



New Jersey School of Conservation

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Nature Journaling

Nature Journaling is an outdoor activity where students will focus their observations, curiosity and creativity with words, pictures and numbers using a sketchbook and pencil. Focused journal entries will give structure to observation and help form important questions and lasting memories.

Students will be exposed to simple artistic elements of design—such as shape, color and value. They will notice, wonder and connect to familiar objects.

Journaling advances the foundation of learning through inquiry, investigation and scientific thinking, whether it is of plants in the forest or in a community garden, birds on a pond or icicles dangling from the eaves of a building.

OBJECTIVES:

1. Students will build a sense of place, and develop scientific thinking skills as they learn key natural history concepts.
2. Students will learn introductory, specific journaling techniques and will begin the creation of a personal outdoor Nature Journal using
3. sketches to improve observational drawing and visual thinking,
4. words to describe articulated thought and storytelling,
5. and numbers to quantify mathematical thinking.
6. Students will improve their ability to make useful connections between seemingly unrelated things increasing creativity.
7. Students will engage in individual reflection and small team summarizing.
8. Students will give appropriate and timely feedback.

BACKGROUND INFORMATION:

This Field Lesson was developed in concert with [How to Teach Nature Journaling \(HTTNJ\)](#), a shared Internet Curriculum by John Muir Laws and Emilie Lygren, Heyday, Berkeley, California, 2020.

MATERIALS:

- Storage bins with journals, pencils, etc., and with bark pieces for inside.
- Large tote or backpack for all supplies for outside
- Journals (Sketchbooks) (4" x 4" from [amazon.com](https://www.amazon.com)) and pencils (sharpened)
- White Board, markers and eraser
- Plastic heavy-duty garbage bag cut squares for sit-upons (Alternatively, send the classroom teacher a pre-trip activity to make student sit-upons.)
- Plastic heavy-duty garbage bag cut into 1 large square to use as ground cloth if necessary
- Small zip-lock baggies for sketchbooks in inclement weather
- Small post-it notes (Use these to add written comments to student journals. Do not write directly on student journals!)
- Optional: rulers, compasses, magnifying glasses, string (5 - 10 ft lengths) for String Safari activity, paper cups to trace circles for Zoom In/Zoom Out activity, palettes and brushes, colored pencils.

PROCEDURE:

Timing:

- In Nature Center Building, display a few pieces of bark and some pine cones on the table (in storage bin).
 - Introduction: 5 minutes
 - Walk to 1st location* and demonstrate journaling skills on White Board: 5 + 15 minutes
 - Conduct guided group "I Notice, I Wonder, It Reminds Me Of" (INIWIRMO) activity: 10 minutes
 - Walk to 2nd location and conduct paired, non-guided INIWIRMO activity, and then pair and group discussions: 5 + 15 minutes
 - Walk to 3rd location and conduct a different, individual, non-guided activity, i.e., My Secret Plant/Object: 5 + 30 minutes
- * or conduct demonstration in Nature Center

1. **Suggested introduction to students:** Introduce yourself and say something like: "Today we are going to learn about Nature Journaling. Most folks enjoy the great outdoors, especially hiking. We will learn how to **make focused observations** and **record them** so that we can remember and appreciate them even more than just with a photograph!

Look at the items on the table (bark and pine cones).

What do you **notice** about them? For example, some of the bark is rough, some is smooth. I notice some pine cones are triangular and some are more cylindrical.

What do you **wonder** about them? For example, why does one of the pine cones appear "smashed"? I wonder if there are the same number of scales on every pine cone?

What do they **remind you of**? For example, the pine cone symmetry or pattern reminds me of a pineapple.

Everyone can observe and record observations with drawings, words and numbers. A degree in art, literature or mathematics is not necessary!

We will go for a trail walk in the forest, slow down, pay attention and wonder about the things we observe. I will share some tools and skills that will help you record your observations. Ready? Let's go!"

2. As students walk or hike to 1st location (Black Bear & Red Fox trails), introduce "I Notice, I Wonder, It Reminds Me Of" (INIWIRMO).

