



# Favorites in the Prairie

**Grade:** 5th  
**Group Size:** 1 class

**Season:** Fall      **Time:** 1 ½ hours  
**Ratio:** 1 adult to 5 students

## For the Teacher:

<b>Overview</b>	Students are introduced to naturalists as scientists and to author Byrd Baylor as one example of a naturalist. They listen to a story by Byrd Baylor called <u>Guess Who My Favorite Person Is</u> . They determine which kinds of favorites they would like to search for outside. Then as naturalists themselves, students search for their favorites in the prairie and record them in their notebooks. Lastly, they share their favorites with each other and consider applications of their field work.
<b>Subjects Covered</b>	Language Arts, Science
<b>MN Academic Standards Supported</b>	Helps support 9 standards. See section “Minnesota Academic Standards in Science” and “Minnesota Academic Standards in Language Arts.”
<b>Skills Used</b>	Listening, observing, writing, discovering, concluding, sketching, organizing, spatial relationships, following directions, teamwork, exploring, examining, choosing, reflecting
<b>Performance Objectives</b>	After completing this activity, students will be able to... <ul style="list-style-type: none"> <li>• Identify naturalists as one type of scientist</li> <li>• Describe three things a naturalist does (observe nature, record data, share discoveries with others)</li> <li>• List three qualities of naturalists (quiet, prepared, full of questions and wonder, in the moment, sharing, curious, respectful, observant, and/or patient)</li> <li>• Search for and find beauty, wonder, or awe in the prairie</li> <li>• Practice being a naturalist and consider the possibility that they are naturalists</li> <li>• Identify the prairie as one place for exploration and exploring as a positive choice or activity</li> </ul>
<b>Vocabulary</b>	Naturalist, scientist, journal, prairie, discovery, sketch, explore, inquisitive, wonder, awe

## For the PWLC Instructor:

<b>PWLC Theme</b>	The Prairie Pothole Region
<b>Primary EE Message</b>	The prairie pothole region is valuable and in need of restoration and protection.
<b>Sub-message</b>	Habitat: The prairie pothole region is a unique and rare ecosystem.
<b>PWLC EE Objective</b>	Identify the components and functions of a given ecosystem by observing, counting, and describing the animals and plants in that ecosystem.
<b>Materials</b>	Science notebooks or clipboards and paper, pencils, book <u>Guess Who My Favorite Person Is?</u> by Byrd Baylor
<b>Location</b>	Classroom and a prairie area such as south of the barn

## Background Information

The purpose of this lesson is to introduce 5<sup>th</sup> graders to naturalists as scientists. Using Byrd Baylor as a role model, they have the opportunity to practice being a naturalist and consider themselves as naturalists. By their example, naturalists have much to teach us about being scientists.

Like all scientists, naturalists make observations, record data, and share their discoveries with other scientists and with the public. They are skilled in exploring, observing, organizing, collecting, describing, inventing, and experimenting. In addition, many are talented artists and writers, daring travelers, and innovative researchers. It is naturalists who developed the concepts of species, extinction, and microorganisms, who invented microscopes that could make bacteria visible to humans.

- Because of the egg collections of Robert Kennicott and the research of Rachel Carson, we know that DDT causes bird egg shells to thin and some populations to decline. Understanding the nature of the problem made it possible for scientists and lawmakers to solve it. As a result, today bald eagles, our national symbol, are no longer endangered and other raptors continue their steady comeback.
- Because of the observations, record-keeping, research, practice, and writing of Aldo Leopold, wildlife managers and hunters understand that we cannot hunt every last individual game mammal but must leave enough for the population to sustain itself.
- Thanks to the work of John Muir and Theodore Roosevelt, national parks and wildlife refuges were established, preserving America's grandest natural treasures.

The scientific contributions, passion, and purpose of naturalists improve our quality life and call us to live in balance with the land.

Unique to naturalists perhaps, their observations are typically made outdoors in nature, be it a sidewalk crack or a wilderness area. An informal study of famous naturalists such as Rachel Carson, John Muir, George Washington Carver, and others, reveals that naturalists have common characteristics, even as children. They are prepared, quiet, observant, patient, curious, respectful, full of wonder, inquisitive, in the moment, and sharing. These positive qualities tie in well with character education and can be practiced by any aspiring naturalist.

