

# Naturally Diverse: Pre-Site Preparation for 'Among the Trees' and 'At Water's Edge'

Recommended for Grades 2-5  
Program Length: 45-60 minutes  
Location: Your classroom

The pre-site portion of the Naturally Diverse program is used to introduce or reinforce the concepts of communities/ecosystems and biodiversity and prepare students for a fun outdoor learning experience. This visit takes place prior to the student's trip to the national park for 'At Water's Edge' and 'Among the Trees'.

## Learner Outcomes

Students will:

1. Be able to tell when and where their field trip will be, and how to dress properly
2. Describe an ecological community and ecosystem
3. Name some organisms they might find in the pond and forest communities
4. Define the term biodiversity

## Program Description

The instructor will talk with the students about the national park and some of the plant and animal life that can be found there. They will discuss communities and ecosystems, diversity and classification. There are opportunities for hands-on exploration and interactive learning to cover interdependence and bio-diversity.

### ***The following Ohio Academic Content Standards will be addressed during Naturally Diverse: Pre-site Visit***

#### Science Benchmarks:

##### *K – 2 Life Science*

- A. Discover that there are living things, non-living things and pretend things, and describe the basic needs of living things (organisms).
- B. Explain how organisms function and interact with their physical environment.
- C. Describe similarities and differences that exist among individuals of the same plants and animals.

##### *3 – 5 Life Science*

- B. Analyze plant and animal structures and functions needed for survival and describe the flow of energy through a system that all organisms use to survive.
- C. Compare changes in an organism's ecosystem/habitat that affect its survival.

## Naturally Diverse: Pre-site Visit

### Grade Level Indicators:

#### Grade 2

##### *Life Sciences – Characteristics and Structure of Life*

1. Explain that animals, including people, need air, water, food, living space and shelter; plants need air, water, nutrients (e.g., minerals), living space and light to survive.
2. Identify that there are many distinct environments that support different kinds of organisms.
3. Explain why organisms can survive only in environments that meet their needs. (e.g. Organisms that once lived on Earth have disappeared for different reasons such as natural forces or human-caused effects.)

##### *Life Sciences – Heredity*

1. Compare similarities and differences among individuals of the same kind of plants and animals, including people.

##### *Life Sciences – Diversity and Interdependence of Life*

1. Explain that food is a basic need of plants and animals (e.g. plants need sunlight to make food and grow, animals eat plants and/or other animals for food, food chain) and is important because it is a source of energy (e.g. energy used to play, ride bicycles, read, etc.).
2. Investigate the different structures of plants and animals that help them live in different environments (e.g. lungs, gills, leaves and roots).
3. Compare the habitats of different kinds of Ohio plants and animals and some ways animals depend on plants and each other.

#### Grade 3

##### *Life Sciences – Heredity*

1. Compare the life cycles of different animals including birth to adulthood, reproduction and death (e.g., egg-tadpole-frog, egg-caterpillar-chrysalis-butterfly).

##### *Life Sciences – Diversity and Interdependence of Life*

1. Relate animal structures to their specific survival functions (e.g., obtaining food, escaping or hiding from enemies).
2. Classify animals according to their characteristics (e.g., body coverings and body structure).
6. Describe how changes in an organism's habitat are sometimes beneficial and sometimes harmful.

#### Grade 4

##### *Life Sciences – Heredity*

1. Compare the life cycles of different plants including germination, maturity, reproduction and death.

##### *Life Sciences – Diversity and Interdependence of Life*

2. Relate plant structures to their specific functions (e.g., growth, survival and reproduction)

**Naturally Diverse: Pre-site Visit**  
**Grade Level Indicators - continued**

**Grade 5**

*Life Sciences - Diversity and Interdependence of Life*

1. Describe the role of producers in the transfer of energy entering ecosystems as sunlight to chemical energy through photosynthesis.
2. Explain how almost all kinds of animals' food can be traced back to plants.
3. Trace the organization of simple food chains and food webs (e.g., producers, herbivores, carnivores, omnivores and decomposers).
4. Summarize that organisms can survive only in ecosystems in which their needs can be met (e.g., food, water, shelter, air, carrying capacity and waste disposal). The world has different ecosystems and distinct ecosystems support the lives of different types of organisms.
5. 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.
6. Analyze how all organisms, including humans, cause changes in their ecosystems and how these changes can be beneficial, neutral or detrimental (e.g., beaver ponds, earthworm burrows, grasshoppers eating plants, people planting and cutting trees and people introducing a new species).