LAKE METROPARKS Education Programs

SCHOOL SERVICES • TEACHER RESOURCES • COMMUNITY OUTREACH PROGRAMS

> Programs presented at select Lake Metroparks locations or your site.
> Programs align to newest State Academic Content Standards.
> Full grade-level index grid begins on page 18.

To search for education programs online, visit lakemetroparks.com and click on Teachers & Schools.
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For a complete summary of how Lake Metroparks’ education programs align to the grade level indicators of Ohio’s Academic Content Standards, please visit lakemetroparks.com and click on Teachers & Schools to search by grade level or topic.

KEY

- Denotes SCIENCE content standards
- Denotes MATH content standards
- Denotes SOCIAL STUDIES content standards
- Denotes PHYSICAL EDUCATION content standards

Program features a live FARM ANIMAL
Program features live OHIO WILDLIFE
STEM integrated
OUTREACH program, travels to your site
ADAPTED programs, designed to meet the needs of individuals with disabilities

These programs were specifically designed with STEM and/or STEAM in mind. Students will use Science, Technology, Engineering, the Arts, and Mathematics to study nature and the world around them. A problem-solving approach will be used for students to investigate environmental concepts, issues and current problems. Each grade has a different topic fitting your students’ needs.

STEM programs

<table>
<thead>
<tr>
<th>STEM programs</th>
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<tbody>
<tr>
<td>GRADES K–3</td>
</tr>
<tr>
<td>1.5 hours</td>
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<tr>
<td>Picky Eaters, Sticky Seeds: Explore plant and animal adaptations and relate them to survival through hands-on activities and a scavenger hunt. Create a unique piece of art!</td>
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<tr>
<td>at Children’s Schoolhouse or your site</td>
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| GRADES 4–6 |
| 1.5 hours |
| Sounds of Nature: Students discover the many natural sounds and sound makers in the world around them. How do animals use sound? Students create “music” in the natural environments in which they live and meet an Animal Ambassador. |
| at Penitentiary Glen Reservation or your site |

| GRADES 4–8 |
| 2.5 hours |
| Fiber Arts from the Farm: Explore the farm to see the science and technology involved in turning plant material and animal products into useful and beautiful fiber creations by spinning, weaving, knitting and dyeing. Program available October to March. |
| at Farmpark |

Gifted & After School Programs

- Professional development
- Gifted & After School Programs

New

| Grade 1 |
| 1 hour |
| Weather Explorers: What is it about the weather you want to know? Students perform experiments and use a variety of tools that make learning about the weather fun and informative. |
| at Children’s Schoolhouse or your site |

| Grade 2 |
| 2 hours |
| Bird Beak Buffet: Let’s learn why birds have different types of beaks. Explore their adaptations by building a better beak. |
| at Children’s Schoolhouse or your site |

| Grade 3 |
| 2.5 hours |
| Studies in Biodiversity: Learn about animal traits and genetics as you encounter spring lambs and horses. Explore the world of corn and teosinte. Program available mid-January to mid-March. |
| at Farmpark |

| Grade 4 |
| 2 hours |
| Mission to Mars: What makes Mars unique? Students will discover the history of astronomy and the development of space exploration. Students will understand how important Mars is to scientists. |
| at Environmental Learning Center or your site |

| Grade 5 |
| 2 hours |
| Biomimicry & Trees: What in nature has inspired humans? How do trees benefit humans and their understanding of the world around them? All of these questions and more will be answered as you explore biomimicry in our everyday lives. |
| at Environmental Learning Center or your site |

| Grade 6 |
| 1.5 hours |
| Animal Architects: It takes a lot of instinct, energy and a little luck for an animal to fashion the best home. Students explore animal architects and their dwellings and put their skills to the test as they build a nest sturdy enough to hold weight. |
| at Penitentiary Glen Reservation or your site |

| Grade 7 |
| 2.5 hours |
| Energy through the Farm: Students explore the concept of energy transformations as they travel through the farm environment. They will study energy trails, the conversion of solar energy to food in the greenhouse and work done by horse, man and machine. |
| at Farmpark |

| Grade 8 |
| 1.5 hours |
| Animals through Time: Travel back in time to see how the diversity of species occurs over many generations. Learn which successful traits are inherited from previous generations and what changes may occur to help the species succeed. |
| at Penitentiary Glen Reservation or your site |

Custom Programs

Don’t see a program that fits your needs? Lake Metroparks can work with you to design a program. Please call 440-358-7275 to discuss possibilities. Note: some programs are seasonal and weather dependent.

Scheduling

Please schedule at least two weeks in advance. Call between 8 am and 4:30 pm weekdays. To schedule a program, please call 440-358-7275. Farm-oriented programs may be scheduled by calling 440-256-2122. Be prepared with first and second choices of dates and times and have the “Registration Checklist” information on back cover ready when you call. Spring and fall dates fill well in advance.

In order to maximize your visit to Lake Metroparks, please confirm your arrival and departure times with your transportation department several days before your visit.

Fees: programs at our parks

- Program fees are $5 per student participant, $50 minimum unless otherwise noted.
- Minimum of ten participants for any program; inquire about minimums or scheduling back-to-back programs.
- One adult admitted free for every ten students in grades 1–12. One adult admitted free for every five preschool and kindergarten students. Additional adults are charged the student program fee. Please mention if you plan to bring a student aide when you register.
- Teachers or group leaders are required to accompany the group.

Fees: programs at your school

- Assembly programs are $150 for the first presentation and $100 for each additional presentation the same day at the same location unless otherwise noted.
- Assembly programs are for groups of 30 or more students.
- All non-assemble outreach programs are $5 per student participant, $50 minimum unless otherwise noted. Inquire about scheduling back-to-back programs when you call.
- Programs that require the presenter to travel outside Lake County are charged an additional fee.

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**STARLAB PROGRAMS**

To register for these programs, call 440-358-7275

What does the night sky have to offer? Come and explore all things astronomy with the NEW Digital StarLab! Students take part in a cutting-edge digital experience when traveling through the universe to investigate stars, planets, galaxies, and so much more. All programs are aligned with the Ohio State Education Standards. Don’t see a topic that you are interested in? Lake Metroparks is happy to develop a custom program to fit your needs. The StarLab is portable and can travel to your school; all you need is a room 14.5 feet tall and 27 feet x 27 feet.

