



Neal Smith National Wildlife Refuge

School visits to the Prairie Learning Center (PLC):

Mission: Study Neal Smith NWR and use the Iowa prairie ecosystem as an integrating and motivating context in each related curricular area to engage school children at all grade levels in real world, field-based learning experiences.

Goals:

All student visits and developing school partnerships will include:

1. A search for *wonder*
2. Nature journals
3. A place-based curriculum, focused on studying the land and wildlife at Neal Smith NWR, while highlighting global connections when appropriate
4. Integrated Phenology study, tracking changes overtime
5. Studying and modeling past and present naturalists (e.g. Rachel Carson, Aldo Leopold, Byrd Baylor, Ernest Seton, Lewis and Clark) as a pathway to exploration
6. Inviting all school children, teachers, and chaperones to become naturalists, or people who always ask wonder questions and make discoveries about the environment
7. Developing the skills of critical thinking, problem solving, teamwork, stewardship, and citizenship
8. Connecting 1st American and early settlement history when appropriate

Guiding principles:

- The main subject of any school group visit to PLC should be the tallgrass prairie ecosystem. The prairie and the life in it should be the main focus of all activities.
- A minimum of materials and objects will be required for all activities; realizing that materials and equipment distract from field study.
- This document and enclosed lessons should be continually reviewed and adapted as Neal Smith NWR and environmental education evolve.



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Fall Units

"The grasses are so tall you'll have trouble finding the trail. Let your feet find the walking place, and "swim" through the grass stems with your arms. If the dew is heavy, you will come out with wet feet and you'll be covered with Tick Trefoil seeds, just like the buffalo. It will be an experience you will never forget." – Ken Wood



First Grade:

1. Meet a Prairie Plant:

Objective: Students use nature journals to design and conduct a basic plant study that is meaningful to their questions and learning style.

Based on their prior knowledge, students generate questions about prairie plants. With the help of a field leader, students explore off trail and use their sense of sight, touch, and taste (where safe) to meet a prairie plant and answer their questions. Students are encouraged to use illustrations and words to record their discoveries and to describe their prairie plant's parts- leaves, stems, flowers, seeds, and/or roots (if possible) - in their nature journals. Afterwards, students describe their prairie plant to the rest of the class as if they were introducing a new friend. Students are required to share why they like their plant and aspects of their plant that make it special.

2. Curious about Weather :

Objective: Teach children to observe and interpret weather in the prairie.

After listening to a fictional children's book about weather and seasons called The Dust Under Mrs. Merriweather's Bed by Susan Grohmann, students model the behavior of the book's main character, Kenny, in order to make their own discoveries about weather. Students sketch and record their observations in simple journals. By singing a song, sharing discoveries, and reflecting together, students infer how seasons and weather affect prairie life.

3. The Neal Smith Iowa Soil: What's under our feet?

Objective: Students get their hands, noses, eyes, hearts engaged by exploring the soil beneath their feet.

A field leader introduces the concept of soil types to students by having them touch, smell, and observe three main soil types- sand, silt, and clay. Students compare and contrast the three types and why soil may be important to plants and animals. Students are then divided into small groups and head outside to gather a soil sample with a field leader. Using a provided data sheet, students are expected to record the colors, scents, moisture content, texture and animal life of their soil sample. Guided by their field leader, students also perform soil rubbings and a soil ribbon test. Afterwards, students share their discoveries about prairie soils and speculate if their prairie soil sample is most like sand, silt, or clay.



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Spring Units



“I believe a leaf of grass is no less than the journey-work of the stars.” ~Walt Whitman

First Grade:

1. Animal Families and Homes:

Objective: Students make predictions, ask, and answer questions about prairie animal families.

Students are first asked to share their definition of a family. Next, they are asked to share what they know about prairie animal families and what types of families they expect to find today in the field. Students listen to the book Over in the Meadow by Erza Jack Keats. Students go on a hike to search for animal families. The field leader and chaperones record all the different animal families that the students find on the prairie. Afterwards, in a circle, students reflect on the animal families they found and describe any personal observations they made about prairie animal families.

2. Shape Up, on the Prairie:

Objective: Students search and record shapes found in the prairie.

When asked, students list possible shapes they think they can find on the prairie. A field leader records their answers on a paper for comparison upon return to the classroom. Students choose shapes that they would like to find in the prairie. Using simple data sheet and journal, students go outside and search for shapes and record them through illustrations and words into their notebook. Afterwards, students reflect about their journey and findings.

3. Camouflage- Investigating the Invisible:

Objective: Students search for concrete examples of animal camouflage by coloring and observing animals in their natural habitats.

A field leader uses illustrations from the book How to Hide a Butterfly by Ruth Hellers to show animals in camouflage. Students actively look for camouflaged animals in the book and practice naturalist skills such as being quiet and full of wonder as they listen. Next, students discuss the definition of camouflage and what it means to them in their own words. They make predictions and ask questions about how animals might camouflage in the prairie. Afterwards, they go into the prairie and search for examples of camouflaged animals. Students later reflect upon their discoveries and why camouflage might be important for prairie animals.