deeper dive into the structure of the plants they see every day. They will collect and dissect flowers and other plant parts, then take a closer look at what they've found using hand lenses or microscopes.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Developing and Using Models

NGSS Component Idea:

LS1.B: Growth and Development of Organisms

- Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles.

Ecosystem Exploration 🌱

Explore the complexities of an ecosystem through activities and inquiries along the trail. Students will make observations about the living and non-living components of the ecosystems we find in the park.

NGSS Crosscutting Concepts:

Systems and System Models

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data, Planning and Carrying Out Investigations

NGSS Component Idea:

LS1.C Organization for Matter and Energy Flow in Organisms

- All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.



The Motion of Play 💡

Come and explore the patterns of motion through play. Using learning stations and observations, students will make predictions about how different forces cause motion.

NGSS Crosscutting Concepts:

Patterns, Cause and Effect

NGSS Science and Engineering Practices:

Plan and Carry Out Investigations

NGSS Component Ideas:

PS2.A Forces and Motion

- The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it.

PS2.B. Types of Interactions

- Objects in contact exert forces on each other.

Where Do You Fit In? 🌱

Practice basic taxonomy skills by identifying characteristics of animals. Students will be able to distinguish between the five main vertebrate phyla: fish, amphibians, reptiles, birds and mammals.

NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data

NGSS Component Ideas:

LS3.A: Inheritance of Traits

- Many characteristics of organisms are inherited from their parents.

LS3.B: Variation of Traits

- Different organisms vary in how they look and function because they have different inherited information.

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Service Learning

All seasons,  and  are preferred

Give your students the opportunity to give back to their community by scheduling a service learning field trip. We can design an educational service learning field trip, or incorporate service learning into most of our programs. Maintaining trails, planting native prairie seeds, removing invasive plants, picking up trash and other projects will help your students deepen their connection to their neighborhood park. We NEED two weeks advance notice in order to schedule.

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NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Asking Questions



Owl Eyes, Rabbit Ears

Did you know that owls can see their prey from a football field away, foxes can smell mice several feet below the snow, and animals' whiskers help them "see" at night? Students will explore animal senses and learn how these senses are used for survival.

NGSS Crosscutting Concept:

Systems

NGSS Science and Engineering Practices:

Construct Explanations and Design Solutions, Developing and Using Models

NGSS Component Idea:

LS1.D: Information Processing

- Different sense receptors are specialized for particular kinds of information, which may then be processed by the animal's brain. Animals use their perceptions and memories to guide their actions.

Simple Machines

Through a series of fun experiments, discover the advantages of the six simple machines.

NGSS Crosscutting Concepts:

Cause and Effect, Structure and function

NGSS Science and Engineering Practices:

Planning and Carrying Out Investigations

Skulls, Skins, and Bones

All seasons (great in )

Animals have different skull, skin, and bone structures that help them survive. Through hands-on exploration of various animal skulls and skins—as well as their tracks—students will learn how animals survive due to their unique adaptations.

NGSS Crosscutting Concept:

Systems

NGSS Science and Engineering Practices:

Construct Explanations and Design Solutions, Developing and Using Models

NGSS Component Idea:

LS1.A Structure and Function

- Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior and reproduction.

Wisconsin Geology

Learn how glaciers shaped Wisconsin's landscape thousands of years ago or study and identify the three types of rocks and fossils. Teachers, please let us know which focus you'd prefer.

If time and weather allow, we may explore the beach of Lake Michigan looking for the different types of rocks and clues to the story of the glacial formation of the lake and area landforms.

NGSS Crosscutting Concepts:

Stability and Change

NGSS Science and Engineering Practices:

Developing and Using Models, Planning and Carrying out Investigations

NGSS Component Idea:

ESS1.C: The History of Planet Earth

- Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed.

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NGSS Crosscutting Concepts:

Patterns

NGSS Science and Engineering Practices:

Asking Questions

Sustaining Earth's Resources

In this reflective, hands-on program, students will learn how we use the Earth's renewable and nonrenewable resources to meet our needs.

NGSS Crosscutting Concept:

Systems

NGSS Science and Engineering Practices:

Construct Explanations and Design Solutions

NGSS Component Idea:

ESS3.C: Human Impacts on Earth Systems

- Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments.

Energy in Nature

Explore the transfer of energy in a natural system. Students will search for evidence of trophic levels and make connections between diversity and energy availability. Through a series of interactive lessons, they will show how energy flows through each layer of the ecosystem.

NGSS Crosscutting Concepts:

Energy and Matter

NGSS Science and Engineering Practices:

Develop and Use Models

NGSS Disciplinary Core Idea:

LS2.B: Cycle of Matter and Energy Transfer in Ecosystems

- Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments.

