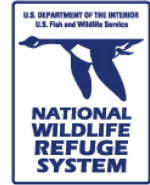


Prairie Sensory Walk

GRADE: Kindergarten
GROUP SIZE: 1 class

SEASON: Fall **TIME:** 1 hour
RATIO: 1:5, adults: students



For the Teacher

OVERVIEW	Using a KWL approach, students will use their senses of touch, sight, hearing, and smell to explore, observe and make discoveries about the prairie. They will ask and answer questions about the prairie based upon what they already know and what they experience while walking in the prairie.
SUBJECTS COVERED	Science, Language Arts, Math
MN ACADEMIC STANDARDS SUPPORTED	Helps support 12 state standards and 11 benchmarks. See sections “2019 Minnesota Academic Standards in Science” and “2010 Minnesota Academic Standards in Language Arts”
SKILLS USED	Following directions, listening, cooperation, exploration, description, matching, observation, asking and answering questions, and comparing and contrasting
PERFORMANCE OBJECTIVES	After completing this activity, students will be better able to... <ul style="list-style-type: none"> • Use four of their senses (not taste) to explore, observe, describe, and answer questions about the prairie • Match the texture of a plant to a common household item • Name and match one color in the prairie to a color sample • Measure the height of prairie grass against their body height • Recognize prairie habitat based upon its common characteristics such as tall grass and flowers, dry soil, absence of trees, open sun and wind, and specialized animals • Enjoy using their senses to explore the prairie
VOCABULARY	prairie, soil, habitat, texture, senses, question

For the PWLC Instructor

PWLC THEME	The Prairie Pothole Region
PRIMARY EE MESSAGE	The Prairie Pothole Region is valuable and in need of restoration and protection
SUB-MESSAGE	Habitat: The Prairie Pothole Region is a unique and rare ecosystem
PWLC EE OBJECTIVE	Identify the components and functions of a given ecosystem by observing, counting, and describing the animals and plants in that ecosystem
MATERIALS	<ul style="list-style-type: none"> • Illustrations of the five senses • Wax paper, felt, and sandpaper samples (one set per chaperone) • Color paint samples (one set per chaperone) • Clipboard, paper, and pencil for instructor use • Plastic mallard decoys (hen and drake) • Blaze orange fleece fabric
LOCATION	A prairie area adjacent to the visitor center, Mallard Marsh, Frog Pond, or Adams Pond

Background Information

The purpose of this program is to introduce kindergarteners to the prairie and give them an enjoyable first-hand prairie experience. This program would also make a suitable review of a unit on prairie, matching, or colors.

The prairie is North America's grassland biome. It extends from central Canada to Texas, from the Rocky Mountains to Ohio. The prairie pothole region is defined geographically as the northern portion of the prairie. It covers approximately 300,000 square miles within five states and three Canadian provinces including part of Minnesota, Otter Tail County, and Fergus Falls. The prairie and its potholes are the land we call home, the land that our cities, roads, and farms are built upon, the land of which remnants can be found in places like the Prairie Wetlands Learning Center.

A rich garden, over 100 plant species can occur in a prairie of less than five acres. (One acre is the size of a professional football field.) The major grasses of the tallgrass prairie are big bluestem, Indiangrass and switchgrass. These grasses can grow up to ten feet tall, averaging a height of six to eight feet. The tallest flowers are cup plant, compass plant, and prairie dock, growing up to eleven feet tall. More than plants live on the North American prairie, including 80 mammal species, 300 bird species, 200 plant species, and thousands of insect species.

During this fall visit, students will see many vibrant wildflowers blooming and tall grasses taking on their fall color with ripening seed. They can touch and smell the soil of a plains pocket gopher mound, listen to migrating ducks and geese, watch a 13-lined ground squirrel scamper to its burrow, and smell mint leaves. Since summer nesting is past, they also have the opportunity to step off-trail and become immersed in the swaying plants, our sea of grass.

