

TALLGRASS PRAIRIES

Illinois: The Prairie State

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LINCOLN MEMORIAL GARDEN and NATURE CENTER

Teacher's Guide

Fall: Tallgrass Prairies

Grade Level: Fifth – Eighth Grade

Program Length: 1.5 – 2 hours

INTRODUCTION

Why is Illinois called the Prairie State? Where is the prairie that once gave our state its nickname? The truth is that in Illinois only 1/10,000th of the original tallgrass prairie exists today in small remnants around the state. Summer and autumn are the seasons to view tallgrass prairies in their greatest beauty and splendor. Autumn is a time of slowing down for nature and winter preparation for all plants and animals. As well, it's the time when the prairie grasses are fully mature and towering over us from seven to ten feet in height, sunflowers and asters in bright bloom, and insects eagerly seeking sweet nectar

OBJECTIVES

1. To recognize the major differences between prairie, woodland, and wetland native ecosystems of Illinois.
2. To explain the components of a prairie community and the differences between prairie grasses and forbs.
3. To determine the basic adaptations of tallgrass prairie plants which enable them to withstand the harsh temperatures extremes on the prairie.
4. To better understand the history of Illinois' prairies and the significance of tallgrass prairie restoration.
5. To appreciate the beauty and uniqueness of the endangered tallgrass prairie ecosystem.

THIS PROGRAM HAS THE POTENTIAL TO MEET THESE ILLINOIS LEARNING STANDARDS:

Learning Area	Goal	Standard	Benchmark
Language Arts	4	A	1a, 1b, 2a, 2b, 2c

Language Arts	4	B	1b, 2b
Science	11	A	1d, 2b, 2d
Science	11	B	1a, 1b, 2a, 2b
Science	12	A	1a
Science	12	B	1a, 2b
Social Science	16	A	1a, 1b, 1c, 2b, 2c
Social Science	16	C	1a, 2b
Social Science	16	D	2a, 2b
Social Science	16	E	2b
Social Science	17	A	1a, 2a
Social Science	17	B	1a, 1b, 2a, 2b

SUGGESTIONS FOR PRETRIP ACTIVITIES

1. Introduce students to ecological systems throughout the world in a general way that helps them to see that all ecosystems have the same major components and the differences in those components is what gives us different ecosystems. Then introduce the concept of the tallgrass prairie with some rather startling facts from the Nature Conservancy – Illinois, the prairie state, once was the home to 22 million acres of prairie, but now only 2200 acres, or .01% of original prairie remains. Tallgrass prairie is considered one of the most endangered ecosystems in the world.
2. Review plant parts and their functions with students as they will be conducting detailed observations of prairie grasses and forbs. Roots to take up water and nutrients from the soil, leaves to make food by photosynthesis, a stem to transport the water and food, and flowers to attract pollinators and make seeds for new plants.
3. Enhance students observation skills with the following activity to help students be better naturalists when they come to see the restored Ostermeier Prairie. (This activity is adapted from *Learning to Look, Learning to See in Project Wild Environmental Education Curriculum Guide*) Place 10 to 15 natural objects arranged in artful manner on a table or desk. Give the students a few minutes to observe them closely. Place a cloth sheet over the objects and ask the students to sketch and write the name of as many objects as they can remember.

When their lists and drawings are completed, have them turn their papers over and remove the sheet. Now have them observe again. On the back of the paper, ask them to list and sketch what they now observe. Begin a discussion with these questions and others. What items were most easily remembered? Why? What objects were most frequently missed? Why? What are good techniques to improve observation skills and visual memory?

4. Follow the above activity a few days later with an outdoor observational activity. Ask each child to individually choose a stationary natural object or area (tree, flower, grass playing field, bushes, plants growing in the cracks of the sidewalk, etc.) in the schoolyard environment or nearby neighborhood. Ask them to spend 10 minutes recording everything they observe using their senses. What do they see, hear, feel, and smell in the surrounding environment of their chosen natural object or area? When the students are back inside the classroom, generate a discussion about the importance of using all our senses to become a better naturalist and observer of the natural world. Share lists and observations as time permits.