Four Spheres – Earth's Systems

Explore how all animals and plants interact with the four spheres. Students will learn about how living moves through the four spheres of the Earth: geosphere, biosphere, hydrosphere, and atmosphere. Continue the journey out in nature and investigate the importance of water to people and animals.

NGSS Crosscutting Concepts:

System and System Models

NGSS Science and Engineering Practices:

Develop and Use Models, Analyzing and Interpreting Data

NGSS Component Ideas:

ESS2.A: Earth Materials and Systems

- Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.

It's All Connected

On a hike, students will observe different microhabitats within a park and create a food web. While thinking about producers, consumers, and decomposers, students will use models to show possible interactions and predict what might happen if the system is disrupted.

NGSS Crosscutting Concepts:

Energy and Matter

NGSS Science and Engineering Practices:

Develop and Use Models

NGSS Component Ideas:

LS2.A. Interdependent Relationships in Ecosystems

- The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants.

PS3.D. Energy in Chemical Processes and Everyday Life

- The energy released [from] food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water).

Pond/River Ecology

 and 

Explore animal and aquatic adaptations along the shore of a local body of water. Students will collect macro-invertebrates, explore their adaptations, and learn about their relationship to the environment.

Weather permitting we have the opportunity to put on hip waders and walk in the Milwaukee River to collect!

NGSS Crosscutting Concepts:

System and System Models

NGSS Science and Engineering Practices:

Obtaining, Evaluating, and Communicating Information

NGSS Component Ideas:

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- Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments.

Where Am I?

Don't get lost in the woods! Students will use maps to find hidden and natural treasures while hiking through the park.

NGSS Crosscutting Concepts:

Scale, Proportion, and Quantity

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data

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All seasons,  and  are preferred

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Naturalist's Choice

In this program, Urban Ecology Center educators will choose a program or outdoor adventure appropriate to the season and natural happenings in the park.

Outdoor Recreation

We offer many adventure-based activities that include hiking, canoeing, snowshoeing, biking, orienteering and exploration of other natural spaces in and near Milwaukee. Dependent on weather and equipment availability.

WI-DPI PhysEd standards:

PE:5 – The physically literate individual exhibits responsible personal and social behavior that respects self and others.

PE:6 – The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

Insect Adaptations

 and late 

Get up close to the six-legged creatures that live in your neighborhood. Collect and observe insects found in the park. Learn the basics of insect adaptations and explore the many roles insects play within a community.

NGSS Crosscutting Concepts:

Structure and Function

NGSS Science and Engineering Practices:

Ask Questions and Defining Problems

Microscopes and Cells

Students will explore plant and animal cells using microscopes and learn key similarities and differences between these cells. They will also collect natural items in the park and then examine them under microscopes.

NGSS Crosscutting Concepts:

Scale, Proportion, and Quantity, Structure and Function

NGSS Science and Engineering Practices:

Develop and Use Models

NGSS Disciplinary Core Idea:

LS1.A: Structure and Function

- All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular).
- Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell.

Investigating Soils

You don't need to go far to experience one of life's crucial mysteries; it lies beneath our feet. Soil is a great place to dig in and practice good science skills! Students will collect samples and use microscopes to explore how energy flows through life here on earth.

NGSS Crosscutting Concepts:

Energy and Matter

NGSS Science and Engineering Practices:

MS-LS2-3

- Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

NGSS Disciplinary Core Idea:

LS2.B: Cycle of Matter and Energy Transfer in Ecosystems

- The transfer of energy can be tracked as energy flows through a natural system.

Nature Journaling and Mindfulness

Students will explore a variety of mindfulness techniques at the start of class. They'll learn about journaling as a practice for recording phenology (seasonal changes and timing in nature) as well as for creative expression. Students will use journaling methods to convey thoughts, ideas, feelings, and scientific observations in the outdoors.

NGSS Crosscutting Concepts:

Patterns, Stability and Change

NGSS Science and Engineering Practices:

Asking Questions, Analyzing and Interpreting Data

Use the Force

May the force be with you – and if it's not, just find a new solution. Students do several experiments about Newton's Laws of Motion, then they will use their knowledge to complete an engineering challenge.

NGSS Crosscutting Concepts:

Systems and System Models

NGSS Science and Engineering Practices:

Planning and Carrying Out Investigations

NGSS Disciplinary Core Idea:

PS2.A: Forces and Motion

- For any pair of interacting objects, the force exerted by the first object on the second object is equal in strength to the force that the second object exerts on the first, but in the opposite direction (Newton's third law)

Ways of the Watershed

Students will study landforms and water flow using models. We will discuss how human behavior affects the health of a watershed.