**StarLab: Constellation Investigation**
any grade • 1 hour • all seasons • This program is designed for preschool class, maximum 30 students. Programs can be scheduled back to back to accommodate larger groups.

The night sky has been the inspiration for groups of people since ancient times. Today, we can explore the stars through finger play, songs, puppets and a “nighttime” trip to the StarLab portable planetarium. A fun, age-appropriate journey to the sun, moon, planets and stars! Minimum age for participants is four.

- at Penitentiary Glen Reservation or your site

**StarLab: Sun, Moon & Stars**
grades 1 & 2 • 1.5 hours • all seasons • Daily changes Role-play the sun, moon and stars to observe their apparent movements across the sky. Explore why and how the moon seems to change shape but is full again every month. Take a “night-time” trip inside our StarLab for a better look at the night sky. How many stars do you think you’ll see?

- at Penitentiary Glen Reservation or your site

**StarLab: Biodiversity of the Night**
grades 3 & 4 • 2 hours • all seasons • Biodiversity, migration, citizen science

What is biodiversity and why is it so important to our local and worldwide ecosystems? Students gain knowledge of bird identification and migration around the Great Lakes through an interactive hike and StarLab exploration. By understanding how and where birds migrate around the Great Lakes, they will uncover the impact of light pollution on birds and their migration at night. Using the night sky and constellations, they will gain knowledge of the citizen science project GLOBE at Night and put their knowledge into action.

- at Environmental Learning Center or your site

**StarLab: Orbit Odyssey**
grades 4 & 5 • 2 hours • all seasons • Solar system cycles

We are all familiar with our closest star, the sun, but what about all of the others? How far are they and what do scientists know about them? Learn the answers to these questions and study how the Earth’s movement causes day and night. We will learn more about our solar system with activities inside the StarLab and out.

- at Penitentiary Glen Reservation or your site

**StarLab: Solar & Lunar Cycles**
grade 7 • 2 hours • all seasons • Eclipses, tides, cycles/patterns

Why are the movements and phases of the moon predictable? Why do the tides, solar and lunar eclipses occur? Students will experience the StarLab portable planetarium performing 3D modeling of solar and lunar eclipses, the moon and Earth. Data collection of the daily, spring and neap tides will be used to answer these questions.

- at Environmental Learning Center or your site

**ASSEMBLY PROGRAMS**

To register for these programs, call 440-358-7275

**Barnyard Goes to School**
any grade • 1 hour • Fee: $150 • any grade Animal care, farm products

Children encounter and investigate a sheep and two other farm animals. We’ll look into how farmers care for their animals and how they provide us with food, fiber and other products. Students will learn how wool is turned into yarn. To register for this program, call 440-256-2122.

- at your site

**Biodiversity Bonanza**
any grade • 1 hour • Fee: $150 • species diversity

Meet several permanent resident animals from the Kevin P. Clinton Wildlife Center and Farmpark. All have special adaptations that help them exist in their habitats. Learn how wild and domestic animals fit into our planet’s ecosystem.

- at Penitentiary Glen Reservation, Farmpark or your site

**Feathers, Fur & Scales**
any grade • 1 hour • Fee: $150 • any grade Habitats, species diversity

What animals are covered with feathers? What animals are born with fur or scales? Meet several Wildlife Center permanent residents face-to-face and discover where they live, their favorite foods, their hunting techniques and many more facts about the lives of Ohio’s animals.

- at Penitentiary Glen Reservation or your site

**Night Creatures**
any grade • 1 hour • Fee: $150 • species diversity

As the sun goes down and darkness envelopes the forest, there are many animals that rouse from their slumber in search of a meal. Get an in-depth look at the wildlife Center’s nocturnal animals and discover how they function at night.

- at Penitentiary Glen Reservation or your site

**Raptor Encounters**
any grade • 1 hour • Fee: $150 • any grade Adaptations, habitats

Using the power of live Ohio hawks, owls, falcons and vultures, this program engages your students into the lives of raptors. Students learn the natural history of these birds and their survival stories. Students are engaged in connecting with conservation issues and become empowered to take action and give back through personal stewardship.

- at Penitentiary Glen Reservation or your site

**Content Standards** can be found at lakemetroparks.com/teachers-schools.
ANY GRADE LEVEL PROGRAMS
To register for these programs, call 440-358-7275

Apples! any grade 2–2.5 hours • Sept.–mid-Oct.
Students will make and taste apple cider, explore the apple orchard, investigate pollination and examine the tree grafting process. Students study Johnny Appleseed’s legendary journey across Ohio as he planted apple seeds across the state. To register for this program, call 440-256-2122.

Crops & Critters any grade 2 hours or more • June–August
Children may tour the gardens and taste vegetables, learn about renewable energy, explore sheepherding, discover bees, encounter horses, milk a cow, investigate the Corn Maze (mid-August) and visit with sheep, pigs and chickens. To register for this program, call 440-256-2122.

Cross-country Ski Adventure any grade 1 hour Learn to love wintry life in the snowbelt! Cross-country skiing is a great way to enjoy winter and exercise at the ski area. We supply the instruction and snowshoes. You provide the kayakers, we provide a fleet of sit-on-top kayaks, paddles, life jackets and fun! We will teach you the art of quilting with a scavenger hunt. To register for this program, call 440-256-2122.

Pizza Farm any grade 2.5 hours • mid-Oct.–mid-March
Students discover that farmers grow pizza. They engage in a scavenger hunt to investigate pizza making from farm to table and uncover the sources of ingredients in this nutritious food. To include pizza sampling see The Right-sized Pizza: From the Farm to You for grades K–2 on page 9. To register for this program, call 440-256-2122.

Snowshoe Adventure any grade 1 hour
Program is specialized for each grade level. Snowshoeing has been around for thousands of years. It started as a way to get around to hunt or gather food. Now it’s for fun! Wear your own outdoor winter boots (snowshoes fit over them). We supply the instruction and snowshoes.

Harvest Time any grade 2 hours or more • Sept.–mid-Oct.
As the fall leaves begin to change, students may discover apple cider production, dig for potatoes, explore the Corn Maze, investigate corn products, visit the Machinery Building, milk a cow and experience Native American gardening. To register for this program, call 440-256-2122.

Kayak Adventure any grade 1 hour Water safety, lifetime physical activity
You provide the kayakers, we provide a fleet of sit-on-top kayaks, paddles, life jackets and fun! We will teach you the fundamentals of kayaking as you paddle the protected waters of Fairport Harbor. Participants must be comfortable in the water.