Teacher Preparation

- Read the book, In the Tall, Tall Grass, by Denise Fleming, to your students prior to arriving at the Prairie Wetlands Learning Center. Ask your students how a prairie might be different from a forest or wetland. Discuss the meaning of the word habitat (an animal or plant's neighborhood where it finds the food, water, shelter, and space needed to survive). What makes the prairie a special place?
- To maximize outdoor classroom time at the PWLC, teachers may
 - Conduct steps 2 through 4 in the section "Field Investigation Procedure" at school. Upon arrival at the PWLC, the PWLC instructor may conduct a quick review before proceeding, allowing for more time in the outdoor classroom.
 - Organize students into small groups, each group led by a chaperone, everyone wearing nametags. Each chaperone is responsible for helping their students to follow-through with directions and with dispersal and collection of materials.
- We highly recommend conducting one or more of the suggested extensions before your visit in order to integrate this field investigation into the classroom study of prairie, habitat, nature, senses, camouflage, or other topics. We believe such integration enhances student motivation for learning in other curricular areas.

Please see section, "Teacher-Led Extensions/Adaptations/Assessment Ideas."

PWLC Staff Preparation

Prepare and organize materials. Select prairie location, such as the butterfly garden, south of the barn lawn, south of the dorm, or adjacent to Center Pond. Hide a mallard hen decoy and some blaze orange fleece in two different places in the tall grass near the trail.

Field Investigation Procedure

1. Welcome students, teachers, and chaperones to the Prairie Wetlands Learning Center at the cement sign near the parking lot.
2. Inside, sit in a large circle as a whole class on the floor.
3. Ask students if they know what that first word in our name means? What is the prairie? How do you know you are in a prairie and not a forest or wetland? (This is the K of the KWL model – what do they already *know* about the prairie?) In the past, students have named animals and plants that live in these habitats and what they do, including farm animals. They have described landscape features including the bridge, and topography like hills and lakes. They have also mentioned duck banding and siblings who come to school here every day (in the Prairie Science Class).
4. Ask students what questions they have about the prairie – what do they *wonder* about it? (This is the W part of the KWL model.) Write their questions down on a paper and clipboard. In the past, they have asked questions mainly about animals including those that may be frightening to them (snakes, skunks, snapping turtles), but also have asked about plants and water.
5. Add one more question: is the prairie a special place? Today they will have the chance to decide if they think the prairie is a special place.
6. Tell students they will use their senses to explore the prairie and answer some of their questions. Gesture to illustrated symbols of our senses for a visual aid and review the five senses. Invite them to guess which sense is the only one they will not be using (taste).
7. Before heading out on the trail, review the rules of respect for the trail – just the same as at school, plus special trail rules (such as no picking plants, follow the leader, etc.) Provide each chaperone with a Ziploc bag of felt, wax paper, sandpaper, and paint samples.
8. Walk to a nearby prairie area and walk off-trail to lead any combination of the following activities, using as many different senses as time and conditions allow. Lead the whole class initially, and then each chaperone may follow-through with their small groups and share their finds. Float from small group to small group to provide assistance and to encourage active searching.
 - **SOUND:** Stand with eyes closed and listen to sounds around you. Count on fingers each time a different sound is heard. How many different sounds did they hear? How would they describe the sounds? (shrill,

- bubbly, loud, soft, quiet) What made the sounds? (likely candidates include crickets, ducks, geese, wind, people, traffic)
- SIGHT: Invite students to step off the trail into the prairie and measure the height of the grass against their bodies. Who is taller, the grass or them?
 - SIGHT: Hand out color paint samples and ask students to name their color and find its match in the prairie. (This might be an opportunity to introduce new colors like chartreuse, magenta, or violet.)
 - SIGHT: Ask students if they know a word that means something blends in with its surroundings. (camouflage) Invite them to use their eyes to search for something on the trail that is not camouflaged. (the orange fleece fabric) Challenge them to find the mallard hen decoy. Is it camouflaged? (no) Why? (It blends in with the grass.) Why does the mother duck need to be camouflaged in the prairie? (to hide her nest/eggs from predators)
 - SIGHT: Lie down in the prairie and look up at the sky. Which way is the wind blowing? How can they tell?
 - TOUCH: Feel the prairie under your entire body. How does it feel? Roll down a hill for a total body and sensory prairie experience!
 - TOUCH: Invite students to feel three different textures, sandpaper, felt, and wax paper. Can they find plants with matching textures? Why might plants have different textures?
 - SMELL: Smell mint or other fragrant plants like white sage (also called cudweed sagewort). What do they smell like? (lemon, pineapple, candy)
 - SMELL: Find gopher mounds to show students. Pick up a small sample of soil. Invite them to smell it. What does it smell like? Explain how a gopher pushes soil out of its hole.
 - TOUCH: What does prairie soil feel like? Is it like sand in a sandbox? Is it sticky like clay in play-dough? Is it like mushy like mashed potatoes?
9. To wrap-up, sit together as a whole class and share what they smelled, saw, heard, and felt. Answer the questions that students generated as recorded on the clipboard. Ask them what they discovered today on the prairie that they never knew before. (This is the L part of the KWL model – what did they *learn*?) Past students have discovered respectful behavior, kinds of animals, plants and habitats, smells, and colors in the prairie. Ask them what they decided about the prairie -- is it a special place, and if so, why? Past students who thought the prairie was special gave these reasons: animals live on the prairie, you can see the moon during the day, and milkweed grows in the prairie. Thank them for coming! Collect materials from chaperones.

