

FOREST ECOLOGY

LESSON PLAN



WOLF RIDGESM
ENVIRONMENTAL LEARNING CENTER



CLASS DESCRIPTION: An Ecology Class

Based in the unique Forest Ecology Building, students will travel through the woods gaining a balanced appreciation of both the living forest and wood as a harvested resource. Field work may involve planting, brushing around seedlings, and bud capping. Students will be challenged to make a simple forest management plan and choose ways to manage personal consumption to maintain forest sustainability. This is an all-day class (with lunch served at the FEB) paired with either Stream Study, Fisheries Management, Beavers, Animal Signs, or Cross-country Skiing. One adult is recommended to accompany this class.

Total time: 3 hours (2 hours outdoors)

Audience: 6-20 students, 4th grade through adult

Activity level: strenuous

Travel: 2 miles

Total uphill travel: 400 feet

GUIDING QUESTION

Describe the complexity in a forest ecosystem and how humans interact with it.

CONCEPTS

1. A complex natural system is more adaptable than a simple one and is more able to absorb disturbances.
2. A growing human population is making increasing demands on natural resources.
3. Disturbance can change species mix, structure, and succession in a forest.
4. Disturbance is important for maintaining complexity, wildlife habitat, and biological diversity in forests.
5. Nature knows best. Humans can mimic natural processes to restore or enhance habitats.

OUTCOMES

Upon completion of Forest Ecology class students will be able to:

1. Identify the major tree species at Wolf Ridge.
2. Define and use at least seven of the following forestry terms: cord, acre, plantation, succession, ecosystem, pioneer species, snag, diversity (age and species), disturbance, clearcut, selective cut, erosion, habitat, pollution, sustainable.
3. Demonstrate silvicultural practices such as releasing, bud capping, crosscut sawing.
4. Choose ways to manage personal consumption in order to maintain forest sustainability.



Our mission is to develop a citizenry that has the knowledge, skills, motivation and commitment to act together for a quality environment.

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Wolf Ridge Environmental Learning Center and the USDA are equal opportunity providers and employers.



Equipment

Classroom Equipment:

- 10 Adopt-A-Tree blindfolds
- paper and pencil for "commit and toss"
- timber cruiser vest, cap, pants, hard hat, axe, peavey
- scavenger hunt collection cups
- posters
- map of Minnesota forests

Red Backpack in Education Kit Room (morning class):

- 10 blindfolds
- whiteboard
- whiteboard markers
- cards for stops on hike

Lunch Basket (for all day class April-November)

- Duluth Pack in the kitchen
- Sandwiches
- Fruit
- Granola Bars
- Cookies
- Mustard & Mayo
- Cups
- Lemonade mix

Appendices

- Glossary
- Building Tour
- Lunch Procedure
- Optional Activities
- References
- Sources
- Map
- Spiral Learning Sheet
- Planning Outline

Set-up (15 min.)

- Classroom/class prep description
- Safety Management

I. What is a forest? (20 min.)

- A. Trees as Individuals
- B. Value of Forests

II. What trees are growing here and why? (60 min.)

- A. Morning Class
- B. Afternoon Class

III. What do foresters consider? (10 min.)

- A. Value of Forests
- B. Old Forestry
- C. New Forestry

IV. How do people mimic natural processes in forests? (60 min.)

- A. White Pine Deer Exclosure & Scavenger Hunt
- B. Budcapping Red Pines
- C. Brush Lopping
- D. Planting
- E. Cord Wood & Crosscut Sawing

V. What can we consider? (20 min.)

- A. Value of Forests
- B. Next Steps

[Return to Wolf Ridge] (20 min.)

Clean-up (15 min.)