A Big Splash: The Wonders of Water grades 1–2 • 2 hours
Water is a limited, non-living resource and a basic need for all living things. Working in small groups, we will discover the wonders of water with experiments and activities. We’ll take a hike or play a game to learn about the basic needs of plants and animals.

Archery Adventure grades 1–2 2 hours • May–September
Lifetime physical activity
Have you ever shot a bow and arrow before? Now is your chance! Students learn the proper safety of the bow and arrow and then have a chance to shoot several rounds on our range and give it their best shot!

Changes in Motion grades 1–2 1.5 hours Force, friction, speed
If you want anything to move, you have to give it a push or pull. Observe and demonstrate Newton’s laws of motion and gravity through activities using forces on wheels and rockets. Students will design stomp rockets to launch to demonstrate force and gravity.

Walk About Wildlife any grade 1 hour • 30 students maximum Ecosystems, adaptation
Discover who’s who in the Wildlife Yard and find out what happens in wildlife rehabilitation. Learn their personal and natural histories and meet some of Ohio’s threatened and special interest species.

Cold Water Adventure • 1.5 hours • mid-Oct.–mid-March
Explore the waters of Fairport Harbor. Participants must be comfortable in the water.

Content Standards can be found at lakemetroparks.com/teachers-schools.
PRESCHOOL–GRADE 2 PROGRAMS
To register for these programs, call 440-358-7275

Farm Animals & Me grade 1
2.5 hours • mid-Oct.–mid March
Animal needs, animal products
Examine the basic needs of farm animals and investigate how much animals eat every day and how hoeshoes are made. Students collect products and identify the animals that produce them. They’ll analyze their findings by creating a pitcograph of farm animals’ food. To register for this program, call 440-256-2122.

at Farmpark

Farm Animals Up Close Pre-K
2.5 hours • mid-Oct.–mid March
Animal needs, hands-on, animals
Encounter farm animals to gain respect for how farmers raise and care for them. Sing about farm animals, milk a cow, visit stables and encounter farm animals in the Well-Bred Shed. To register for this program, call 440-256-2122.

at Farmpark

Farmyard Families Pre–K • 1 hour
Census, production, animal care
Count animals, identify farm animal families and learn about animal care and needs through a Farmpark livestock report. After collecting data, students attend a scientific meeting where they create a pictograph of their findings and share their information. To register for this program, call 440-256-2122.

at Farmpark

Feelin’ Wild: Textures Found in Nature Pre-K • 1 hour
Physical traits, senses
Explore the textures found in nature. Students use their senses to discover the world of animals. Touch real snake skin, fur, shells, feathers and more.

at Penitentiary Glen Reservation or your site

Fossil Hunters grade 2
2 hours
Trilette, extinct, adapt
Program is specialized for 2nd grade level. Follow a paleontologist’s expedition to discover evidence of living things that once inhabited the earth. Investigate how fossils are recovered and explore past environments and organisms that lived in them.

at Environmental Learning Center

It’s Alive! Pre–grade 2
1.5 hours
Observe living things
Discover what all living things have in common. Get up close and personal with some real live bugs! Take part in a skit to learn about tree parts and their importance. Activities will demonstrate the interdependence of plants, animals and people too!

at Penitentiary Glen Reservation or Children’s Schoolhouse

Kindergarten Rocks, Soils Rule! Pre-K • 1 hour
Discover Rock properties
Let’s explore and learn all about those fascinating rocks! Play a rock sorting game as we learn what rocks so special. This program includes songs, puppets, experiments and lots of movement. Apply all 3- to 5-year-olds engaged and learning too!

at Penitentiary Glen Reservation, Children’s Schoolhouse or your site

Little Lambs & Little Sprouts Pre-K
3 hours • MidMarch–April
Seeding, seeds, young
Discover spring lambs and learn how farmers provide for the needs of young animals. Prepare for spring planting by transplanting seedlings to take home. Listen to a story about spring lambs and milk a cow. To register for this program, call 440-256-2122.

at Farmpark

Little Red Hen Pre–grade 2
3 hours or 1 hour at your school (classroom-sized groups)
mid-Oct.–mid March or year-round for outreach
Discover how old red hens provide the ingredients for bread. We’ll mix and knead these ingredients into honey wheat bread dough and then sample wheat bread. To register for this program, call 440-256-2122.

at Farmpark

Nature’s Gifts Pre–grade 2
1.5 hours • second Tues. of Nov.–First Fri. in Jan.
Observe living things
Winter is the time of year for giving and receiving gifts. Let’s meet a woodland character, make a gift for the birds and search for nature’s gifts, which are all around us, on a woodland hike.

at Penitentiary Glen Reservation, Children’s Schoolhouse or your site

No Place Like Home Pre–grade 2
1 hour
Habitats, adaptations
What does it take to live in the pond, the field or the woods? Everyone wants to find the perfect place to live—even wild animals. We’ll explore different habitats and how animals are adapted to live there as we read a story and meet a live animal.

at Penitentiary Glen Reservation or your site

Operation Worm Watch grade 2
2 hours
Interaction, invasive, resources
What do earthworms have to do with our forests? Students work together in research teams to understand how earthworms are changing the forest environment and the human environment. Students collect and examine different earthworms up close to see what is living in our forests.

at Environmental Learning Center or your site

Park-wise Puppets Presents Pre-K
1 hour • This program is designed for a preschool class, maximum 30 students. Programs can be scheduled back to back to accommodate larger groups.
Discover a puppet show, hands-on activities and games or a craft and a discovery hike. A song to reinforce the theme will complete each program. Each below is a separate program:
Park-wise Puppet Presents: Habitat This & That
at Penitentiary Glen Reservation, Children’s Schoolhouse or your site

Park-wise Puppet Presents: Tracks & Trails
at Children’s Schoolhouse or your site

Pirate Adventure K–grade 2
1 hour
Shapes, tools, life skills
Argh, matey! A pirate’s life for you. Step back in history and become a pirate. Experience the challenges of a pirate crew as they search for buried treasure. Use artifacts, maps and folklore to recall life on the high seas.

at Fairport Harbor Lakefront Park

Santa’s Workshop Pre–grade 2
1 hour
Shapes, tools, life skills
It’s a busy time of the year for Santa. Come to the Farmpark where Santa has set up a toy workshop with his master elves. Become one of Santa’s elves to build and decorate a memorable wooden toy to take home with you. (Add $2 per student for materials.)

at Farmpark

Seasonal Discoveries Pre–grade 2
1.5 hours
Basic needs
Discover the wonders of each season and gain a better understanding of nature’s unique adaptations. Explore how plants and animals prepare for and survive seasonal changes with hands on activities.