Weather Alternatives

Field investigations take place rain or shine. Everyone should dress appropriately for the weather. In the event of unsafe weather (lightning, high winds) or pouring rain, everyone must come indoors. PWLC staff make every effort to make your travel worthwhile despite the weather and prepare indoor, age-appropriate activities. PWLC staff welcome teacher input into these plans. Some possible alternatives might include:

- Go outside for a very short amount of time, even if only under the deck, to find living and non-living things and use their senses to make discoveries about the prairie.
- Tour the exhibit area and watch prairie wetlands videos with the objective of finding living and non-living things and making discoveries about the prairie.
- Read All the Colors of the Earth by Sheila Hamanaka. Which colors described in the book can they see in the prairie? Which are camouflaged and which are not?

Teacher-Led Extensions/Adaptations/Assessment Ideas

- To maximize outdoor classroom time at the PWLC, teachers may conduct steps 2 through 4 in the section “Field Investigation Procedure” at school. Upon arrival at the PWLC, teachers may provide PWLC staff with a written list of what students know and wonder for quick review before completing the remaining steps.
- Demonstrate the concept of camouflage using multi-colored pasta noodles placed in the mowed grass of the school yard. Count how many yellow, red, and green noodles are collected. Which colors are easiest and hardest to find? Why?
- Ask students to make a Venn diagram and use words or pictures of living and non-living things found in the prairie.
- Ask students to draw a picture of the prairie that shows two living and two non-living things.
- Ask students to point to and name the five senses. Which one did they *not* use at the prairie? What did they discover with the four senses they did use? Did they use one the most?
- Visit http://www.thirteen.org/edonline/ntti/resources/lessons/s_hide/index.html for a lesson plan on animal camouflage with many other camouflage links.
- Borrow the “Tallgrass Prairie Discovery Trunk” from the PWLC. It contains a foam bison costume, a felt storyboard, books, videos, posters, and many other items. Please call the PWLC for availability, 218-998-4480.

2019 Minnesota Academic Standards in Science

This lesson helps support the following state academic standards in science.

Students who demonstrate understanding can:

0.1.1.1 Ask questions about aspects of the phenomena they observe, the conclusions they draw from their scientific models or investigations, each other's ideas, and the information they read.

0.1.2.1 Design and conduct investigations in the classroom, laboratory, and/or field to test their ideas and questions, and organize and collect data to provide evidence that support claims the students make about phenomena.

0L.1.2.1.2 Make observations of plants and animals to compare the diversity of life in different habitats. (P: 3, CC: 1, CI: LS4) *Emphasis is on the diversity of living things in a variety of different habitats and patterns across those habitats.*

0.2.1.1 Represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.

0P.2.1.1.1 Sort objects in terms of natural/human-made, color, size, shape, and texture, then communicate the reasoning for the sorting system. (P: 4, CC: 2, CI: PS1) *Emphasis is on using observations to describe patterns and/or relationships in the natural and designed world in order to answer scientific questions and solve problems.*

3.1.1 Develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others.

0L.3.1.1.1 Develop a simple model to represent the relationship between the needs of different plants and animals (including humans) and the places they live. (P: 2, CC: 4, CI: LS2) *Examples of relationships may include that deer eat buds and leaves, therefore, they usually live in forested areas; and grasses need sunlight, so they often grow in meadows. Examples of models may include food chains, collages, and/or sorting activities.*

