

# Forest Ecology



Audubon Center  
of the North Woods

**REVISOR:** JAIME SOUZA, LARA SIMMONS 2007-08

**CLASS LENGTH:** 3 HR

**AGES:** 4-6

**SEASON:** F, SP, SU

**GROUP SIZE:** 20 MAX

**SAFETY:**

**MATERIALS:** Small bottle/jar of water and soil, habitat cards, MN vegetation maps, large tree ID guide, ID cards/books, blindfolds, laminated FBI sheets, thin dry erase markers, clipboards, bowl, bandana, mixing spoon, soil soup ingredients

**PRE-CLASS PREP:** Before class, fill a bottle or jar with water and soil and then place it inside a bag. Pack your backpack with the materials you will need for your hike.

**CLASS OUTLINE:**

**I. Introduction (20 min)**

Sun, Soil, Water and Air

**II. Class Experiences**

A. Abiotic Awareness (5 min)

1. Capture the Energy (15 min)

**III. Ecology Hike**

A. Ecosystem Education (2 min)

1. "Eye" Am a Camera (10-15 min)

2. Circle of Diversity (15-20 min)

B. Minnesota Forest Types (5 min)

C. Community Find and Mood Trees (10 min)

D. FBI Investigation of a log (20 min)

E. Decomposition Tag (5-10 min)

F. Soil Soup (15 min)

**IV. Reflection (10 min)**

A. Peaceful Pine Plantation

B. "Meet a Tree"

**V. Authentic Assessment (5 min)**

**VI. The Sending (10 min)**

**Purpose:** E-C-O-L-O-G-Y. Everything fits together naturally. The forest is just one of many types of ecosystems where everything is connected. This class will introduce basic ecological principles to students by focusing on the forest. Students will experience how the biotic and abiotic components of the forest are interdependent through various interactive, hands-on activities.

**Concepts:**

- Forest community
- Sun, soil, water and air are the building blocks to everything on earth; everything on Earth is made out of these materials.
- Ecosystem
- Habitat

**Learning Outcomes: Students will be able to**

- Teach their classmates about one aspect of forest ecology.

**Minnesota Academic Standards:**

Science:

0.4.2.1.1 Observe a natural system or its model and identify living and non living components of that system.

5.4.1.1.1 Describe how plant and animal structures and their functions provide an advantage for survival in a given natural system.

5.4.2.1.1 Describe a natural system in Minnesota, such as a wetland, prairie or garden, in terms of the relationships among its living and nonliving parts, as well as inputs and outputs.

7.4.2.1.1 Identify a variety of populations and communities in an ecosystem and describe the relationships among the populations and communities in a stable ecosystem.

7.4.2.1.3 Explain how the number of populations an ecosystem can support depends on the biotic resources available as well as abiotic factors such as amount of light and water, temperature range and soil composition.

7.4.2.2.1 Recognize that producers use the energy from sunlight to make sugars from carbon dioxide and water through a process called photosynthesis. This food can be used immediately, stored for later use, or used by other organisms.

7.4.2.2.2 Describe the roles and relationships among producers, consumers and decomposers in changing energy from one form to another in a food web within an ecosystem