Fall
Through games, activities, hiking and observation, discover how local plants and animals are alerted to the changing seasons and how they get ready in fall to survive the coming winter.

Winter
Nature is still active during the coldest months. Discover which animals migrate, hibernate, become dormant or stay active and how and why they do this. With 4” of snow or more, snowshoes can be worn on the hike.

Spring
Discover what is growing in the spring! Hands-on exploration of a pond or marsh focuses on how spring’s changes are interconnected and the concept of life cycles.

Summer
Summer is a super time to use senses to increase awareness of the natural world. By using a variety of activities, role-play different kinds of animals and how they use their senses.

at Penitentiary Glen Reservation, Children’s Schoolhouse or your site

CONTENT STANDARDS can be found at lakemetroparks.com/teachers-schools.
**PRESCHOOL–GRADE 2 PROGRAMS**

To register for these programs, call 440-358-7275

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**Sensational Senses** Pre–grade 1
1.5 hours  **key words** Observe living things
Experiment with your senses on a sense-a-thon nature hike! Bring along your Sensory Tool Box to help you learn while observing how animal senses compare to those of humans. Let’s see, smell, hear and feel as we learn! [at Penitentiary Glen Reservation, Children’s Schoolhouse or your site]

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**Soap Bubble Chemistry** K–grade 2
1 hour  **key words** Gravity, surface tension, properties of materials
Let the learning begin as your class experiences the chemistry of bubbles. Students will investigate making bubbles to find the perfect recipe. After mastering the bubble mixture, they will experiment with everyday items for wands. Each child will get to stand inside a bubble at the end of the program. Nearby water source is needed for outreach programs.

[at Environmental Learning Center, Fairport Harbor Lakefront Park or your site]

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**Wild in Ohio** Pre–grade 2
1.5 hours  **key words** Observe living things
Explore Ohio habitats past and present and learn about state symbols. Examine habitat needs and how each state plant or animal has adapted to life in Ohio during the past 200 years!

[at Penitentiary Glen Reservation, Children’s Schoolhouse or your site]

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**The Right-sized Pizza: From the Farm to You!** K–grade 2
3.5 hours  **key words** Ingredients, nutrition
Explore the farm for all the healthy ingredients to make pizza including cow milking and cheese making. Students work in groups to make their own healthy pizza to sample. Students discover the pizza’s nutritional value and portion serving size. The fee is $6 per student and includes a pizza sample. To register for this program, call 440-256-2122. [at Farmpark]

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**Wacky Waters** Pre–grade 2
1 hour  **key words** Diverse environments, physical traits
Learn about wetlands, ponds, streams and vernal pools and what types of organisms they support. Through activities and live animal visitors, students will learn about the different traits and behaviors of these wonderful animals.

[at Penitentiary Glen Reservation, Children’s Schoolhouse or your site]

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**Decomposition in Action** grade 5
2.5 hours  **key words** Ecosystem, interdependence, sustainability
Organisms have developed their own natural balance as matter and energy are cycled within the environment. Students will learn more about the various organisms involved with soil decomposition with hands-on experiments. They will also explore how the balance in nature can be upset when non-native species are introduced.

[at Environmental Learning Center]

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**Wee Weatherwatchers** Pre-K
1 hour  **key words** Daily changes
Be weather wise by becoming aware of weather changes. Explore the sun, seasons, winds and clouds. This program includes songs, puppets, experiments and lots of movement to keep your 3- to 5-year-olds engaged!

[at Penitentiary Glen Reservation, Children’s Schoolhouse or your site]

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**Cleveland Rocks** grades 3–5
2 hours  **key words** Earth’s surface, observations of nature
Explore the rock ledges and discover signs of glaciation, erosion and quarrying activities that shaped the area. Test minerals to discover their properties. Enjoy breathtaking views of Lake Erie and ancient beach ridges.

[at Chapin Forest Reservation]

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**Cleveland Soils** grades 3–5
2 hours  **key words** Earth’s resources, observations of nature
Students will observe rock layering, texture and erosion as they hike through Sharon Conglomerate ledges and enjoy breathtaking views of Lake Erie and ancient beach ridges. Small group soil testing activities will allow for investigation of soil properties and composition.

[at Chapin Forest Reservation]

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**Environmental & Climatic Changes** grade 4 2 hours  **key words** Biometeorology, global warming, phenology
Research teams explore how minor climate changes result in major impacts on both the animal and plant kingdoms. Students will realize that climatic change is relevant to them. Environmental stewardship is encouraged by the students who understand they can make a difference.

[at Environmental Learning Center]

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**Erosion & Deposition** grade 4 2 hours  **key words** Landforms, weathering, Earth processes
Students study the variety of processes that shape and reshape the Earth’s surface. Using stream tables, students investigate soil erosion and how to control this natural process. While on a hike, students discuss common landforms and features including streams, deltas, floodplains and hills.

[at Environmental Learning Center]

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**C.S.I. Wildlife** grade 4
1.5 hours  **key words** Earth’s ecosystems
2 hours  **key words** Animal habitats, physical traits
Crime scene investigators discover what cannot lie—the evidence. Who left behind traces of evidence in nature? Students are put into teams to gather samples, form a hypothesis and solve a wild mystery.

[at Penitentiary Glen Reservation or your site]

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**Dogsled Adventure** grades 3–5
1 hour  **key words** Aerobic activity, teamwork
Discover the transportation of the Klondike, the dogsled, and how it was used to develop remote territories. Each student will drive a dogsled as a musher, learn different dog commands and pull the sled as part of the dog team. Experience the rigor of the historic Iditarod and compete in a dogsled race. (No actual dogs are used in this program).

[at Chapin Forest Reservation or your site]

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**Stone Soup** Pre–K
2.5 hours  **key words** Plants, parts, nutrition
Discover the classic tale Stone Soup and investigate how the ingredients are grown. Students chop vegetables to create a healthy, enjoyable soup to share. Explore the farm for all of the healthy ingredients to make a healthy soup. Students discover the pizza’s nutritional value and proper serving size. The fee is $6 per student and includes a pizza sample. To register for this program, call 440-256-2122.

