



Grades 6-8

ASHLAND NATURE CENTER PROGRAMS

Birds of Two Worlds

2 hours, \$8/student (includes materials fee)

Survey mature forest and streamside habitat ecosystems for Neotropical migratory birds. These birds return to Central and South Americas each winter. The Burrows Run and Flint Woods Preserves are nesting sites for some of Delaware's most beautiful, but threatened, Neotropical migrants. Use binoculars, a directional microphone and tape recorder to bring birds close to the group for easy viewing. There is also an opportunity for continuing the experience as your students communicate with a Central American school about the birds and their habitats and add their sightings to Cornell Lab of Ornithology's bird database. May-June.

Demons, Dragons, and Damsels: Tales of the Night Sky Classroom Outreach

1 hour, free with application*

Learn night sky tales told by ancient peoples and discover the modern interpretations of these same phenomena – the tales that science tells. Ancient stories were born of inspiration and imagination, and varied from society to society. Explore the reasons for this variation and learn why scientific accounts do not depend on cultural differences. Use your imagination to create constellations and sky stories. This program can be customized to fit your current curriculum in the sciences or the humanities and is offered free of charge* through a partnership with the Delaware Humanities Forum.



Exploring By Canoe

4 hours, \$35/student

Canoe Dragon Run, a freshwater marsh near Delaware City. Dragon Run is home to eagles, beaver, muskrats, herons and egrets. Learn basic paddling skills, explore the Dragon Run Creek, hike along its shore to survey plant and animal life, and discover the functions and importance of wetlands. Canoes, paddles and life preservers included in cost, no canoeing experience required.

Field Geology

2 hours, \$6/student

Investigate the rock cycle as it relates to Ashland's geologic past and our local geology. Hike the trails at Ashland to discover current examples of weathering, erosion and deposition, and use rock hammers and goggles to collect mineral and rock samples for identification.

Field Ornithology

2 hours, \$6/student

Explore the unique and varied adaptations of native birds, including body shape, beaks and feet and investigate how these adaptations help them survive in their habitats. View mounted specimens and study the diversity of species and life cycles in our region. Use binoculars and field guides while surveying forest and field ecosystems to classify over 20 species of birds. Examine bird adaptations, how they relate to their role in the environment, and record your findings.

Forest Succession

2 hours, \$6/student

Take a successional journey from open meadow to mature forest. Learn about the natural transition of open land to woodland and determine the age of four stages of forest succession using several tree-aging methods. Identify trees, search for examples of dominant plants and animals in each stage, and document the process by making a photographic journal.

Insect Study

2 hours, \$6/student

Learn to identify and classify orders of insects using identification keys and guide books. With nets and jars, collect insects to identify them and discover their role in the food chains of meadow, forest and stream ecosystems. Discover what enables them to reproduce, grow, and survive in their environment.

Native Americans in Delaware

2 hours, \$6/student

Explore the culture and customs of the early inhabitants of Delaware. Discover pre-colonial Delaware history and learn how Native Americans used nature for their everyday needs. Visit a replica wigwam for a hands-on experience with tools, animal furs and hides, clothing and musical instruments.



Nature Photography

2 hours, \$8/student (includes materials fee)

Discover the natural world through a camera lens using digital cameras. Learn photography skills and compose instant photos. Print and frame favorite photos and create a poem to describe the image.



Owls in Delaware Classroom Outreach

1½ hours, \$7/student + \$35 travel fee

Learn about four species of owls common to Delaware as you examine their individual structures and adaptations for survival. Investigate mounted specimens, listen to calls, and dissect owl pellets to explore the eating habits of owls.

Pond Ecology

2 hours, \$6/student

Visit a pond ecosystem and use dip nets to sample the diversity of aquatic organisms. In the lab, use a video microscope and individual microscopes to view small pond organisms. Examine and compare the structures of pond animals that help them survive in their environment and discuss their role in the pond food chain.