Howard Gardner's influential theory of multiple intelligences in 1983 proposed a broader view of human potential rather than just I.Q. A professor of education at Harvard University, he originally proposed seven intelligences: linguistic ("word smart"), logical-mathematical ("number/reasoning smart"), spatial ("picture smart"), bodily-kinesthetic ("body smart"), musical ("music smart"), interpersonal ("people smart"), and intrapersonal ("self smart"). A given person possess all seven in different degrees. Gardner more recently added an eighth intelligence, naturalist ("nature smart"). His work is based on brain research, but naturalist intelligence is not yet clearly linked to biological evidence. In the meantime, Leslie Owen Wilson, education professor at the University of Wisconsin, offers a list of descriptors of children with the eighth intelligence including:

- keen sensory skills;
- devoted interest in nature, science, outdoor activities, plants, or animals;
- tendency to collect data or actual natural specimens in journals, collections, or artwork;

- gifted in noticing patterns in their surroundings;
- ability to easily learn about and organize information about living things;
- interest from an early age in books, movies, web sites, television shows, videos about nature; and
- heightened concern for the environment.

The multiple intelligence theory has direct applications for the education of children and the role nature plays in child development and learning. Making discoveries in the outdoor classroom confirms that innate curiosity towards nature present in most children. It further validates the naturalist intelligence that is glowing (perhaps overlooked, under-encouraged, or latent) in some children, providing them with the redeeming opportunity to easily excel where they may otherwise struggle in traditional and non-integrated subjects.

In this field investigation, award-winning author Byrd Baylor serves as a naturalist model. Born and raised in the desert southwest, she spent her summers riding burros in Mexico. The deserts, canyons, mesas, rocks, and open skies of Arizona continue to provide inspiration for her stories. She likes to follow coyote trails wherever they go and talk to people who remember sunsets they saw five years ago. Her writing celebrates the beauty of nature, her feelings and relationship with it. She says, “Of course the desert keeps its secrets hidden and only lets you in on a few of them, but I learn what I can, and that is what I write about.” Like Byrd Baylor, students may uncover and share a few secrets of the prairie during their visit.

### *Teacher Preparation*

- Help save paper. Bring your students’ science notebooks or journals to record their field data and discoveries in. If science notebooks are not available, please inform the PWLC staff that you will need paper and clipboards when booking your date.
- 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 nature, naturalists, scientists, science, scientific method, writing, prairie, biomes, 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*

Organize and prepare materials. Select an appropriate field site.

### *Field Investigation Procedure*

1. In the classroom, welcome students, teachers, and chaperones to the Prairie Wetlands Learning Center.
2. Organize students into small groups, each led by a chaperone, and inform chaperones of their role in following through on instructions for students.

3. Ask students to tell you what a naturalist is. What kind of job is that? (scientist) What does a naturalist do? (observes nature, writes things down, shares discoveries with others) Record their answers on the white board as students record them in their notebooks. Are they naturalists? Take a vote and record the numbers for yes, no, and not sure on the white board.
4. Ask students to tell you the qualities of a naturalist. How does a naturalist behave outside? Record a list on the white board and fill in any qualities they may have missed. A completed list includes prepared, quiet, observant, patient, curious, respectful, full of wonder, inquisitive, in the moment, and sharing. Students should also record this list in their notebooks.
5. Briefly introduce Byrd Baylor as a naturalist and author. See the background information for details. Ask students to record biographical information about her in their notebooks.
6. Read Baylor's book aloud, Guess Who My Favorite Person Is? To manage time effectively, skip showing the pictures. Invite students to record any notes in words or pictures that they wish as they listen, as long as the notes are about what they hear in the story. Introduce the two main characters, a child and a man. The setting is a field.
7. While reading the book, ask the students to write down two sentences when you come to them: "You can't just say *blue*. You have to say what *kind* of blue." For the subsequent examples of favorite color, movement, or place to live, emphasize that the character doesn't just say brown or fish or in a cave. Rather, the girl or man is more descriptive and says what kind of brown (cliff), what kind of movement (fish swimming underwater), and what kind of place to live (in a cave with foxes).
8. Ask students why the book is called Guess Who My Favorite Person Is? Did the characters discuss who their favorite person is? (No.) Who do they think the man and child would say their favorite people are? (Each other.) How do you know? (Because at the end of the story for the first time they had the same answer; they agreed on their favorite time of day.)
9. Tell students when they go outside, they will search for their favorites in the prairie. Not their all-time favorites, not a favorite from a different place or day, but their favorites today in the prairie.
10. They should title their next blank page, "Favorites in the Prairie" and be sure to include the date and location (PWLC). Ask them which favorites they would like to find? On the white board, set-up their journal page with four quadrants below the title, and subtitle each quadrant for one of four favorites based upon their suggestions (such as color, sound, touch, place, cloud, etc.). They may write and/or sketch their favorites in each quadrant. They must describe each favorite using more than one adjective and separate the series of adjectives using commas.
11. After lining up in small groups with chaperones at the door, remind everyone that they are naturalists and should practice being naturalists in the field. How should they behave? (quiet, observant, patient, etc.) In the field, they must stay in their small group with their chaperone but will be able to go off trail, spread out – leave no trace.