[at Penitentiary Glen Reservation, Children’s Schoolhouse or your site]

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**Grades 3–5 PROGRAMS**

To register for these programs, call 440-358-7275

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**Alien Invaders: Invasive Species Around Us** grades 3–5
2 hours  **key words** Earth’s ecosystems
April & May only 1/2 student maximum
Students learn why non-native species are harmful to the local environment, recognize the interdependence of species and explore the importance of habitat protection through hands-on activities. Then they will “suit-up” to attack one of the most aggressive plants—garlic mustard!

[at Penitentiary Glen Reservation or Children’s Schoolhouse or your site]

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**Stone Soup** Pre–K
2.5 hours  **key words** Plants, parts, nutrition
Discover the classic tale Stone Soup and investigate how the ingredients are grown. Students chop vegetables to create a healthy, enjoyable soup to share. Explore the farm for all of the healthy ingredients to make a healthy soup. Students discover the pizza’s nutritional value and proper serving size. The fee is $6 per student and includes a pizza sample. To register for this program, call 440-256-2122.

[at Penitentiary Glen Reservation, Children’s Schoolhouse or your site]

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**Cleveland Soils** grades 3–5
2 hours  **key words** Earth’s resources, observations of nature
Students will observe rock layering, texture and erosion as they hike through Sharon Conglomerate ledges and enjoy breathtaking views of Lake Erie and ancient beach ridges. Small group soil testing activities will allow for investigation of soil properties and composition.

[at Chapin Forest Reservation]

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**C.S.I. Wildlife** grade 4
1.5 hours  **key words** Animal habitats, physical traits
2 hours  **key words** Habitat, physical traits
Crime scene investigators discover what cannot lie—the evidence. Who left behind traces of evidence in nature? Students are put into teams to gather samples, form a hypothesis and solve a wild mystery.

[at Penitentiary Glen Reservation or your site]

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**Dogsled Adventure** grades 3–5
1 hour  **key words** Aerobic activity, teamwork
Discover the transportation of the Klondike, the dogsled, and how it was used to develop remote territories. Each student will drive a dogsled as a musher, learn different dog commands and pull the sled as part of the dog team. Experience the rigor of the historic Iditarod and compete in a dogsled race. (No actual dogs are used in this program).

[at Chapin Forest Reservation or your site]

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**Environmental & Climatic Changes** grade 4 2 hours  **key words** Biometeorology, global warming, phenology
Research teams explore how minor climate changes result in major impacts on both the animal and plant kingdoms. Students will realize that climatic change is relevant to them. Environmental stewardship is encouraged by the students who understand they can make a difference.

[at Environmental Learning Center]
Escape the Yurt grades 4–12
2 hours

A virus has been released and you are the only hope to save the planet from an apocalypse! Explore the world of microscopic pathogens and viruses, understand their spread and how to contain them. Once you have the tools and knowledge, try to escape the yurt by solving riddles, puzzles and much more to find the cure! (*STEM* at Environmental Learning Center)

Fishing for Fun grades 3–5
1 hour

This is a program that all kids will fall for Hook, line and sinker. We’ve got the pond, fish, poles and we will even bring the worms. Explore our local ecosystems as students learn the sport of fishing. All fish caught are released. (*A* at Veterans Park, Hidden Lake or Farmpark)

Forces & Motion grade 5
2 hours

Potential/kinetic, energy, friction, gravity Students investigate Newton’s laws of motion and apply them to hands on experiments. They learn that forces cause changes in motion and that motion can be described by its speed and direction. Students work in research teams to design and develop their own project that can perform the forces and motion that work against them. (*A* at Environmental Learning Center)

Fossil Find grade 4
2 hours

Follow a paleontologist’s expedition to discover evidence of living things that once inhabited the earth. Students will study the trilobite and investigate how fossils are recovered. They will do some digging to hunt for trilobites and explore past environments and organisms that lived in them. (*A* at Environmental Learning Center)

Grist for the Meal grades 3–5
3.5 hours • mid-Oct. – mid-March

Recipes, Ingredients Students explore techniques to thress, winnow and grind wheat into flour. They milk a cow, observe cream separation, make butter and learn how bees make honey. Students investigate how yeast causes bread to rise and in teams, measure and combine ingredients to make bread dough. Students then sample their bread. To register for this program, call 440-256-2122. (*A* at Farmpark)

Ice Cream grades 3–5
3.5 hours • Ingredients, food sources, physical & chemical changes

3.5 hours or 1 hour at your school (classroom-sized groups) mid-Oct. – mid-March or year-round for outreach
Let’s make ice cream! Students investigate the physical and chemical changes of ice cream, its history and nutrition. Explore how ice cream production has changed with technology. Discover how ingredients from cows, vanilla beans and fruit are grown. Students use math to make and shake a tasty ice cream treat. This program is also available for other grade levels. To register for this program, call 440-256-2122.

Interactions in Ecosystems grade 5
2 hours

Food webs, abiotic/biotic, native/invasive Students discover how organisms acquire energy to perform their roles in an ecosystem. Using these skills, students explore the microscopic world of pond water, understand how invasive species are affecting our local habitats and explore the role of producers, consumers and decomposers. (*A* at Environmental Learning Center)

Lake Effects grades 3–5
1.5 hours • Fall, Spring, Summer

Erosion, currents, water cycle With specific focus on Lake Erie, students will explore how water has changed the surface of the earth through hands-on activities and experiments.

(*A* at Penitentiary Glen Reservation, Children’s Schoolhouse, Painesville Township Park, Lake Erie Bluffs, Lakefront Lodge or your site)

Linking Up: From Owl Pellets to Food Webs grades 4 & 5
1.5 hours

Energy flow, ecosystems Dissect an owl pellet and trace energy through a food chain from the sun to decomposers. Discover how habitat destruction endangers wildlife. Additional charge for owl pellets. (*A* at Penitentiary Glen Reservation or your site)

Measurement: Mass to Volume grade 3
2 hours

Metric system, capacity, perimeter Students learn how to use different scientific tools to identify and measure length, volume, mass and time. They explore and test hypotheses using graduated cylinders, beakers, trundle wheels and balances. Finally, the students discover how to find the volume of a human. (*A* at Environmental Learning Center)

Native Americans: Ohio’s First Farmers grades 3–5
2.5 hours • Adaptations, resources

3.5 hours • Sept.–Oct., Feb.–March
Investigate how Native Americans drew on environmental resources to build their culture. Compare the cultural practices and dwellings of Ohio’s woodland people to those who migrated to the western prairie. Explore Native American gardens in the fall and syrup making in the spring. Identify food from the wild and try your hand at traditional Native American skills. To register for this program, call 440-256-2122.

