



Grade Levels:
Preschool – 6th

Time:
90 Minutes

Seasons:
All

Skills Used:
Observing, writing, sketching, sequencing, data collecting, reflecting, and others depending upon the chosen field activity

Materials:

- Crayons or colored pencils
- Rulers
- Collecting equipment
- Weather instruments
- Binoculars
- Hand lenses,
- Or other equipment depending upon the field activity. See section, "Field Activity Options."



Prairie Wetlands Learning Center

Nature Journaling

Preschool through 6th Grade, All Seasons

Important Note

Nature Journaling serves as the second lesson for full day visits in any season. Prairie Wetlands Learning Center staff appropriately adapt this lesson for each grade level. For home schools, it is the curriculum, adapted to the age of the majority of students.

Summary

After a mini-lesson on nature journaling, students participate in a field activity, investigation, or lab, recording their observations, data, and discoveries in their field journals. Students share their results and reflect upon their discoveries, then determine how they will use their material in order to share their experience with others. Suitable for novice and experienced journalists alike.

Background

The purpose of this lesson is to introduce nature journaling to elementary students. "Nature journaling is the process of keeping a place-based, personal record of events, observations, and experiences in the outdoors." (Hofmann and Passineau) That process is typically an ongoing one and may start at the Prairie Wetlands Learning Center or continue and expand here for those who have already learned how to journal.

Compared to journals in general, a nature journal is unique in that *place* takes on a central role as the main subject along with the journalist as observer. "There is a deeper awareness of the setting, seasons, and

Minnesota Academic Standards

Subjects covered:
science,
language arts
math, art

Because this lesson is adaptable for a wide range of grades, we recommend you consult your state standards to determine which ones best correlate for the grade and chosen field activity.



Background, *continued*

other species.” (Hofmann) A journal may be a phenology log; a field guide to animals, plants, geology; and an explorer’s log of journeys and findings. It may also be a collection of reflections about a place and connections with it. Its content is not just intellectual or just emotional – it is *both*.

As learning tools, nature journals can serve a broad spectrum of purposes. A nature journal is a flexible teaching tool which is easily integrated with most academic subjects. It is adaptable to all learning styles and abilities and a source of endless individualization possibilities. Nature journaling provides opportunities for authentic learning which incorporates writing and drawing as major elements and therefore uses verbal, nonverbal, analytic, logical, spatial, and synthesizing abilities. Using a journal allows students to lead their learning with their own questions making it student- and inquiry-driven. Objective information might include scientific experiments, weather, wildlife behavior, and seasonal changes. Keeping a nature journal can be a powerful experience because it helps the observers slow down, carefully take note of their surroundings, make first-hand, concrete observations of nature, and become better observers.

John Muir wrote in his journals “about the beauty he saw in nature. He also drew sketches detailing information about plants, animals, mountains, glaciers, and landscapes. He used his journals to compose letters to friends, articles, and books to share his love of nature, and to enlist people's support to preserve wilderness. Muir's journals gave him a wealth of recorded experience from which 10 books and over 200 articles were published. People continue to gain insight into nature's beauty and importance in our lives from his writings.” (Sierra Club) Likewise student journals can be a source of raw data and information from which to write poems, reports, and speeches or develop posters, songs, art, and other polished work.

Sound science depends upon keen observations, and nature journaling is an effective way to develop that skill.

Intertwined with its value as a learning tool, keeping a journal allows time for reflection and relaxation. It allows thinking and feeling with both head and heart as a naturalist, a combination of intellectual learning about the environment and emotional connection and attachment to a place. Rather than rushing through a natural area, students have personal time and a direct experience which can help them feel more

Objectives:

Students will be better able to...

- Define the word journal (a daily record of observations)
- Correctly sequence the steps to using a nature journal (go outside, observe, record, reflect, use)
- Name three ways of recording observations in a nature journal (words, numbers, pictures)
- Recognize that observations are made using multiple senses (sight, sound, touch, smell)
- Name four kinds of things that could be recorded in a nature journal (title, date, location, weather, observations, wonder, questions)
- Suggest two reasons why to keep a nature journal (history, polished writing or art, connect with land, slow down, fun, relax, reflect)
- Enjoy using a nature journal



Background, *continued*

connected to the land and develop a sense of place. A nature journal allows, and provides an opportunity to study the natural world, to grow a deeper relationship with the earth, to develop a greater awareness and caring for it. “For many students, life in the artificial environment of climate-controlled schools, automobiles make the natural environment seem peripheral and irrelevant. In addition, formal learning is increasingly based on electronic, prepackaged information transfer.” Yet science teachers know there is no substitute for direct experience to motivate and engage students. Done repeatedly over time, nature journaling offers sustained contact with neighborhood nature. Further, personally created nature journals provide students with ownership of their experiences and reinforces active learning. (Dirnberger, McCullagh, and Howick) Students capture and claim moments with the world around them.