Project Reforestation

2 hours, \$6/student

Explore the Middle Run Natural Area and learn about the natural process of forest succession. Investigate the impact of White-tailed Deer and invasive plant species on the growth of a forest ecosystem. Examine the forest food chain and discover the variety of animals that depend upon trees for food. Visit the Delaware Nature Society's reforestation plots and plant trees that will help the Middle Run watershed. Program meets at the Middle Run Natural Area.

Reading the Forest

2 hours, \$6/student

Hike along trails and historical roads at Flint Woods Preserve. Experience the smells, sights, and sounds of the forest and record observations. Identify and classify trees, stages of forest growth, and compare vertical forest layers.

Reptile & Amphibian Workshop

2 hours, \$6/student

Investigate the characteristics and adaptations of snakes, lizards, frogs and turtles in this hands-on experience with live animals. After training for handling these animals, assist with feeding, and investigate their life cycles and histories using field guides. In the spring and fall, explore a nearby marsh to find these animals in their habitats.

Skull Study Classroom Outreach

1 hour, \$6/student + \$35 travel fee

Handle and classify a variety of skulls from local mammals, birds, and reptiles. Examine teeth, eye, and nose structures to determine if unknown animals are carnivores, herbivores or omnivores. Investigate how different animals survive in their environments.

Spring Amphibians

1½ hours, \$6/student

Explore the world of amphibians during the time when they are chorusing and laying eggs. Learn how amphibians in Delaware survive the seasons and use nets and other collecting equipment to look for amphibians and the food they eat. March-June.

Springs & Streams

2 hours, \$6/student

Visit and view three sites in a small watershed within the Burrows Run Preserve. Compare and contrast the physical, chemical, and biological characteristics of a groundwater spring, an intermittent stream, and a perennial stream. This program qualifies your class to adopt a stream.

Watersheds and Stream Quality

2½ hours, \$7 per student

Discover land use in the Red Clay Creek watershed and hypothesize how human activities have impacted the water quality of the stream. Investigate the benefit of forested riparian buffers and conduct visual and biological assessments of the Red Clay Creek and one of its tributary streams. Use physical characteristics and biological indicator species to determine the water quality of the Red Clay and its tributary stream and compare findings. This program qualifies your class to adopt a stream.

Additional programs offered – See our website for complete descriptions.

- Big Trees at Burrows Run Preserve Field Study ~ 2 hours, \$6/student
- Bird Box Biology Field Study ~ 2 hours, \$6/student
- Mining & Minerals Field Study ~ 1½ hours, \$6/student
- Plant Kingdom Field Study ~ 2 hours, \$6/student
- Stream Ecology Field Study ~ 2 hours, \$6/student



COVERDALE FARM PROGRAM

“What’s For Lunch?”

2 hours, \$6/student

Create a delicious lunch then determine how nutritious it is for your body. “Slice up” your meal to discover how many food groups are represented and what vitamins and minerals are obtained. Trace your meal to the sources by exploring the farm gardens and livestock. Hands-on activities make this the most active meal you’ve ever “eaten.”



ABBOTT’S MILL NATURE CENTER PROGRAMS

Beach Ecology (Coastal Ecology of Delaware)

3 hours, \$7/student

Choose 4 activities to explore the coastal ecosystem through beachcombing, seining, studying or tagging horseshoe crabs, surveying birds, exploring the saltmarsh, or monitoring dune plants. Note that seasonal cycles will dictate which stations are available. Compare and contrast these habitats and the unique organisms that occupy each site. Experience the interactions between shorebirds and horseshoe crabs in the Delaware Bay. Program meets at Slaughter Beach. April-October.

Birds in Focus

2 hours, \$5/student

Explore the unique and varied adaptations of native birds, including body shape, beaks and feet. Investigate how these adaptations help them survive in their habitats. See mounted specimens and study the diversity of species in the Delmarva region. Use binoculars on a guided bird survey through different habitats. Find out how birds are affected by seasonal changes.