DESCRIPTION OF LINCOLN MEMORIAL GARDEN FIELD TRIP

The field trip will begin with a brief introduction to Lincoln Memorial Garden in one of the Council Rings in the Garden. A naturalist will lead a discussion about the history of the Garden and the Ostermeier Prairie Center, a brief overview of grassland ecology as well as, the expectations of visitors to the LMG's protected native areas.

The students will be divided into small groups of 10 – 12 children. During the naturalist-led hike, the students will hike the trails of the historic Garden to the Ostermeier Prairie comparing and contrasting the woodland ecosystem with the prairie ecosystem. Once we reach the restored prairie, we will look to the tips of big bluestem grasses, down the stems of goldenrod flowers for galls of wasps and moths to the dark, rich soil created by the tallgrass prairie. As we hike through the restored prairie community, there might be food webs and chains to notice as we look and listen for the animals who live in or near the prairie. Unique plant adaptations of prairie grasses, wild flowers and forbs survival modes will be studied. We'll hike back to the historical

Garden and the field trip will conclude in the Discovery Room of the Nature Center where students will be able to explore exhibits and hands-on activities to learn more about the natural world of central Illinois.

SUGGESTIONS FOR POST TRIP ACTIVITIES

1. Use the novel, *Little House on the Prairie*, or other novels or memoirs relating to life in Illinois in the 1800s to lead discussions and research projects focusing on what settlers experienced when they moved from wooded areas to the prairie.
2. Ask each student to research and draw his/her favorite prairie plant. Create a class mural by asking students to cut out their drawing and then glue to a large piece of mural paper. Now, move on to animals of the prairie, assigning students research and drawing again of a chosen favorite. The collage affect of the mural will now include animals glued to the previously created prairie plant background. Add additional pieces as needed or desired.
3. Write a class poem of how it felt to be on the prairie in the fall. Have students close their eyes and think back to what they felt, heard, smelled, and saw at the Ostermeier Prairie. As the students share their memories, write a piece of collective poetry to describe the sensory impact of the field trip experience.
4. Introduce the concepts of tallgrass prairie restoration and land management. Remind them again of the statistics about the tallgrass prairie of Illinois – original prairie in Illinois was over 22 million acres; we have only 2,200 acres remaining today. If the students want their children someday to experience the tallgrass prairie, what efforts can they be involved in to help reestablish tallgrass prairie? Explore statewide efforts to increase natural areas of tallgrass prairie. Plan a service project, if possible.

RESOURCE LIST FOR TALLGRASS PRAIRIE: Illinois: The Prairie State

Adelman, Charlotte and Schwartz, Bernard. *Prairie Discovery of North America*. Lawndale. 2001

- Anderson, William and Graef, Renee. *Prairie Girl: The Life of Laura Ingalls Wilder: A Biography*. HarperCollins Publishers. 2004
- Bannatyne-Cugnet, Jo. *A Prairie Alphabet*. University of Saskatchewan Press. 2009
- Bouchard, David. *If You're Not From the Prairie*. Henry Ripplinger Publisher: Raincoast Books. 1995
- Collard III, Sneed B. *The Prairie Builders: Reconstructing America's Lost Grasslands*. Houghton Mifflin. 2005
- Gelsert, Bonnie. *Prairie Winter*. Houghton Mifflin Co. 2009
- George, Jean Craighead. *One Day in the Prairie*. Harper Trophy. 1986
- Gregory, Kristina. *Across the Wide and Lonesome Prairie: The Oregon Trail Diary of Hattie Campbell 1847*. Scholastic Books. 1997. 2005
- Kalman, Bobbie. *What are Food Chains and Webs?* Crabtree Publications. 1998
- Kurelek, William. *A Prairie Boy's Winter*. Houghton Mifflin Company. 1973
- McGehee, Claudia. *A Tallgrass Prairie Alphabet*. Bur Oak Books. 2004
- Patent, Dorothy Hinshaw. *Prairies*. Holiday House. 1996
- St. Antoin, Sara, ed. *Stories from Where We Live – The Great North American Prairie*. Milkweed Editions. 2001
- Stille, Darlene R. *Grasslands*. Groliers Publishers. 1999
- Wallace, Marianne D. *America's Prairies and Grasslands*. Fulcrum Publishers. 2001