Journal keeping is historical, used by individuals who left wisdom and knowledge through their journals. Through the ages, scientists, artists, authors, poets, explorers, and many others have kept journals to record their observations and experiences including Leonardo da Vinci, Carl Linneaus, Thomas Jefferson, Meriwether Lewis and William Clark, and more recently, Olaus Murie, Aldo Leopold, and Rachel Carson. Some naturalists even started a lifelong practice of journaling in childhood.

Journals can be started using a few simple tools: several sheets of loose-leaf paper, a hard writing surface (a clipboard will suffice in the field), and a writing utensil. Consider binding papers together with a staple or two, providing multiple pages to use over a period of time. At the start of each journal entry, record the date, time of day, location, and weather (air temperature, wind speed and direction, description of the sky, etc.).

Although many students will need some help getting started, one need not be an expert naturalist, writer, or artist to guide others in nature journaling. Enthusiasm, a wide range of field activities, and journaling and discovering alongside students draws them in, inspires them, demonstrates the value of journaling, and allows instructors to enjoy the benefits of journaling, too.

Nature is the true source of inspiration for a nature journal. Observing nature is more important than writing and is the heart of the journal. Students should observe first and write second because observing is what gives them something to write about. Once writing begins, it may be helpful to look back and forth between the page and the subject. Journals can also include sketches, rubbings, maps, colors, tables, measurements, questions, wonder, surprise, mystery, delight, and beauty. Avoid editing for spelling, grammar, and punctuation in the field. However, editing for accuracy in content is a valuable use of time and essential to the field journaling process. Key to deeper thinking, reflection time allows students to process their experience intellectually and emotionally, infer meanings, and draw connections and conclusions.





Field Activity Options

Kindergarten – 2nd Grades

Season	Topic and Field Activity	PWLC Materials
Any	Wetland invertebrates: collect, examine, describe, measure, sketch, and release wetland “bugs”	Nets, hand lenses, bug boxes, colored pencils, keys/cards
Any	Nature journaling sampler: use several tools to aid in prairie wetland journaling such as hand lens, cloud chart, view finder, compass, thermometer, and binoculars	Let’s Go Outside backpacks
Winter (December through March)	Nature detectives: search for evidence of animals, describe, sketch, infer, and tell a story about what happened	Animal gait and track identification cards
Any	Weather Trek: practice using a thermometer, ruler or meter stick; record data and sky observations, observe falling snow crystals	Thermometers, rulers, meter sticks, clou/snow charts, hand lenses
Any	Patterns in Nature: look for numbers, letters, and shapes in the prairie and wetlands	ABCs Naturally book by Lynne Diebel and Jann kalscheur

3rd – 6th grades

Season	Topic and Field Activity	PWLC Materials
Winter (December through March)	Reading the land: search for evidence of animals, describe, sketch, infer, and tell a story about what happened	<u>A Sand County Almanac</u> , identification cards
Winter (December through March)	Winter ecology: measure and observe the snow pack, snow crystals, record temperatures, find and observe pond ice	Rulers, meter sticks, hand lenses, i.d. cards, thermometers
Any	Byrd Baylor – favorites OR celebrations: listen to a story, then go outside to find and record your favorites or celebrations	Byrd Baylor book
Any	Mapping – make sound, color, and/or habitat maps	Colored pencils, compasses
Any	Weather Trek: practice using a thermometer, ruler or meter stick; record data and sky observations	Thermometers, rulers, meter sticks, cloud charts
Any	Sketching: practice various observation and art techniques such as basic shapes, contour sketching, gesture sketching, scribble sketching	colored pencils
Any	Wetland invertebrates: collect, examine, describe, measure, sketch, and release wetland “bugs”	Nets, hand lenses, bug boxes, colored pencils, keys/cards