Birds in Focus Classroom Outreach

1 hour, \$5/student + \$35 travel fee

Explore the unique and varied adaptations of native birds, including body shape, beaks and feet. Investigate how these adaptations help them survive in their habitats. See mounted specimens and study the diversity of species in the Delmarva region. Use binoculars on a guided bird survey through your school grounds. Find out how birds are affected by seasonal changes.

Exploring By Canoe

3 hours, \$10/student

Learn basic paddling skills while exploring Abbott’s Pond, home to beaver, turtles, waterfowl, and the occasional otter. Use seine nets and microscopes to collect and examine aquatic organisms. Learn how historic Abbott’s Mill influenced the environment in the 1800’s. Canoes, paddles and life preservers included in cost, no canoeing experience required.

Fantastic Fish

3 hours, \$7/student

Discover biological and ecological adaptations of fish by examining external and internal features. Learn how to read a fish by its structure and examine how form relates to function. Don chest waders and use a seine net in Abbott’s Pond to collect specimens. Hone your dissecting skills in our wet lab as we explore fish anatomy and biology.

Native Americans in Delaware

3 hours, \$7/student

Explore the culture and customs of the early inhabitants of Delaware. Take an interpretive walk to discover pre-colonial Delaware history. Learn how Native Americans used nature for their everyday needs and visit a replica longhouse for a hands-on experience with tools, animal skins, clothing and musical instruments. Program meets at the Lindale Tract.



Nature Photography

2 hours, \$8/student (includes materials fee)

Discover the natural world through a camera lens using digital cameras. Learn photography skills and compose instant photos. Print and frame favorite photos and create a poem to describe the image. The cost of this program includes film, matting, and use of cameras.



Orienteering & Compass Reading

3 hours, \$7/student

Experience firsthand how to navigate with a map and compass. Learn how to read a topographic map and interpret natural and human-made features. Measure your walking pace and take bearings. Combine all your navigation skills on a compass orienteering course.



Owls in Delaware Classroom Outreach

1½ hour, \$7/student + \$35 travel fee

Examine the structures and adaptations for survival of four resident owl species of Delmarva. Study mounted specimens, listen and learn owl calls, and dissect owl pellets to explore the eating habits of owls.

Pond Ecology

2½ hours, \$6/student

Immerse yourself in Abbott’s Pond with dip nets to sample the diversity of aquatic organisms. Use microscopes to view small pond organisms. Examine and compare the structures of pond organisms that help them survive in their environment.

Power to the People

2 hours, \$5/student

Discover sources of renewable and nonrenewable energy. Follow energy pathways from its source to homes, cars, and our dinner table. Tour historic Abbott’s Mill and examine its water powered milling equipment. Solar and water power and fossil fuel sources are examined. Provide your own power to operate human-powered tools and machines.

Reptiles & Amphibians Classroom Outreach

1 hour, \$5/student + \$35 travel fee

Discover fascinating facts about frogs and toads, salamanders, turtles, and snakes during this exciting animal program. Live specimens aid in examining the differences between reptiles and amphibians and exploring the significance of their unique adaptations and life cycles.

Rock Hounds

2 hours, \$5/student

Learn about the rock cycle, where Delaware’s rocks come from, weathering, and the differences between rocks and minerals. Use a dichotomous key to select and separate types of rocks. Perform a variety of tests to determine what minerals are present in the different rocks. Program meets at Slaughter Beach. April-October.

Stream Ecology

2½ hours, \$6/student

Use scientific tests to determine a stream’s health by examining its biological, chemical, and physical attributes. Collect and classify stream macro-invertebrates and record pH and dissolved oxygen levels. Discover how humans and wildlife impact our stream and identify four basic types of stream pollution. Microscopes reveal the tiniest inhabitants of the stream. This program qualifies your class to adopt a stream.

Additional programs offered – See our website for complete descriptions.

- Terrestrial Ecosystems (Biodiversity at Blair’s) Field Study
~ 3 hours, \$7/student