NGSS Crosscutting Concepts:

Cause and Effect, Scale Proportion and Quantity, Systems and System Models

NGSS Science and Engineering Practices:

Developing and Using Models, Constructing Explanations and Designing Solutions

NGSS Disciplinary Core Idea:

ESS2.C: The Roles of Water in Earth's Surface Processes

- Global movements of water and its changes in form are propelled by sunlight and gravity. Water's movements – both on the land and underground – cause weathering and erosion, which change the land's surface features and create underground formations.

KEY

NGSS = Next Generation Science Standards:

 = Earth and Space Science

 = Life Science

 = Physical Science

Optimal Season:

 = Autumn  = Winter  = Spring

Create a Program

Provide us with a topic, educational goal or Next Generation Science Standard and we will create a program for you! This option allows the Urban Ecology Center to offer programs directly related to what the students are studying in school.



Service Learning

All seasons, and are preferred

Give your students the opportunity to give back to their community by scheduling a service learning field trip. We can design an educational service learning field trip, or incorporate service learning into most of our programs. Maintaining trails, planting native prairie seeds, removing invasive plants, picking up trash and other projects will help your students deepen their connection to their neighborhood park. NEED 2 weeks advance notice in order to schedule.

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The Urban Ecology Center offers many adventure-based activities that include hiking, canoeing, snowshoeing, biking, orienteering and exploration of other natural spaces in and near Milwaukee. Dependent on weather and equipment availability.

WI-DPI PhysEd standards:

PE:5 – The physically literate individual exhibits responsible personal and social behavior that respects self and others.

PE:6 – The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

Carrying Capacity and Extinction

Students will use models and activities to learn concepts of population biology, including carrying capacity and extinction. They will learn the limiting factors that determine how populations respond to environmental changes. Students will explore how human and animal populations interact.

NGSS Crosscutting Concepts:

Cause and Effect

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data

NGSS Disciplinary Core Idea:

LS2.A: Interdependent Relationships in Ecosystems

- Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors.
- In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction
- Growth of organisms and population increases are limited by access to resources.

Tree Identification

Get ready to see the forest for the trees! Students will practice the art of tree identification, and assess the biodiversity of our parks.

NGSS Crosscutting Concepts:

Cause and Effect

NGSS Science and Engineering Practices:

Analyzing and Interpreting Data

NGSS Disciplinary Core Idea:

LS2.A Interdependent Relationships in Ecosystems

- Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors. In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction.

Science of Weather

Students will learn what creates weather and the differences between weather and climate through hands-on inquiry.

NGSS Crosscutting Concepts:

Cause and Effect, Systems and System Models

NGSS Science and Engineering Practices:

Developing and Using Models, Planning and Carrying Out Investigations

NGSS Disciplinary Core Idea:

ESS2.D: Weather and Climate

- Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things. These interactions vary with latitude, altitude, and local and regional geography, all of which can affect oceanic and atmospheric flow patterns.

Waste Water

Treatment Tour

2 ½ hours – Jones Island Water Reclamation Facility

Tour Veolia Environmental Service's wastewater treatment plant and discover the three ways of treating Milwaukee's wastewater on its way from your drain back to Lake Michigan. Please note: you must give at least one month advance notice for this field trip. Subject to availability.

Non-NGSS Subject Alignments:

Personal and Civic Responsibility, Connect scientific themes to the natural and designed world

NGSS Crosscutting Concepts:

Cause and Effect, Stability and Change

NGSS Science and Engineering Practices:

Asking Questions and Defining Problems

NGSS Component Ideas:

ESS3.A: Natural Resources

- Humans depend on Earth's... many different resources. Fresh water is limited.

ESS3.C: Human Impacts on Earth Systems

- Typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise.

Create a Program

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Naturalist's Choice

In this program, Urban Ecology Center educators will choose a program or outdoor adventure appropriate to the season and natural happenings in the park.

Outdoor Recreation

We offer many adventure-based activities that include hiking, canoeing, snowshoeing, biking, orienteering, walking in the Milwaukee River wearing hip waders and exploration of other natural spaces in and near Milwaukee. Dependent on weather and equipment availability.

WI-DPI PhysEd standards:

PE:5 – The physically literate individual exhibits responsible personal and social behavior that respects self and others.

PE:6 – The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

for health, enjoyment, challenge, self-expression, and/or social interaction.

Climate Change

Students will learn about the scientific evidence for climate change and human activities that cause it. Students will be empowered to discuss the simple changes they can make in their lives to help make the park, their communities, and the world greener and cleaner.

NGSS Crosscutting Concepts:

Stability and Change

NGSS Science and Engineering Practices:

Asking Questions

NGSS Component Idea:

ESS3.D: Global Climate Change

- Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth's mean surface temperature (global warming). Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely in decisions and activities.

The Cycling of Matter

Through "Decomposition Missions" and other outdoor discussions, students will connect matter and atoms to the natural world and gain an understanding of how matter cycles throughout the environment.

