Nature Journaling

A Creative Path To Environmental Literacy

A Guide for Grades 4 - 8

Kate Hofmann
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A Guide for Sinking Roots in Place and Branching Out Toward Environmental Literacy in Grades 4 - 8

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# Table of Contents

Acknowledgements ......................................................................................... iv

Introduction .................................................................................................... v

How to Use This Guide ................................................................................... vii

1. A Niche for Nature Journaling ................................................................. 1

2. The Outcomes of Nature Journaling ....................................................... 9

3. Teaching Nature Journaling ................................................................... 13

4. Beginnings and Endings .......................................................................... 21

5. Nature Journaling Activities .................................................................. 31
   - Sensory Awareness: Opening Your Eyes ............................................... 33
   - Curiosity and Wonder: Looking With New Eyes ........................................ 43
   - Observation Skills: Looking Closer ......................................................... 51
   - A Place in Space and Time: Looking Further .......................................... 59
   - Biophilia: Looking Through Other Eyes .................................................. 65
   - Reflections: Looking Within .................................................................... 73

6. Bibliography of Nature Journaling Resources ....................................... 81

7. Appendices
   - A. Subject Areas ..................................................................................... 84
   - B. Multiple Intelligences ......................................................................... 85
   - C. Wisconsin Grade 4 Academic Standards ........................................... 86
   - D. Wisconsin Grade 8 Academic Standards ........................................... 88
   - E. Assessment Ideas ................................................................................. 90
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Introduction

Nature journaling is a path that leads from active exploration of the natural environment into reflection and creative self-expression. There are many ways you and your students can travel this path. A nature journal might include anything from writing and drawing to a photo gallery, an audio or video recording, or even a sculpture, a collage, or a sentence written in the sand. First and foremost, a nature journal is an opportunity for exploration, discovery, and a positive experience in local nature. A journal helps students open their eyes to the world around them and sink roots in their places. It invites them to contemplate the interconnections between themselves, their place, and the other inhabitants of that place: animals and plants; rocks, rivers, and lakes; earth and sky.

This guide will show you how to use nature journaling to spark students’ curiosity, foster awareness and sensitivity to their surroundings, and develop an empathetic relationship with a place and the other species that inhabit it. The activities in the guide are designed for accessible, everyday settings – the schoolyard, a neighborhood park, the trails of a local nature center. They are intended to engage students with a wide variety of interests and ability levels. Though ultimately a nature journal should be an individualized and creative endeavor, many students will need some guidance to get started. These activities serve as bridges that begin with active but structured exploration of the outdoor environment and gradually cross over into more open-ended reflection and self-expression.

You need not be an “expert” journal-keeper or naturalist to facilitate nature journaling. You will draw students in with your enthusiasm for the process and inspire them with a range of possibilities. By keeping a journal yourself and making discoveries alongside your students, you will demonstrate the value of the process and at the same time reap the benefits yourself.
Nature journaling fosters a naturalist’s outlook on the world: an intellectual understanding of the environment and an emotional connection with a particular place. We live in a world where intimate knowledge of our places is rapidly disappearing, a phenomenon that may be both cause and effect of the overwhelmingly vast environmental problems that surround us. Beginning a nature journal is one way to counteract this trend. A nature journal is an act of hope. Every page is a joyful and creative celebration of what makes our places unique and worth protecting.

Nature journaling is more than just a means to achieve environmental awareness and knowledge. It has a valuable place in education as a whole, where it can help you achieve basic educational goals and address academic standards. Naturalists are curious observers. They ask questions. They seek out answers. They are generalists who consider the world from scientific, literary, artistic, historical, social, and cultural perspectives. Each of these skills is important for lifelong learning and informed decision-making.

Keeping a nature journal is an endeavor that helps students process and remember information more effectively, communicate effectively, build their capacity for critical and creative thinking, and reflect on the learning process. It provides opportunities to express themselves in ways they enjoy, and at the same time encourages them to stretch their skills as they experiment with new techniques. As you begin a nature journaling project, you and your students will consider the world around you from different perspectives, clarify your values, and develop a stronger personal voice – all essential stepping stones on the path toward becoming environmentally literate, effective, and enthusiastic citizens in your community.
How To Use This Guide

This guide is designed primarily for formal classroom teachers and nonformal educators who teach school groups in settings such as nature centers. It could be used equally successfully by others who work with youth: parents, scout masters, youth group leaders, camp directors. The activities have been field-tested with students in grades four through eight and are written with this age range in mind, although many could easily be modified for other audiences.

Whether you are an avid journal-keeper or an accomplished journal-avoider, whether you’ve been using nature journaling with students for years or had never heard of it before picking up this guide, you will find something here for you. You may want to read the guide straight through, or you may prefer to delve into the particular sections that seem most relevant to you. To help you navigate, here is an overview of the major sections:

1. **A Niche for Nature Journaling.** Provides you with a definition of nature journaling, historical and contemporary contexts for nature journals, and a description of the niche of nature journaling in a variety of educational settings.

2. **The Outcomes of Nature Journaling.** Places nature journaling into a context of educational aims and goals. Using the framework, you can prioritize activities and determine which elements to emphasize in order to meet your needs.

3. **Facilitating Nature Journaling.** Discusses the practical aspects of facilitating nature journaling, such as creating a positive atmosphere, setting students up to succeed, assessing their progress, and integrating journaling into the curriculum.

4. **Beginnings and Endings.** Addresses techniques for two important aspects of a successful nature journaling project: introducing journaling to students and concluding the experience.