At 1st location, **introduce journaling concepts of recording observations with drawing pictures, words and numbers.** Demonstrate on the White Board.

- Drawing using basic shapes (circle, oval, square, rectangle, triangle)
 - Draw a flower using circles and ovals
 - Draw a tree using rectangles
 - Draw a pine cone using triangles, etc.
 - Drawings in 2D vs 3D (with shading; sphere, cube, cylinder and pyramid)
 - Demonstrate "finger air" drawing and contour and/or blind contour drawing.
 - Words (using the senses, suggest individual words or phrases; sight, smell, touch and hearing — no tasting!)
 - Write colors that you see
 - Write descriptions of smells
 - Write objects that are noticed
 - Write textures that are felt, etc.
 - Numbers (counts, size, frequency)
 - Record the number of objects in an area
 - Record the number of petals on flowers
 - Record the size of objects (use your fist and fingers to estimate size, i.e., this pine cone is 2 fists long), etc.
 - Use your body for measurement estimating (i.e, your fist, height, foot length, fingers, etc.)
 - Optional - Color Theory - describe primary colors and secondary colors
 - Primaries - red, yellow and blue
 - Secondaries - mix 2 primaries
 - Neutrals - mix 3 primaries to obtain grays and browns
3. Also at 1st location, distribute journals and pencils (or watercolors or colored pencils) and sit-upons if necessary. Ask students to write their names on the inside cover of their journal. Calling everyone's attention to one (1) large object, for example, a tree.

Conduct an **abbreviated, guided group** INIWIRMO activity with students and let them record observations in their Journal. Walk around and encourage students to include drawings, words and numbers.

4. Walk to 2nd location and conduct a **paired, non-guided** INIWIRMO activity with students, letting them observe any object of interest to them and complete a journal entry. Both students in the pair will journal about the same object in their own journals. Set a search boundary. Then lead the students with “pair” discussion and “group” discussion.
5. Walk to 3rd location and conduct a different **individual, non-guided** activity, such as, My Secret Object, Zoom In/Zoom Out, String Safari, etc. (Choose from the remaining Activities in the next section.) The students will observe and complete a journal activity independently.
6. Before they begin, demonstrate on the White Board how to add a map or enlargement to their journal observations. Encourage students to record more and more information about their observations.
7. Set a search boundary.
8. If conducting My Secret Object, tell the students to choose a different partner this time.
9. Whatever activity is conducted, be sure to include a pair and group discussion at its conclusion.
10. If time is short, weather is inclement or students are not able to walk as far, all of the above activities can be accomplished in one location.
11. Many of these activities can be easily adapted to conducting inside the classroom if weather is extremely inclement, for example, journal with the My Secret Plant/Object, To Each His Own, or Timed Observation activities using the bark pieces (in storage bin).
12. Alternatively, the instructor can conduct “INIWIRMO” and then conduct a different second Activity with each of the 3 or 4 groups that day. (See Activity list below.) The students can then perform a follow-up activity when they return to their school classrooms where they share and compare the activities and their Nature Journals. Students would then be invited to create a slideshow to present to peers and to NJSOC, highlighting some of their observations in pictures, words and numbers from their Nature Journal entries. They might be invited to attempt to answer the questions that were developed in the field.
13. Distribute enrichment packet to teachers (String Safari activity from John Muir Laws reference).

SPECIFIC ACTIVITIES:

Adapted for NJSOC from How to Teach Nature Journaling (HTTNJ).

- **I Notice, I Wonder, It Reminds Me Of...** (INIWIRMO)
(HTTNJ, pgs. 36 - 38)

Students are first challenged to observe and answer the three prompts while hiking to study sites. They learn and practice observation and fundamental inquiry skills through this simple routine. They create Nature Journal entries using pictures, words and numbers.

“I notice” focuses attention and helps to articulate and remember observations. “I wonder” sparks inquiry and invites broad questions. “It reminds me of” leads to connections between what we observe and what we already know, building stronger memories.