Teacher Preparation

To maximize outdoor classroom time at the Prairie Wetlands Learning Center, and for other benefits, you may:

- Select which field activity your class will participate in. Please see section “Field Activity Options.” Inform Prairie Wetlands Learning Center staff of your choice.
- Organize your students into small groups at school, each small group led by an adult chaperon, everyone wearing nametags.
- Teach the introductory steps in the “Field Investigation Procedure” at school. This is the mini-lesson on nature journaling. Your Prairie Wetlands Learning Center leader can then help set-up their journal pages based on the selected field activity.
- Lead one or more of the suggested extensions before your visit in order to integrate your chosen field activity into the classroom study of nature, scientists, naturalists, writing, journals, animals, prairie, wetlands, habitat, or other topics. See section, “Ideas for Teacher-Led Extensions and Assessments.” We believe such integration enhances student motivation for learning in other curricular areas.
- Help save paper. Bring your students’ science notebooks or journals to record their investigation questions, field data, results, and conclusions.

Prairie Wetlands Learning Center Staff Prep

Gather materials and appropriate equipment depending upon the grade and field activity selected. Choose which field site to use.

Field Procedure

Introduce the Topic

1. Welcome students, teachers, and chaperons to the Prairie Wetlands Learning Center.
2. Begin a mini-lesson on nature journals. Ask students to tell you what a nature journal is. Write down their responses as a list on the board. (Appropriate responses might include a book with words, sketches, numbers, and observations that are honest and true.) Add any items to the list that they did not mention.
3. Show them your current journal. Flip through the pages as you walk around the room. Challenge them to identify the three languages of a nature journal (words, images, numbers).
4. Ask them how someone starts a nature journal –what steps would they follow? Write down their responses as a separate list on the board. (Appropriate responses might include go outside, observe, record observations that are honest and true.) Add any items to the list that they did not mention.
5. Ask students why someone would keep a nature journal? Write down their responses on the board as a third list. (Appropriate responses might include to keep a record, to record history, to relax, to slow down, to reflect, to connect with the land, to use later for polished writing or art.





Procedure, *continued*

6. Ask students to open their own science notebooks or field journals to the next blank page. Depending upon the grade and field activity, show them how to set up their page as a data sheet with a title, date, location, and quadrants to collect and record information about their given topic.

7. Allow them to suggest what kinds of things they will record on this page for three of the quadrants, and provide each quadrant a subtitle accordingly. (For example, if the class will go outside to observe birds, in one quadrant they might record how many different kinds of birds they see; in another, they might sketch their favorite bird; and in the third, they might write down as many adjectives as possible to describe their favorite bird. In the fourth quadrant, they sketch a bird.)

8. Explain and demonstrate how any necessary field equipment will be distributed and used. Provide that equipment to each chaperon to distribute to their small group of students.

Exploring Outside

9. Line up and remind students that they are naturalists. How do naturalists behave outside? (respectful, quiet, in the moment, etc.) Lead students to your field location or trail.

10. Guide the chosen field activity. Move from group to group to provide assistance and answer questions. Model good naturalist behavior for them to follow.

a. Encourage students to use their powers of observation to look slowly and closely.

b. Prompt them with questions to help them truly perceive (notice using senses, especially something others miss): *What do you notice? What does it remind you of? Is there a mood? What does it mean? What does it make you wonder about? What questions do you have about it?*

c. Record your own observations and data in your field journal. Your example validates their journaling activity as important and demonstrates that learning is a lifelong pursuit.

Reflection Time

11. Collect equipment and invite students to share their discoveries with everyone.

12. Explain that naturalists usually use their journals as a source of information for polished writing or art. Ask students to think of one way they could use their journals to share their experience with someone who wasn't here today. Who will they share it with and how? Direct them to record this information in their journals.

13. Encourage them to keep going outside anywhere they are to explore and to use their journals; it is free and fun!. Thank them all for coming to the PWLC and invite them to return.

