



WOLF CREEK
ENVIRONMENTAL CENTER

School Programs Overview

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- Young Explorers
- Amazing Animals

Grade 2

- Looking into Ponds and Wetlands

Grades 2 and 3

- Discovering Nature's Communities

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- Rocks and Fossils

Grades 3 to Middle School

- Exploring Ponds and Wetlands

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- Forest Community
- Ohio Wildlife
- Meadow Investigations

Grades 6 to Middle School

- Language of the Rocks



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Pre to 1st Grade

Young Explorers

Students will be read a story with a seasonal theme such as birds migrating from the south and animals emerging from hibernation during spring. Then, the students will explore the many communities at Wolf Creek.

Program time: 1 hour

Maximum students: 60

- Explore the differences between living and non-living things (e.g. plant - rock).
- Explore the pond, wetland, forests, and meadows of Wolf Creek and learn that animals and plants have basic needs that include air, water, food, living space, and shelter.
- Discover which animals live in the different natural communities by searching for animal signs.
- Investigate the habitats of different animals and what they eat.
- Observe a variety of Ohio plants that disperse seeds by animals, wind, and water.

Amazing Animals

Students will learn about the differences between pretend, wild and tame animals, discuss animal groups and explore animal characteristics with hands-on objects and live specimens.

Program time: 1 hour

Maximum students: 60

Indoors/optional outdoor activities; weather permitting

- Through observation make comparisons between animals based on their characteristics.
- Discover the difference between real and pretend animals and that the media sometimes gives characteristics to animals that they don't have (i.e. talking animals, turtle taking off shell).
- Discover that animals usually resemble their parents and that variations exist among individuals of the same kind of animal.
- Use multiple senses to learn about animals.
- Interact with animals in ways that promote respect.
- Investigate that animals eat plants and/or other animals for food and may also use plants or other animals for shelter and nesting.
- Explore that animals have body parts that help them find and eat food.
- Recognize that seasonal changes can influence the health, survival and activities of animals.

Grade 2

Looking into Ponds and Wetlands

Ponds and wetlands are teeming with life from large fish and turtles to microscopic organisms. Students will explore these marvelous communities for frogs, tadpoles, dragonfly nymphs, and other water-loving creatures (spring and fall).

Program Time: 1.5 hours

Maximum students: 80

Time of year: Second week in April to the end of October

- Discover what animals live in a pond or wetland. Students will have the opportunity to search for animals in a pond using nets.
- Explain that all organisms need food to survive. Aquatic plants produce their own food using sunlight and aquatic animals eat plants or other animals. Food is needed for energy and for growth.
- Identify pond organisms by using a simple picture key.
- Discover what common aquatic organisms eat (e.g. tadpoles feed on algae and frogs feed on insects).
- Classify pond and wetland animals, including snakes, turtles, birds and mammals, according to their characteristics such as body coverings and body structure.
- Compare life cycles of pond organisms such as egg-tadpole-adult frog and egg-nymph-adult dragonfly.
- Explain how different pond and wetland organisms survive winter.

Grades 2 and 3

Discovering Nature's Communities

Students will visit several communities at Wolf Creek, including the forest, meadow, pond, and wetland while discovering the many interrelationships between the plants and animals in these communities.

Program time: 1.5 hours

Maximum students: 80

- Compare human communities to natural communities; explain that both people and animals need air, water, food, living space, shelter, and light to survive.
- Discover which animals live in different habitats by looking for animal signs.
- Compare the activities of Ohio's common animals such as squirrels, chipmunks, deer, butterflies, bees, and ants during the different seasons by describing changes in their behaviors and body coverings.
- Investigate the different structures of plants and animals that enable them to live in different environments (e.g. lungs, gills, roots, leaves).