(*A* at Environmental Learning Center or your site)

Seasonal Discoveries grades 3–5
2 hours

Discover the wonders of each season and gain a better understanding of nature’s unique adaptations. Explore how plants and animals prepare for and survive seasonal changes with hands-on activities.

Fall Through games, activities, hiking and observation, discover how local plants and animals are alerted to the changing seasons and how they get ready in fall to survive the coming winter.

Winter Nature is still active during the coldest months. Discover which animals migrate, hibernate, become dormant or stay active and how and why they do this. With 4” of snow or more, snowshoes can be worn on the hike.

Spring This program must be done at Penitentiary Glen or the Children’s Schoolhouse due to the pond dipping activity! Discover what is growing in the spring! Hands-on exploration of a pond or marsh focuses on how spring’s changes are interconnected and the concept of life cycles.

Summer Summer is a super time to use senses to increase awareness of the natural world. By using a variety of activities, role-play different kinds of animals and how they use their senses.

(*A* at Penitentiary Glen Reservation, Children’s Schoolhouse or your site)

Survivor: A Global Eco-challenge grades 3–5 • 1 hour

Team building, leadership skills Biomes of students compete against each other in mental and physical challenges. Teamwork and leadership skills are put to the test to determine which biome is the ultimate “Survivor.” Challenges vary with each location and group.

(*A* at any park or your site)

Talking Bones grades 3–5
1 hour

Physical traits, adaptations Through the use of animal skulls, scientific investigation will determine if the mystery skull belongs to an herbivore, carnivore or omnivore. By examining the placement of the eyes, structure of the teeth and other features of the skull, students will learn classification.

(*A* at Penitentiary Glen Reservation or your site)
**GRADES 6–8 PROGRAMS**

To register for these programs, call 440-358-7275

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**Advanced Linking Up: From Owl Pellets to Food Webs**

3 hours • $10 per student per option

- **grades 6-8**
- **Science, Energy flow, ecosystems**
- Dissect an owl pellet and trace energy through a food chain from the sun to decomposition. Discover how habitat destruction endangers wildlife. Additional charge for owl pellets.

**Alien Invaders: Invasive Species Around Us**

2 hours • April & May only • 45 student minimum

- **grades 6–8**
- **Science, Earth's ecosystems**
- Students learn why non-native species are harmful to the local environment, recognize the interdependence of species and explore the importance of habitat protection through hands-on activities. Then they will “suit-up” to attack one of the most aggressive plants—garlic mustard!

**Archery Adventure**

2 hours • May–September • Lifetime physical activity

- **grades 6–8**
- **Science, Physical activity, social interactions**
- Have you ever shot a bow and arrow before? Now is your chance! Students learn the proper safety of the bow and arrow and then have a chance to shoot several rounds on our range and give it their best shot!

**Biotech Institute**

3 hours

- **grades 6–12**
- **Science, DNA, cloning, genetics**
- Explore the world of conservation and biotechnology together with the help of Lake Metroparks. Students gain real-world experience as they work together in a fully-functioning biotechnology lab. Classes can enroll in one of all experiences.

**Disc Golf**

2 hour • May-June • Lifetime physical activity, social interactions

- **grades 6–8**
- **Science, Physical activity, social interactions**
- Use new skills throwing a disc (frisbee) through a course set with tees and golf baskets instead of holes. We provide the discs, golf baskets and tees. Enjoy your leisure time outdoors playing this new sport.

**Ecosystems & Energy**

2 hours • Fall, Spring, Summer

- **grades 7**
- **Science, Physical science, energy, matter**
- Explore the rock cycle and discover signs of glaciation, erosion and quarrying activities that shaped the area. Test minerals to discover their properties. Enjoy breathtaking views of Lake Erie and ancient beach ridges.

**Escape the Yurt**

2 hours • Fall, Spring, Summer

- **grades 4–12**
- **Science, Physical science, energy, matter**
- A virus has been released and you are the only hope to save the planet from an apocalypse! Explore the world of microscopic pathogens and viruses, understand their spread and how to contain them. Once you have the tools and knowledge, try to escape the yurt by solving riddles, puzzles and much more to find the cure!

**EUV**

1.5 hours

- **grades 6–8**
- **Science, Technology, longitude & latitude, navigation**
- Experience this entertaining adventure game for Global Positioning System beginners. Learn how satellites are used to obtain a position on earth. Use GPS units to enter longitude and latitude coordinates to locate waypoints, caches and prize sites.

**One Great Lake**

2 hours • Fall, Spring, Summer

- **grades 6–7**
- **Science, Physical science, energy, matter**
- We’re all connected and affected! Explore the pathways of water through the atmosphere and through the Great Lakes. Lake Erie affects the climate, agriculture and all of us! Learn what makes Lake Erie so great!

**Pellet Safari**

1 hour

- **grades 6-8**
- **Science, Physical science, energy, matter**
- Experience this entertaining adventure game for Global Positioning System beginners. Learn how satellites are used to obtain a position on earth. Use GPS units to enter longitude and latitude coordinates to locate waypoints, caches and prize sites.

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**GRADES 3–5 PROGRAMS**

To register for these programs, call 440-358-7275

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**The Chemistry of Cheese Making**

2 hours

- **grades 3-4**
- **Science, Science in Action**
- Dissect an owl pellet and trace energy through a food chain from the sun to decomposition. Discover how habitat destruction endangers wildlife. Additional charge for owl pellets.

**Alien Invaders: Invasive Species Around Us**

2 hours • April & May only • 45 student minimum

- **grades 3–5**
- **Science, Earth’s ecosystems**
- Students learn why non-native species are harmful to the local environment, recognize the interdependence of species and explore the importance of habitat protection through hands-on activities. Then they will “suit-up” to attack one of the most aggressive plants—garlic mustard!

**Archery Adventure**

2 hours • May–September • Lifetime physical activity

- **grades 3–5**
- **Science, Physical activity, social interactions**
- Have you ever shot a bow and arrow before? Now is your chance! Students learn the proper safety of the bow and arrow and then have a chance to shoot several rounds on our range and give it their best shot!