- **My Secret Plant/Object** (Good activity for classroom if necessary.)
(HTTNJ, pgs. 39 - 41)

Students record observations of a plant using pictures, words and numbers. This can be done at the study site and students can “spread out” within visible distance of the adults. When they have completed their journal entry, they then challenge a partner to find their plant using their Nature Journal notes. This will improve essential journaling skills by focusing on details with relevant and useful observations.

- **To Each Its Own** (Good activity for classroom if necessary.)
(HTTNJ, pgs. 42 - 44)

Students observe and journal about one item from a set of similar objects (such as leaves, shells, acorns, moss, et cetera). They then play a matching game in which they pair the objects to the notes of their classmates.

- **Comparison** (Good activity for classroom if necessary.)
(HTTNJ, pgs. 45 - 46)

Students observe two similar objects or species and sketch them side by side, noting differences and similarities between them. Comparison is utilized in scientific investigations to reveal patterns or collect data.

- **Zoom In, Zoom Out**
(HTTNJ, pgs. 47 - 49)

Students investigate and observe an object in three scales (magnified, life size and distant). Close up, magnified views provide details. Life-size sketches give perspective. Standing back from an object reveals its place in the environment and its relationship to

other objects. Utilize Appendix F Cut and Past Quantification Tool Kit sheet to use estimations or body parts for measuring.

- **String Safari**
(NTTNJ, pgs. 64 - 66)

Students discover and document a world of wonders within the boundaries of a circle of string placed on the ground. A small patch of ground can be a rich area for biodiversity study and journaling. The Nature Journal entry could be from varied perspectives.

NJ Student Learning Standards

This field lesson touches upon the following NJ Performance Expectations and can be tailored to focus on any of the following standards

Language Standards

Knowledge of Language

- NJSLSA.L3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- NJSLSA.L5. Demonstrate understanding of word relationships and nuances in word meanings.

Life and Careers Standards

Natural Resources Systems

- 9.3.12.AG-NR.2 Analyze the interrelationships between natural resources and humans.

Pathway: Visual Arts (AR-VIS)

- 9.3.12.AR-VIS.2 Analyze how the application of visual arts elements and principles of design communicate and express ideas.
- 9.3.12.AR-VIS.3 Analyze and create two and three-dimensional visual art forms using various media.

Science Standards

MS-LS2: Ecosystems: Interactions, Energy, and Dynamics

- MS-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

MS-LS4: Biological Evolution: Unity and Diversity

- MS-LS4-4 Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

Comprehensive Health and Physical Education

- 2.2.8.MSC.7 Effectively manage emotions during physical activity (e.g., anger, frustration, excitement) in a safe manner to self and others.

Social and Emotional Learning

All of our field lessons integrate the concepts of self-awareness, self-management, social awareness, responsible decision-making, and relationship skills found in the New Jersey's Core Social and Emotional Learning (SEL) Competencies.

NEXT GENERATION SCIENCE STANDARDS (NGSS)

In the NGSS, students must engage in Science and Engineering Practices in order to learn concepts and understand science. From How to Teach Nature Journaling, the NGSS comprises three dimensions as follows:

1. Science and Engineering Practices are what scientists do. Scientists ask questions, design and carry out experiments, discuss ideas, read sources of information, and create models of phenomena in order to understand the world around them.
2. Crosscutting Concepts are how scientists think. Scientists use some overarching concepts and ideas about how the world works to ask questions and make explanations. The Crosscutting Concepts are big ideas that are found across all disciplines of science. For example, the idea that the structure of an object affects its function (and vice versa) is useful in physics, chemistry, and biology. These concepts relate learning to larger ideas about the world.
3. The Disciplinary Core Ideas are what science knows. For example, how water affects landscapes, how matter can be transferred through an ecosystem, and how patterns of species change across different biomes. They are important scientific concepts for students to learn. (HTTNJ, pg. 238)

At NJSOC, Nature Journaling can play a key role in fulfilling these standards. We attempt to engage students at all grade levels by getting them comfortable and improving proficiency with the integrated, holistic work that is Nature Journaling. NGSS concepts have been used as the main scaffold for developing these student activities.

Lois E. Lyons for NJSOC, Revised March 17, 2023.