ECOLOGY LABS

Mondays, January 24-May 2 (no class February 14, March 14, or April 4; 12 weeks)
12:30pm-2:00pm
Ages 11-14

Throughout this semester, students study environmental processes and ecological systems through hands-on activities and experimentation related to the study of organisms and their environment. We explore biodiversity across the plant and animal kingdoms, learn methods to study diversity and behavior, investigate adaptations allowing organisms to thrive in their habitat, and look into abiotic factors influencing ecosystems. Classes will meet at Line Creek Nature Preserve, next to Discover Science Center. All lab costs and park usage fees are included in registration fee. Course enrollment is limited to 12 students. **THESE EVENTS ARE PRIVATE RESERVATIONS AND ARE NOT ENDORSED OR SPONSORED BY THE SOUTHERN CONSERVATION TRUST**

Instructor: Nanette Lenderman, MEd
Location: Discover Science Center Peachtree City
Course fee: $330 OR $30/lab
10% off sibling discount
Register for full semester or individual labs.

LAB SCHEDULE:

Non-Vascular Plants – Monday, January 24
Our introductory week we study moss microhabitats. Students learn why mosses are so small by investigating the structure of gametophytes, observe the diversity of organisms living in a moss habitat, and build their own ecosystem in a jar.

Diversity of Trees – Monday, January 31
We examine different types of trees and identify them based on leaf characteristics, learn how scientists measure tall trees, and estimate the number of trees in a forest. Students also help scientists in a citizen science project by collecting data on local trees.

Flower Adaptations and Pollination – Monday, February 7
Students dissect flowers to investigate how flowers reproduce, and use microscopes to observe adaptive features of pollen of different plant species. We also discuss co-speciation as we study the close relationships between pollinators and the plants they pollinate.

Seeds and Dispersal – Monday, February 21
Gymnosperms and angiosperms both produce seeds. This week we discover how they differ in their anatomy as we dissect fruits and seeds, and observe adaptations related to dispersal mechanisms.

Invertebrate Biodiversity – Monday, February 28
Students investigate the wide variety of insects and arachnids, and their importance to the ecosystem, as they dissect decomposing logs, and characterize the creatures they uncover. We also discuss microhabitats as we observe where we find each type of creature on or within the log.

Mollusks and Dichotomous Keys – Monday, March 7
We investigate the largest marine phylum of mollusks, compare them to terrestrial and freshwater species and search to find any in the nature area. We also discover ways to help identify different organisms and create our own dichotomous keys.

Herpetology – Monday, March 21
This week we identify local reptiles and amphibians, and learn about their habitat preferences. We review the differences between native, non-native and invasive species, and how they impact the ecosystem.

Avian Biology and Food Webs – Monday, March 28
Students learn how to identify birds, and investigate the ecological role of birds in local food webs. Since "You are what you eat," students examine the food web of an owl by dissecting owl pellets, and comparing to food preferences of other birds.

Aquatic Ecosystems – Monday, April 11
We test samples from nearby water sources to determine the health of the systems through water quality analysis, and identify microscopic organisms inhabiting these aquatic environments.

Watershed Management – Monday, April 18
Students study how ecosystems are connected through waterways using a watershed model, learn how pollution can travel long distances, and review the water cycle to visualize patterns in the movement of water molecules across ecosystems.

Soil Habitats – Monday, April 25
This week we study the foundation of most environments by studying different types of soils and rocks, determining the composition of soils and what lives in them, as well as conduct an experiment to compare the water retention abilities of different soil types.

Ecosystems and Biomes – Monday, May 2

Students review characteristics of ecosystems and biomes throughout the world. We distinguish between weather and climate, and investigate how ecosystems are connected and influence each other.

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