Vocabulary

Journal, naturalist, sketch, observation, reflect





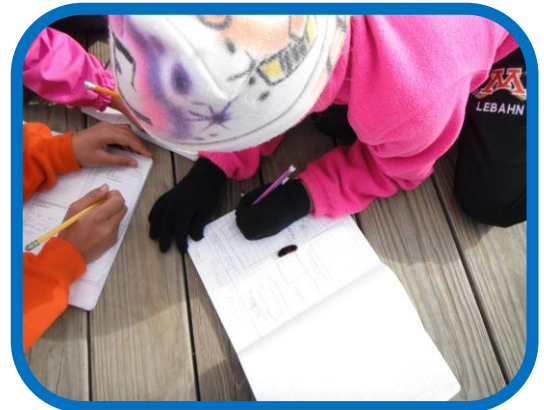
Adaptation for Younger Students

For younger students (K-2), Prairie Wetlands Learning Center staff may shorten the mini-lesson on nature journals before heading in the field. You may opt to leave their journals in the classroom. Lead the field activity. Provide them each with a sheet of paper and reflect by asking students to draw a picture of their favorite thing they noticed outside (or the most beautiful or the strangest, etc.). chaperons can help children who cannot write by adding a few labels or a caption. Teachers may bring them back to school and make a class journal, each student's paper serving as a page in it. A cover can be created with a title such as, "Our Class Nature Journal of the Prairie Wetlands Learning Center." Display the class journal for visitors to see, such as parents during conferences, or send it home with a different student each week to share with families.

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. Prairie Wetlands Learning Center staff make every effort to make your travel worthwhile despite the weather and prepare indoor, age-appropriate plans. We welcome your 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 conduct the chosen field activity if possible.
- Bring plant/seed or aquatic invertebrate samples indoors for examination.
- Use mounted specimens, furs, and/or skulls of birds and mammals.
- Use latex animal tracks with ink pads to create stories.
- Conduct a map scavenger hunt indoors. See 6th grade, fall lesson, "Mapping a Prairie Wetland."
- Tour the exhibit area and watch prairie wetlands videos in the sod house theater with the objective of searching for birds, invertebrates, plants, or observing seasonal changes in the land and weather.





Teacher-Led Extensions and Assessment Ideas

School Connections

- Visit the same place outside with your students on a regular basis, such as daily, weekly, monthly, seasonally, or annually. Record changes over time in journals.
- Use journal entries to produce polished work in creative writing, science, art, or music, key to preventing nature journaling from becoming a form of “busy work.” They might write reports, write and present speeches, create a class publication (field guide, newsletter, literary collection, phenology calendar, audio/video recordings), lead guided tours, organize a gallery display and reception, or hold a conference to share discoveries made through journaling.
- Periodically pair students up and have a journal exchange. Students read each others’ journals to make new discoveries about how to journal and individualization. Provide prompts to guide discussion. Comments may be shared verbally or in writing.
- Draw connections to curriculum with nature journals. Link them to academic activities when possible such as for science concepts and vocabulary, spelling, writing (similes and metaphors, onomatopoeia, punctuation, adjectives, verbs, nouns), poetry, art, math (fractions, percents, mean, mode, median, measurements, benchmarking), local history, and data organization and interpretation.
- Read student journals regularly and provide written encouragement, questions, or further information.
- Allow students to evaluate their own journal. Provide prompts such as -- which entries are their favorites and why? Do they see patterns among the entries? What would someone reading their journal 100 years from now discover about them and their place?
- Grade certain journal entries using an assessment rubric and clear criteria.
- Give an open-journal quiz which bolsters incentive to make complete entries.

Neighborhood Connections

- Explore your school grounds or local park together, and then sit in silence as students use their nature journals to complete a free write.

Home Connections

- Send journals home with students to make observations and discoveries in their yards. They can replicate a field activity done at school and/or at the Prairie Wetlands Learning Center, then compare and contrast results from each site.





For the Prairie Wetlands Learning Center Educator

Prairie Wetlands Learning Center Theme – the Prairie Pothole Region

Primary Environmental Education Message – The prairie pothole region is valuable and in need of restoration and protection.

Sub-messages

Habitat: The prairie pothole region is a unique and rare ecosystem.

Wildlife: The prairie pothole region is home to a variety of resident and migratory wildlife.