**Bottle Rocket Blast**

2 hours

- **grades 6-8**
- **Science, Physical science, energy, matter**
- Students investigate Newton’s laws of motion and apply them to hands-on experiments. They learn that forces cause changes in motion and that motion can be described by its speed and direction. Students work in research teams to design and develop their own project that can survive the force and motion that work against them.

**Cleveland Rocks**

2 hours • Fall, Spring, Summer

- **grades 6**
- **Science, Earth’s surface, observations of nature**
- Explore the rock cycle and discover signs of glaciation, erosion and quarrying activities that shaped the area. Test minerals to discover their properties. Enjoy breathtaking views of Lake Erie and ancient beach ridges.

**Cleveland Soils**

2 hours • Fall, Spring, Summer

- **grades 6–8**
- **Science, Earth’s resources, observations of nature**
- Students will observe rock-layering, texture and erosion as they hike through Sharon Conglomerate ledges and enjoy breathtaking views of Lake Erie and ancient beach ridges. Small group soil testing activities will allow for investigation of soil properties and composition.

**Disc Golf**

2 hour • May-June • Lifetime physical activity, social interactions

- **grades 6–8**
- **Science, Physical activity, social interactions**
- Use new skills throwing a disc (frisbee) through a course set with tees and golf baskets instead of holes. We provide the discs, golf baskets and tees. Enjoy your leisure time outdoors playing this new sport.

**EUV**

1.5 hours

- **grades 6–8**
- **Science, Technology, longitude & latitude, navigation**
- Experience this entertaining adventure game for Global Positioning System beginners. Learn how satellites are used to obtain a position on earth. Use GPS units to enter longitude and latitude coordinates to locate waypoints, caches and prize sites.

**One Great Lake**

2 hours • Fall, Spring, Summer

- **grades 6–7**
- **Science, Physical science, energy, matter**
- We’re all connected and affected! Explore the pathways of water through the atmosphere and through the Great Lakes. Lake Erie affects the climate, agriculture and all of us! Learn what makes Lake Erie so great!

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**Content Standards** can be found at lakemetroparks.com/teachers-schools.
GRADES 6–8 PROGRAMS
To register for these programs, call 440-358-7275

Owls: Engineered for Stealth  grades 6–8
1.5 hours  Adaptations, environment, predator/prey
Students will explore owls in depth to better understand how they live in nature. They will learn how nature has engineered the owl to be a silent hunter. Students will also discover special adaptations of this exquisite species and how they use these traits to survive and succeed in many environments. Owl ecology will be studied to see how owls fit into their natural environments.

Plate Tectonics  grades 6–8
1 hour  Forces, physical Earth
A density flow model will lead to observation of plate motion and ocean floor spreading. Hands-on group activities will demonstrate convection currents and plate boundaries.

Stream Study  grades 7–8
2.5 hours  spring, summer, fall
Watersheds, abiotic/biotic, hydrologic cycle
What makes a stream healthy? Students journey to Jordan Creek to get an up-close look and feel of the water, its inhabitants and the life around it. Water quality testing, fish and insect identification and geography of the area are just some of the topics with hands-on activities they will experience.

Survivor: A Global Eco-challenge  grades 6–8
1 hour  Teamwork, leadership skills
Students become a member of a biome trying to overcome global environmental challenges that affect their survival. The biomes compete in mental and physical challenges. Teamwork and leadership skills are tested to find the ultimate Eco-Protecor.

The Climate for Snowshoes  grades 6–8
2 hours  January & February
Snowbelt, weather patterns
We will study the science of snow and the weather patterns that produce it in such abundance in this area. Once we learn what makes it happen, we will explore the woods on snowshoes and study how the snow has fallen. We will measure temperatures, determine wind directions, and examine snow layers.

Trail Capture the Flag  grades 6–8
2.5 hours  Teamwork, strategy, social interactions
This program is for each grade level. Get to know park trails and read trail maps. Teams collect trail flags with point values and develop a strategy to “capture” the opposing team. The highest score wins and there may be a few surprises along the way that could change the game. Teamwork and leadership skills are tested to capture your opponent.

GRADES 9–12 PROGRAMS
To register for these programs, call 440-358-7275

Biotech Institute  grades 6–12
3 hours  DNA, cloning, genetics
DNA, cloning, genetics
Explore the world of conservation and biotechnology together with the help of Lake Metroparks. Students gain real-world experience as they work together in a fully-functioning biotechnology lab. Classes can enroll in one of all experiences.

Survivor: Eco-protectors  grades 9–12
2 hours  Code breaking, problem solving, teamwork
Students become members of a biome trying to overcome global environmental challenges that affect their survival. The biomes compete in mental and physical challenges. Teamwork and leadership skills are tested to find the ultimate Eco-Protecor.

Escape the Yurt  grades 4–12
2 hours  Team building, leadership skills, biome
We’ve got the pond, the fish, the poles and we’ll even bring the worms. Explore our local ecosystems as students learn the sport of fishing. All fish caught will be released.

Fishing Adventure 201  grades 9–12
1 hour  Teamwork, strategy, social interactions
This a program that all kids will fall for hook, line, and sinker! We’ve got the pond, the fish, the poles and we’ll even bring the worms. Explore our local ecosystems as students learn the sport of fishing. All fish caught will be released.

Snowshoe Climatology  grades 9–12
2 hours  January & February
Snowbelt, weather patterns
We will study the science of snow and the weather patterns that produce it in such abundance in this area. Once we learn what makes it happen we will explore the woods on snowshoes and study how the snow has fallen. We will measure temperatures, determine wind directions, and examine snow layers.

World Capture the Flag  grades 9–12
2.5 hours  Teamwork, strategy, social interactions
Get to know park trails and read trail maps. Teams collect trail flags and flags from different countries as they develop a strategy to “capture” the opposing team. The highest score wins and there may be a few surprises along the way that could change the game. Teamwork and leadership skills are tested to capture your opponent.

Archery Adventure  grades 9–12
2 hours  May–September
Lifelong physical activity
Have you ever shot a bow and arrow before? Now is your chance! Students learn the proper safety of the bow and arrow and then get a chance to shoot several rounds on our range and give it their best shot!