- Explain that food is a basic need of plants and animals; plants use sunlight to produce their own food, and animals eat plants or other animals for food; food is important, because it is a source of energy; share simple food chains such as grass-meadow, vole-coyote, and nuts-squirrel-hawk.
- Compare life cycles of different animals that live in Ohio including birth to adulthood, reproduction, and death (e.g. egg-caterpillar-chrysalis-butterfly).
- Relate animal structures to their specific survival functions (e.g. obtaining food, escaping, or hiding from enemies).
- Classify animals according to their characteristics (e.g. body coverings and body functions).

Grades 3 to 5

Rocks and Fossils

Students will have the opportunity to learn about Ohio’s geologic history while discovering properties of rocks and minerals. They will also search for fossils in the rocks at Wolf Creek.

Program time: 1.5 hours

Maximum students: 50

Timeframe: Mid-April through the end of October

- Discover the three types of rocks and how each was formed.
- Compare the distinct properties of rocks (e.g. color, layering and texture).
- Explain that rocks are composed of minerals (e.g. granite is made up of the minerals feldspar, quartz and mica or hornblende).
- Observe and investigate that sedimentary rocks are usually found in layers.
- Describe that most of the rock layers formed in Ohio were formed in warm, shallow seas.
- Observe and explore how fossils found in Ohio’s rocks provide evidence about the animals and plants that lived long ago.
- Use examples to explain that extinct organisms may resemble organisms that are alive today.
- Observe and describe the composition of soil (e.g. small pieces of rock and decomposed pieces of plants and animals, and products of plants and animals).

Grades 3 to Middle School

Exploring Ponds and Wetlands

Ponds and wetlands are teeming with life from large fish and turtles to microscopic organisms. Students will explore these amazing communities both through the microscope and with nets (spring and fall).

Program time: 1.5 hours

Maximum students: 50

- Discover what animals live in a pond or wetland. Students will have the opportunity to search for macroinvertebrates in a pond using nets.
- Identify pond organisms by using a simple picture key.
- Classify animals that interact with ponds and wetlands, including aquatic macroinvertebrates, amphibians, reptiles, birds and mammals.
- Explain life histories of common representatives of each group found in Ohio.
- Compare life cycles of pond organisms such as egg-tadpole-adult frog and egg-nymph-adult dragonfly.
- Describe the role of producers in the transfer of energy entering a pond or wetland ecosystem as sunlight to chemical energy through photosynthesis.
- Trace the organization of simple food chains and food webs in a pond or wetland ecosystem (e.g. producers, herbivores, carnivores, omnivores, decomposers).
- Explain how almost all kinds of animals' food can be traced to plants.
- Discover and classify microorganisms found in a pond and wetland community by using microscopes.
- Explain that these microorganisms form the basis of the food chain in aquatic environments.
- Explain the value of wetlands that include preventing flooding and erosion, filtering impurities from water, recharging groundwater, providing habitat and nurseries for numerous unique plants and animals, and human recreation.

Grades 4 to Middle School

Forest Community

Students will learn that a forest community is a dynamic tapestry of several layers with numerous plant and animal interrelationships. They will discover many of these relationships while searching for life on the forest floor.

Program time: 1.5 hours

Maximum students: 80

- Explain the difference between a deciduous and coniferous forest.
- Identify common trees of Ohio's forests using a simple dichotomous key.
- Explain that all natural communities are composed of producers, consumers, and decomposers while giving examples of each.
- Describe the role of producers in the transfer of energy entering a forest ecosystem as sunlight to chemical energy through photosynthesis.
- Trace the organization of simple food chains and food webs (e.g. producers, herbivores, carnivores, omnivores, decomposers). Explain how almost all kinds of animals' food can be traced back to plants.
- Describe how a tree grows, including the process of photosynthesis and the function of each part (e.g. leaves, trunk, roots, flowers, and seeds).
- Discover what animals inhabit a forest community by searching for animal signs and looking for organisms on the forest floor.
- Describe how organisms interact with one another in various ways (e.g. squirrel-oak tree relationship).