Prairie Wetlands Learning Center Environmental Education Objectives:

- Use scientific methodology to explore the environment (ask questions, hypothesize, collect data, analyze data, form conclusions, make recommendations). (Wildlife and Habitat)
- Describe and apply basic ecological concepts such as energy flow, community, biodiversity, change, interrelationships, cycles, and adaptations. (Wildlife and Habitat)
- Identify the components and functions of a given ecosystem by observing, counting, and describing the animals and plants in that ecosystem. (Wildlife and Habitat)

References and Resources

For Children

- *Cloud Dance* by Thomas Locker
- *Draw and Color Insects* by Walter Foster and Diana Fisher
- *Everybody Needs a Rock* by Byrd Baylor
- *Guess Who My Favorite Person Is* by Byrd Baylor
- *I'm in Charge of Celebrations* by Byrd Baylor
- *Just a Seed* by Wendy Blaxland
- *Mouse and Mole and the All-Weather Train Ride* by Doug Cushman
- *My Nature Journal* by Adrienne Olmstead
- *Salamander Rain: a Lake and Pond Journal* by Kristin Pratt-Serafini
- *The Nature Connection, an Outdoor Workbook for Kids, Families, and Classrooms* by Clare Walker Leslie
- *The Other Way to Listen* by Byrd Baylor
- *Weather Words and What They Mean* by Gail Gibbons
- *Where Does the Wind Blow?* by Cindy Rink





References and Resources, *continued*

For Adults

- “A Nature Journaling Guide: Fostering a Naturalistic Outlook” session presented by Kate Hofmann and Joe Passineau, University of Wisconsin-Stevens Point, at the North American Association for Environmental Education Conference, Biloxi, Mississippi
- *A Sand County Almanac* by Aldo Leopold
- *Backyard Almanac, a 365-Day Guide to the Plants and Critters that Live in Your Backyard* by Larry Weber
- *By a Thousand Fires, Nature Notes and Extracts from the Life and Unpublished Journals of Ernest Thompson Seton* by Julia M. Seton
- *Into the Field, a Guide to Locally Focused Teaching* by Clare Walker Leslie, John Tallmadge, and Tom Wessels
- *Jim Gilbert’s Minnesota Nature Notes* by Jim Gilbert
- *Journal of a Prairie Year* by Paul Gruchow
- *Keeping a Nature Journal, Discover a Whole New Way of Seeing the World Around You* by Clare Walker Leslie and Charles E. Roth
- *Moon Journals: Writing, Art, and Inquiry Through Focused Nature Study* by Joni Chancer and Gina Rester-Zodrow
- *Nature Journaling, a Creative Path to Environmental Literacy, a Guide for Sinking Roots in Place and Branching Out Toward Environmental Literacy in Grades 4-8* by Kate Hofman
- *One Square Mile, an Artist’s Journal of America’s Heartland* by Cathy Johnson
- *Project Bluestem*, Neal Smith National Wildlife Refuge, U.S. Fish and Wildlife Service
- *Rhythms of the Refuge*, Horicon National Wildlife Refuge
- “Writing and Drawing in the Naturalist’s Journal,” by Joseph M. Dirnberger, Steven McCullagh, and Tom Howick. *The Science Teacher*, January 2005
- Teaching in the Outdoor Classroom educator workshop, Prairie Wetlands Learning Center, Dave Ellis, instructor
- *How to Draw Birds for a Naturalist Journal*, Wilderness College web site
- *Introduction to Nature Journals*, Learning Lab web site
- *The Field Book Project*, Smithsonian Archives web site
- *Writing and Drawing in the Naturalist’s Journal*, National Science Teachers Association web site
- *The Illustrated Nature Journal, a Handbook*, Pinicola web site of the Bishops Mills Natural History Centre
- *Wheels of Time and Place*, Partners in Place web site



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 Dave Ellis, Prairie Science Class coordinator, for contributing to this lesson. Thanks to the following teachers for reviewing this lesson plan: Sarah Collins, home school parent/teacher, kindergarten and 2nd grade; Renee Larsen, 2nd grade, Fergus Falls; Kari Kreft, 2nd grade, West Central Area Schools; Vicki Hanneman, 3rd grade, Fergus Falls; Dorothy Droll, 5th grade, St. Henry's School, Perham; Stacy Lundquist, Battle Lake, 5th and 6th grade math and reading; Deb Strege, licensed teacher. Thank you to Mark Baldwin, Director of Education, Roger Tory Peterson Institute of Natural History, Jamestown, New York, for reviewing this lesson. Photos provided by Molly Stoddard/USFWS.