12. Allow for as much time as possible in the field. Move from group to group to answer questions, model good naturalist behavior, and remind students to record their favorites.
13. Back indoors, wrap up by asking a few students to share their favorites with the class. Ask everyone to write a one-sentence discovery on their page. Offer some sentence-starters for them, such as, "Today, I discovered..." or "My favorite favorite was..." or "I never knew..." Ask a few students to share with the class. Ask them how or who they could share their discovery with when they return home? (tell a friend or relative, write a poem or paint a picture to give away, etc.) Encourage them to keep going outside anywhere they are to explore; it is free and keeps them occupied. Thank them all for coming to the PWLC and invite them to return again.

### *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 plans. PWLC staff welcomes 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 search for favorites.
- Bring plants inside for students to use to find their favorites.
- Tour the exhibit area and watch prairie wetlands videos with the objective of finding prairie favorites.
- Read another book by Byrd Baylor, such as *I'm in Charge of Celebrations* or *Another Way to Listen*.
- Present a mini-lesson on nature journals.
- Provide reading stations with children's books about naturalists. Students can rotate from station to station and read about different naturalists and take notes about their favorite one. Available books include Snowflake Bentley, Rachel Carson, Aldo Leopold, Lewis and Clark, Sacajawea, and Henry David Thoreau.

### *Teacher-Led Extensions/Adaptations/Assessment Ideas*

- To maximize outdoor classroom time at the PWLC, teachers may conduct steps 2 through 10 in the section "Field Investigation Procedure" at school. Prior to arriving at the PWLC, teachers may provide PWLC staff with a list of the four favorites students would like to search for in the prairie.
- Take students outdoors at school or a nearby park to search for favorites. Are they the same or different from their favorites at the prairie? Could possibly have different favorites every time they go outside?
- Make a regular habit (daily, weekly, monthly, or seasonally) of taking students outside to explore, discover, and wonder. Provide them with a mission while in the field that relates to language arts, math, art, science, or a combination. Allow them to record their discoveries in their journal, and use their data as a springboard for discussion, writing, or other applications.

- Using the data recorded at the prairie, guide students in writing about their favorites in the form of a poem such as a haiku, cinquain, couplet, or another form of writing. Allow students to read their poetry aloud in class during a poetry slam or post their poems with illustrations in the hallway or classroom. Another option would be to read some of the poetry aloud yourself for them to hear and learn from each other. Some of these poems could also be shared through the district, school, or class newsletter.
- Students may research and share the biographies of other famous naturalists, many of whom are also authors or artists or all of the above. Some possibilities include Rachel Carson, John Muir, Aldo Leopold, John James Audubon, Lewis and Clark, Ernest Thompson Seton, Laura Ingalls Wilder, Chief Luther Standing Bear, George Washington Carver, and Theodore Roosevelt.

## *2009 Minnesota Academic Standards in Science*

This lesson supports the following state standards:

### **Strand 1 THE NATURE OF SCIENCE AND ENGINEERING**

#### **Substrand 1 The Practice of Science**

**Standard 1** Science is a way of knowing about the natural world, is done by individuals and groups, and is characterized by empirical criteria, logical argument and skeptical review.

**Benchmark 1** Explain why evidence, clear communication, accurate record keeping, replication by others, and openness to scrutiny are essential parts of doing science.

**Standard 2** Scientific inquiry requires identification of assumptions, use of critical and logical thinking, and consideration of alternative explanations.

**Benchmark 1** Generate a scientific question and plan an appropriate scientific investigation, such as systematic observations, field studies, open-ended exploration or controlled experiments to answer the question.