Ohio Wildlife

Students will discover how scientists classify animals with an emphasis on Ohio wildlife.

Program time: 1.5 hours

Maximum students: 80

- Students will learn how special adaptations and patterns of behavior enable animals to perform different roles in their environment.
- Classify the basic animal groups including mammals, birds, reptiles, amphibians, fish, and insects according to their body coverings and body structure.
- Investigate special adaptations of our native birds including songbirds, waterfowl, woodpeckers, and raptors.
- Discover life histories of Ohio's common animals while searching for their presence. Animal signs include nests, burrows, den sites, scat, insect galls and chewed twigs.
- Summarize that wildlife can survive only in ecosystems in which their needs can be met (e.g. food, water, shelter, air, carrying capacity). Share that the different ecosystems or communities at Wolf Creek support the lives of different types of animals.

- Explain how the almost all kinds of animals' food can be traced back to plants.
- Trace the organization of simple food chains and food webs (e.g., producers, herbivores, carnivores, omnivores, and decomposers).
- Support how an animal's patterns of behavior are related to the nature of that animal's ecosystem, including the kinds and numbers of other animals present, availability of food and resources, and the changing physical characteristics of the ecosystem.

Meadow Investigations

The clearing of forests for agricultural has created many acres of meadows or fields in Ohio. Students will investigate the numerous interrelationships of plants and animals in a meadow community.

Program time: 1.5 hours

Maximum students: 80

- Students will also analyze how organisms, including humans can change ecosystems over time.
- Explain the concepts of biome, ecosystem, and community.
- Explore which animals are found in a meadow community by searching for animal signs such as scat, chewed twigs, holes in the ground, and animal tracks.
- Explain how almost all kinds of animals' food can be traced back to plants.
- Describe how organisms within a meadow community interact with one another in various ways (e.g. many plants depend on animals for carrying pollen or dispersing seeds).
- Describe the role of producers in the transfer of energy entering ecosystems as sunlight to chemical energy through photosynthesis.
- Trace the organization of simple food chains and food webs in a meadow community (e.g., producers, herbivores, carnivores, omnivores, and decomposers).
- Support how an organism's patterns of behavior are related to the nature of that organism's ecosystem, including the kinds and numbers of other organisms present, the availability of food and resources, and the changing physical characteristics of the ecosystem.
- Analyze how all organisms, including humans, cause changes in their ecosystems and how these changes can be beneficial, neutral, or detrimental (e.g., people letting farmland become a forest over time, people introducing new species, squirrels burying nuts in an abandoned field).

Grades 6 to Middle School

Language of the Rocks

The rocks speak to us by revealing Ohio's geologic past from ancient seas to massive glaciers. Students will learn the three different types of rocks and how each was formed together with discovering the forces that shaped our area.

Program time: 1.5 hours

Maximum students: 50

Timeframe: Second week in April through the end of October

- Discover the difference between igneous, metamorphic, and sedimentary rocks and how each was formed.
- Explain that rocks are made of one or more minerals.
- Identify minerals by their characteristic properties.
- Describe that most of the sedimentary rock layers formed in Ohio were formed in warm, shallow seas.
- Observe and explore how fossils in Ohio's rocks provide evidence about animals and plants that lived long ago.
- Describe that in a chemical change, new substances are formed with different properties (e.g. iron in minerals changing to iron oxides).
- Describe that in a physical change (e.g. state, shape, and size), the chemical properties of a substance remain unchanged.
- Explore the chemical and physical changes that take place with rocks (e.g. large rocks break into small particles, and iron in rock is chemically changed to iron oxide or rust).
- Identify and describe how freezing, thawing, and plant growth reshape the land surface by causing the weathering of rock.
- Describe how wind, water and ice shape and reshape Earth's land surface by eroding rock and soil in some areas and depositing them in other areas producing characteristic landforms (e.g. glacial moraines).