Science and Engineering Practices	Crosscutting Concepts	Disciplinary Core Ideas
<p>Planning and carrying out investigations to answer questions</p> <ol style="list-style-type: none">1. Asking questions (for science) and defining problems (for engineering)3. Planning and carrying out investigations4. Analyzing and interpreting data6. Constructing explanations (for science) and designing solutions (for engineering)8. Obtaining, evaluating, & communicating information	<ol style="list-style-type: none">1. Patterns3. Scale, proportion, and quantity4. Systems and systems models6. Structure and function7. Stability and change	<p>PS1: Structure and Properties of Matter</p> <p>LS1: From molecules to organisms: structures and processes</p> <p>LS4: Biodiversity and humans: Unity and Diversity</p> <p>ETS: Links among Engineering, Technology, Science, and Society</p>

2010 Minnesota Academic Standards in Language Arts

This lesson helps support the following state academic standards in language arts.

Connections To:

2010 Minnesota State Standards for Language Arts

Strand SPEAKING, VIEWING, LISTENING, AND MEDIA LITERACY

Substrand 8 Speaking, Viewing, Listening, and Media Literacy K-5

Standard 1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

Benchmark 0.8.1.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.

a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).

b. Continue a conversation through multiple exchanges.

d. Follow basic oral directions.

Standard 2 Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

Benchmark 0.8.2.2 Confirm understanding of a text read aloud or information presented orally or through other media (e.g.,

poems, rhymes, songs) by asking and answering questions about key details and requesting clarification if something is not understood.

Standard 3 Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Benchmark 0.8.3.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

Standard 4 Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Benchmark 0.8.4.4 Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.

Standard 6 Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Benchmark 0.8.6.6 Speak audibly and express thoughts, feelings, and ideas clearly, and respond to poems, rhymes, and songs.

Strand LANGUAGE

Substrand 10 Language K-5

Standard 1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Benchmark 0.10.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

d. Understand and use question words (interrogatives) (e.g. who what where when why)

Standard 5 Demonstrate understanding of figurative language, word relationships and nuances in word meanings.

Benchmark 0.10.5.5 With guidance and support from adults, explore word relationships and nuances in word meanings to develop word consciousness.

a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.

c. Identify real-life connections between words and their use (e.g., note places at school that are colorful).

Standard 6 Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Benchmark 0.10.6.6 Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

Resources and References

Books and Web Sites for Adults

- Natural Wonders: A Guide to Early Childhood for Environmental Educators by the Minnesota Early Childhood Environmental Education Consortium, Marcie Oltman, editor.
- Nature for the Very Young: A Handbook of Indoor and Outdoor Activities by Marcia Bowden.
- Sharing Nature with Children by Joseph Cornell.
- Biomes of Minnesota, <http://www.dnr.state.mn.us/biomes/prairie.html>
- KinderNature, a Resource for Early Childhood Educators, <http://kindernature.storycounty.com/>
- Prairie Wetlands Learning Center, <http://www.fws.gov/midwest/pwlc>
- Resources for Early Childhood, <http://rec.ohiorc.org/InquiryProjects/>
- Tallgrass Prairie Facts, <http://www.campsilos.org/mod1/students/index.shtml>

Books for Children

- All the Colors of the Earth by Sheila Hamanaka
- Animals in Camouflage by Phyllis Limbacher Tildes
- Have You Seen My Duckling? By Nancy Tafuri
- How to Hide a Butterfly and Other Insects by Ruth Heller
- In the Tall, Tall Grass by Denise Fleming
- Mouse in a Meadow by John Himmelman
- My Five Senses by Margaret Miller
- Summer Coat, Winter Coat, the Story of a Snowshoe Hare by Doe Boyle
- The Five Senses by Nuria Roca
- The Listening Walk by Paul Showers (also available in Spanish: Los sonidos a mi alrededor)

Credits

This field investigation was developed and written by Prairie Wetlands Learning Center Staff, U.S. Fish and Wildlife Service. Thanks to Prairie Science Class naturalist Tia Thysell for reviewing this lesson plan. Thank you to the following teachers for reviewing and/or field testing this lesson plan: Mary Link, Shelley Schoeneck, Kathy Bjork, and Dawn Ackley, Fergus Falls School District; Gay Eckberg, West Central Area Schools; and Vanessa Jacobson, home school parent/educator and licensed teacher, Fergus Falls. Thank you to PWLC Environmental Education Intern Jenny Martin for updating the 2019 science standards for this lesson!