NGSS Crosscutting Concepts:

Scale, Proportion, and Quantity

NGSS Science and Engineering Practices:

Developing and Using Models

NGSS Component Ideas:

PS1.A: Structure and Properties of Matter

- Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms.

ESS2.A Earth's Materials and Systems

- All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems.

Making Waves: Sound and Light

How does the call of a chickadee reach another bird's ear? Explore the magic and mystery of sound waves, including how sound is used in nature.

NGSS Crosscutting Concepts:

Structure and Function

NGSS Science and Engineering Practices:

Develop and Use Models

NGSS Component Ideas:

PS4.A: Wave Properties

- A simple wave has a repeating pattern with a specific wavelength, frequency, and amplitude.
- A sound wave needs a medium through which it is transmitted.

Natural Selection and Adaptation

Taking on the roles of finches, students will experience first-hand how physical differences allow some individual to thrive while others perish. They will collect and analyze data, constructing an explanation for how natural selection may lead to increases or decreases of traits in populations over time.

NGSS Crosscutting Concepts:

Cause and Effect

NGSS Science and Engineering Practices:

Using Mathematics and Computational Thinking, Constructing Explanations and Design Solutions

NGSS Component Idea:

LS4.C: Adaptation

- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not, become less common.

Orienteering

Students will learn the basics of compass skills, play games to test their skills, and use a compass to navigate their way through the park.

NGSS Science and Engineering Practices:

Asking Questions and Defining Problems, Analyzing and Interpreting Data

All High School programs are custom designed as requested by the participating teacher.

Past topics have included:

- Ethnobotany
- Physics of Sound and Light
- Geometry of Sledding
- and Winter Survival

Connect with your Urban Ecology Center educator to choose a program or create a program that works for your class.



THANK YOU **NEEP SUPPORTERS**

We are grateful to the following donors for their support of the Neighborhood Environmental Education Project (NEEP) during the 2024-2025 school year. The list reflects donations as of 8/24/25.

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Next Generation Science Standards –

Crosscutting Concepts and Science and Engineering Practices

Grade	Title	Crosscutting Concepts							Science and Engineering Practices					
		Patterns	Cause & Effect	Scale, Proportion & Quantity	Energy & Matter	Systems & System Models	Structure & Function	Stability & Change	Asking Questions	Develop & Use Models	Planning & Carrying Out Investigations	Analyzing & Interpreting Data	Use Math & Comp. Thinking	Construct Explanations & Design Solutions
K4	Beetles, Ants, and Flies, Oh My						●		●					
	Creatures of the Water	●					●		●					
	Nature's Palette	●							●					
K5	Nature Play	●							●					
	Sensory Awareness	●										●		
	Animal Homes	●					●			●				
	Caterpillar to Butterfly							●		●				
	The Fabulous 4 Seasons	●										●		
	Fantastic Frogs	●					●							
1 st	Nature Play	●							●					
	Pushes and Pulls		●								●			●
	Animals in Winter					●								
	Seasonal Science	●									●			
	Land Dwellers	●					●					●		
	Life Cycles	●						●						●
	Music of Nature	●									●			
	Nature Play	●							●					
	Plant Power						●			●				
	Spiders that Spin						●							
2 nd	Build It		●				●					●		
	Busy Bees and Butterflies						●					●		
	Landforms						●							
	Life in the Pond							●						●
	Nature Play	●							●					
	Rock and Roll	●						●						
	Soil Sleuths	●							●					
	Solids, Liquids, and Gases	●	●								●			

Use this chart to find which Crosscutting Concepts and Science and Engineering Practices apply to your chosen class.

[illegible]



UEC Adventure Days

School's out — time to play! Adventure Days are full of fun, learning, and seasonal exploration. Investigate the natural world on an Adventure Day! Registration cost covers the season.

Winter Break Adventure Days

December 22, 23, 26, 29, & 30, 2025

Spring Break Adventure Days:

March 30 - April 3, 2026

Registration is open! Visit urbanecologycenter.org/adventure-days.

For more info contact: (414) 964-8505 x126 or programs@urbanecologycenter.org

For more information, contact:

Lynn Anders, Director of Environmental Education, at landers@urbanecologycenter.org or (414) 626-7300.

Riverside Park

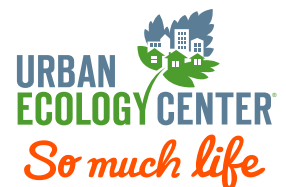
1500 E. Park Place
Milwaukee, WI 53211
(414) 964-8505

Washington Park

1859 N. 40th Street
Milwaukee, WI 53208
(414) 344-5460

Menomonee Valley

3700 W. Pierce Street
Milwaukee, WI 53215
(414) 431-2940



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