#### **Substrand 3 Interactions Among Science, Technology Engineering, Mathematics, and Society**

**Standard 2** Men and women throughout the history of all cultures, including Minnesota American Indian tribes and communities, have been involved in engineering design and scientific inquiry.

**Benchmark 1** Describe how science and engineering influence and are influenced by local traditions and beliefs.

### **Strand 3 EARTH AND SPACE SCIENCE**

#### **Substrand 4 Human Interactions with Earth Systems**

**Standard 1** In order to maintain and improve their existence, humans interact with and influence Earth systems.

**Benchmark 3** Compare the impact of individual decisions on natural systems.

### **Strand 4 LIFE SCIENCE**

#### **Substrand 2 Interdependence Among Living Systems**

**Standard 1** Natural systems have many components that interact to maintain the living system.

**Benchmark 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.

## 2010 Minnesota Academic Standards in Language Arts

### Strand READING

#### Substrand Literature K-5

**Standard** Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**Benchmark 5.1.1.1** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

### Strand SPEAKING, VIEWING, LISTENING AND MEDIA LITERACY

#### Substrand Speaking, Viewing, Listening, and Media Literacy

**Standard** 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 5.8.1.1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

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

**Benchmark 5.8.2.2** Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

### Strand LANGUAGE

#### Substrand Language K-5

**Standard** Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

**Benchmark 5.10.2.2** Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.  
a. Use punctuation to separate items in a series.

## References and Resources

### For Children

- Aldo Leopold, Protector of the Wild by Della Yannuzzi
- Animals Christopher Columbus Saw, an Adventure in the New World by Sandra Markle
- Girls Who Looked Under Rocks, the Lives of Six Pioneering Naturalists by Jeannine Atkins
- Guess Who My Favorite Person Is? by Byrd Baylor
- Henry David's House/Henry David Thoreau edited by Steven Schnur
- John Muir, America's Naturalist by Thomas Locker
- John Muir, My Life with Nature by Joseph Cornell
- John Muir, Saving the Wilderness by Corinne J. Naden and Rose Blue
- Lewis and Clark, the Adventure Into the West by Frank Burd

- Rachel Carson, Preserving a Sense of Wonder by Thomas Locker and Joseph Bruchac
- Sacajawea, Wilderness Guide by Kate Jassem
- The Lewis and Clark Expedition, Join the Corps of Discovery to Explore Uncharted Territory by Carol A. Johnson
- The Other Way to Listen by Byrd Baylor
- The Young Naturalist by Andrew Mitchell
- Walking with Henry, Based on the Life and Works of Henry David Thoreau by Thomas Locker

### **For Adults**

- A Sand County Almanac by Aldo Leopold
- Black and Brown Faces in America's Wild Places by Dudley Edmonson
- Black Elk Speaks, Being a Life Story of a Holy Man of the Oglala Sioux by John G. Neihardt
- Discovering the Naturalist Intelligence, Science in the School Yard by Jenna Glock, Susan Wertz, and Maggie Meyer
- Last Child in the Woods, Saving Our Children from Nature-Deficit Disorder by Richard Louv
- Last Stand, America's Virgin Lands by Barbara Kingsolver
- Naturalist by E.O. Wilson
- The Great Naturalists by Robert Huxley
- The Sense of Wonder by Rachel Carson
- The Story of My Boyhood and Youth by John Muir
- Trail of an Artist and Naturalist by Ernest Thompson Seton
- Women in the Field, America's Pioneering Women Naturalists, Marcia Meyers Bonta, editor
- [http://www.cincopuntos.com/authors\\_detail.sstg?id=5](http://www.cincopuntos.com/authors_detail.sstg?id=5), Cinco Puntos Press, Byrd Baylor
- <http://flagstaffcentral.com/bookfest2004/authors2004/baylor.html>, Northern Arizona Book Festival, Byrd Baylor
- <http://www.orionmagazine.org/index.php/articles/article/91/> , "The Naturalist" by Barry Lopez, Orion, Autumn 2001
- [http://www.morning-earth.org/Artist\\_Naturalists.html](http://www.morning-earth.org/Artist_Naturalists.html), Artists/Naturalists, Past and Present

### *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.) Thanks to the following teachers for reviewing this lesson plan: Nancy Jacobson, Frazee Elementary School; Dave Ellis, Prairie Science Class, Fergus Falls; and Andrea Manston, Robert Asp Elementary, Moorhead.