Among the Trees

Recommended for Grades 2-5
Program Length: 1-1/2 Hour
Program Location: Oak Hill Trailhead, Peninsula

'Among the Trees' is designed to stand alone or be combined with 'At Water's Edge' as part of the 'Naturally Diverse Field Trip Package'. Students will learn how the forest is a community of interacting members and how it changes over time.

Learner Outcomes

Students will:

1. List at least five members of the forest community.
2. Give at least two examples of how forest community members interrelate.
3. List at least three ways that a forest differs from a field in terms of microclimate.
4. Give at least five examples of how we can detect forest community members using at least three of our five senses.
5. Define "community."
6. Describe two ways that plants spread their seeds.
7. Define "succession" and describe how a field can turn into a forest.

Program Description

The program begins with a large group welcome to the national park and an introduction to the program. Students then participate in a hike with an instructor. (10-15 students per group)

Before the hike, students will review or learn about the concept of a forest community. Groups will discuss the types of visual and non-visual clues animals leave behind. The instructor will discuss the idea of succession with the students, pointing out places near the trail where succession has occurred. If it is autumn, the leader will discuss the different types of seeds in the succession field, and how they are dispersed.

The students set out on a hike where they will be looking for animal clues, such as animal trails, scat, burrows, browse marks, defoliation, anthills, or nests. The instructor will stop in both the forest and the field and give the students an extended amount of time to explore each area. Students will have the chance to roll logs, dig through leaf piles and look for animals and evidence of animals. At the conclusion of each exploration time, students are encouraged to share with each other what they have found.

The program is concluded with an exercise about how all members of the forest community are connected to one another. Each animal is dependent in some way on other animals and the quality of the forest ecosystem.

The following Ohio Academic Content Standards will be addressed during
Among the Trees

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.

K – 2 Scientific Ways of Knowing

B. Recognize the importance of respect for all living things.

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.

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.

Among the Trees
Grade Level Indicators – continued

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
2. Relate animal structures to their specific survival functions (e.g., obtaining food, escaping or hiding from enemies).
3. 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
1. Relate plant structures to their specific functions (e.g., growth, survival and reproduction)

Grade 5
Life Sciences - Diversity and Interdependence of Life
Describe the role of producers in the transfer of energy entering ecosystems as sunlight to chemical energy through photosynthesis.
1. Explain how almost all kinds of animals' food can be traced back to plants.
2. Trace the organization of simple food chains and food webs (e.g., producers, herbivores, carnivores, omnivores and decomposers).
3. 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.
4. 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.
5. 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).

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