Alien Invaders: Invasive Species Around Us  grades 9–12
2 hours  April & May only • 45 student maximum
Students learn why non-native species are harmful to the local environment, recognize the interdependence of species and explore the importance of habitat protection through hands-on activities. Then they will “suit-up” to attack one of the most aggressive plants—garlic mustard!

GPS: Know Your Location  grades 9–12
1.5 hours  Technology, longitude & latitude, navigation
Experience this entertaining adventure game for Global Positioning System beginners. Learn how satellites are used to locate positions on earth. Use GPS units to enter longitude and latitude coordinates to locate waypoints, caches and prize sites.

For more information, visit lakemetroparks.com/teachers-schools.
### OUTDOOR EDUCATION PROGRAMS
To register for these programs, call 440-358-7275

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### FARM-ORIENTED PROGRAMS
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<td>Forces &amp; Motion</td>
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<td>Fossil Hunters</td>
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<td>Interactions in Ecosystems</td>
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<td>It’s Alive!</td>
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<td>Kindergarten Rocks, Soils Rule!</td>
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<tr>
<td>Lake Effects</td>
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Education Services

- Most Lake Metroparks facilities are wheelchair accessible and maintain first aid stations.
- Scholarships are available to groups with financial need; please inquire when you call for a reservation.
- Teacher guides complement most programs with pre- and post-visit activities, background information and a listing of how the program aligns with Ohio’s Academic Content Standards.
- Custom program packages can be created for year-round, multi-visit programs or grant projects. Lake Metroparks’ staff collaborates with area teachers to develop customized programs that make full use of our facilities’ potential to reinforce concepts and skills in science, language arts, history, math, nutrition or art in themed units on farming, nature, recreation, physical education, health or related topics.
- Invite us to your next staff meeting for a 15-minute presentation on Lake Metroparks’ education or recreation programs.

Gift Shops & Lunch Options

Take home a souvenir! A wide variety of nature- and farm-themed gifts and educational items are available to enhance your visit.

- The Nature Store at Penitentiary Glen Nature Center is open daily 9 am to 4:30 pm
- Farmpark’s Gift Shop is open 9 am to 5 pm Tuesday through Saturday and 11 am to 5 pm Sunday. Pre-ordered lunches are available at Farmpark only. Student lunches are available from J&J Cafe at Farmpark. Choose a hot or cold lunch. Cost is between $3.25 and $8 per student lunch. Lunches must be ordered at least two weeks in advance. Call 440-669-6418 for a lunch and/ or snack menu and to place an order. Payment is made directly to J&J Cafe. Be sure to ask about our special eco program or environmental adventure! Can do that too! Call any of our facilities for more information.

Gifted & After School Programs

Lake Metroparks is excited to offer an incredible array of gifted and after school programs. In fact, many of the programs listed in this book can be adapted or developed to fit extracurricular school activities. Clubs, gifted programs and special groups or projects are invited to schedule any of our program offerings. We can also develop multi-session programs on a variety of topics to fit your needs. These programs can be scheduled at Lake Metroparks facilities or can be brought to your school or organization. Does your Gifted Education teacher need a series of six programs on a special topic? Can we do that? Do you have an Ecology Club looking for a special eco program or environmental adventure? We can do that too! Call any of our facilities for more information.

Teacher Ambassadors

At Lake Metroparks, we know this statement is true: Most organizations find success by listening carefully to the ideas of their customers.

We invite teacher representatives from schools across northern Ohio to participate in our Teacher Ambassador Program. These Teacher Ambassadors help Lake Metroparks by sharing their feedback, opinions and best practices to help improve our program offerings and more.

The commitment in time is minimal—we are simply looking for your school’s opinions and ideas—all in an effort to improve our programs to meet the needs of your students and to help you do more with less. If you are interested in joining the Teacher Ambassador Program, please contact Becky at bparkin@lakemetroparks.com.

Professional Development

Lake Metroparks offers professional development opportunities, many in cooperation with Lake Erie College or NEOEA. These weekend and summer workshops enhance educator knowledge and understanding of science, social studies and math and are aligned with Ohio’s Academic Content Standards. We welcome the opportunity to work with professional development committees to develop and present workshops to fulfill teacher certification requirements. To schedule an in-service or receive information on upcoming professional development opportunities, call 440-358-7275.

Lake Metroparks EDUCATION FACILITIES

Lake Metroparks Farmpark
8800 Euclid Chardon Rd. (Rt. 6)
Kirtland, Ohio 44094

Children’s Schoolhouse Nature Park
9045 Baldwin Rd.
Kirtland Hills, Ohio 44060

Lake Metroparks Environmental Learning Center
7250 Alexander Rd.
Concord Twp., Ohio 44077

Penitentiary Glen Nature Center
8668 Kirtland-Chardon Rd.
Kirtland, Ohio 44094

Kevin P. Clinton Wildlife Center
at Penitentiary Glen Reservation
8668 Kirtland-Chardon Rd.
Kirtland, Ohio 44094

Fairport Harbor Lakefront Park
301 Huntington Beach Dr.
Fairport Harbor, Ohio 44077

Chapin Forest Reservation
9938 Chillicothe Rd. (Rt. 306)
Kirtland, Ohio 44094

Pine Lodge Ski Center
10381 Hobart Rd.
Kirtland, Ohio 44094

Visit lakemetroparks.com for driving directions and location information or inquire when requesting a program.
Pass it on!
Be sure to share the great ideas inside and pass this program guide on to a colleague! Lake Metroparks encourages the conservation and wise use of natural resources and supports recycling. Please help to reduce waste—share this publication with your colleagues.

Please circulate to:
- Curriculum coordinators
- Science specialists
- Science Club advisors
- PTO/PTU leaders
- Homeschoolers
- Aftercare coordinators
- Librarians
- Physical Education teachers

Registration Checklist
Please have this information ready before you call:

- Name of your school/group
- Name of the contact person
- Name of the teacher(s) (if different from contact)
- School mailing address
- Email address
- School phone number
- Home phone number of contact person
- Program title/topic
- Date*
- Alternate date*
- Arrival time
- Program starting time
- Length of program
- Departure time
- Number of students
- Number of adult chaperones
- Age/grade of students
- Transportation: car/bus
- Special needs or requests

Optional: Will you be eating lunch in the park?
- Students will bring lunch
- We will pre-order lunch (available at Farmpark only)

*Farmpark is open Tuesday through Sunday, 9 am to 5 pm