5. **Nature Journaling Activities.** The activities are arranged into six themes, each of which offers a different lens through which students explore their world and develop a naturalist outlook:
   - **Sensory Awareness** ~ Opening Your Eyes
   - **Curiosity and Wonder** ~ Looking With New Eyes
   - **Observation Skills** ~ Zooming In
   - **A Place in Space and Time** ~ Zooming Out
   - **Biophilia** ~ Looking Through Other Eyes
   - **Reflections** ~ Looking Within

6. **Bibliography.** More useful nature journaling resources to provide you with additional information, ideas, and examples.

7. **Appendices.** Information on a variety of practical considerations: correlations with subject areas, multiple intelligences, and academic standards, ideas for assessment.
1. A Niche for Nature Journaling

Nature journals are a way to open your eyes and view the world in new ways. This chapter describes nature journaling's niche in education, and its role in the past, present, and future.

What is a Nature Journal?

A nature journal is a record of natural observations and experiences. Like other journals, it is a net to sift through the many events of your life and capture the ones that are most significant to you. What makes a nature journal unique is that the place where you experience those events plays a central role. There is a deeper awareness of the setting, seasons, and other species. The subject is not just you, the observer, but also the world you observe. A nature journal is:

- An explorer's log of adventures and discoveries.
- A field guide to the natural history of your place.
- A calendar where you keep track of phenology—the events that mark the changing seasons.
- A map of your reflections about the interconnections between you and your place.

A Set of Lenses to View the World

A nature journal is a tool. Think of it as a set of lenses through which you explore your place. One lens helps you open your eyes to the world around you, showing you familiar things in new ways. Others are for zooming in and looking closer...for zooming out to see how things are connected in the bigger picture...for imagining what the world looks like from the unique perspective of the other things that share your place...and for looking within to reflect on what your observations mean in the context of your own life. Keeping a nature journal is a process of discovery. As you look through each lens in turn and your perceptions expand, so does your curiosity, your awareness, your knowledge, and your appreciation of your surroundings.

I don't want to miss spring this year. I want to be there on the spot the moment the grass turns green. I always miss this radical revolution; I see it the next day from a window...This year I want to stick a net into time and say 'now' as men plant flags on the ice and snow and say 'here'.

- Annie Dillard
  Pilgrim at Tinker Creek

A Snapshot in Time

No matter which lens you use, a journal entry is a snapshot of one particular moment in time. When you distill an experience down to its essence and capture it between the pages of a journal, it remains fresh and vivid even years later. You have claimed that moment. You have planted a flag. You can return and relive it anytime you wish.

A Flexible Medium

The more broadly you define nature journaling, the more options it offers and the greater its potential to engage many different types of learners. A nature journal can include everything from personal narrative to detailed scientific observations to poetry, sprinkled with sketches, pressed plants, leaf rubbings, photographs, and maps.
A nature journal need not even be a book at all. It could be an audio or video recording, a collage or sculpture, or a sentence written in the sand that communicates the importance of a place. In essence, a nature journal can be anything that helps you observe the world around you, reflect on your relationship with it, and express your thoughts creatively. Regardless of the form you choose, a nature journal is an excellent strategy for developing a naturalist’s outlook on the world. Being a naturalist is not a profession so much as a perspective; it includes both an intellectual understanding of the environment and an emotional connection with it.

Nature Journals and Environmental Awareness

The ultimate goal of environmental education is to help children (and adults) grow into responsible citizens who are knowledgeable and skilled and motivated to work toward a quality environment. Although action is the desired outcome, environmental literacy begins with awareness. A nature journal is an excellent tool to open students’ eyes and help them discover what is worth celebrating in their local environment.

Awareness Before Action

In 1962, Rachel Carson awakened the nation’s environmental consciousness with the publication of *Silent Spring*. An accomplished biologist, facts were the foundation of her field and the tool she used to convince readers of the dangers of toxic chemicals in our environment. Yet she was also an eloquent writer and a strong advocate for the importance of an emotional connection with nature. In *The Sense of Wonder*, she wrote: “I sincerely believe that for the child...it is not half so important to know as to feel. If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow.” Rachel Carson’s words resonate even more profoundly today. As educators seeking to develop students’ sensitivity to the environment, perhaps the most important thing we can do is to help them form a positive, emotional connection with their surroundings. If we begin instead with a survey of the world’s many environmental problems, those seeds of knowledge and wisdom may never germinate. Instead, we may be sowing other seeds. Educator David Sobel coined the term *ecophobia* to describe the fear and dissociation from nature that results from too much emphasis on bad news. He suggests a beautifully simple alternative in *Beyond Ecophobia*: “If we want children to flourish, to become truly empowered, then let us allow them to love the earth before we ask them to save it.”

Environmental Sensitivity

Researchers call awareness and empathy with the natural world *environmental sensitivity*, and they link it to spending time outdoors regularly in childhood, both with positive role models and in solitude. They have found it to be an essential stepping stone on the path to environmental literacy, a universal characteristic of those who are committed to taking action for a quality environment. Because it depends on unstructured outdoor experiences and time alone in nature, environmental sensitivity can be difficult to address in formal educational settings. However, a growing number today’s children lack opportunities for these experiences outside of school. If we are to reach them, it is essential to find ways to make environmental sensitivity a priority in the school setting. This is where nature journaling is truly exciting. Not only does it meet the criteria for developing environmental sensitivity, it is also eminently
The development of an ecologically literate citizenry may be linked to regular, unstructured experiences in wild places (both urban and rural), much as the development of reading skills depends upon contact with books and adults who read them.

- Gregory Smith
  "Coming Home"

suited for use in schools and school-related programming. Students spend time in active, direct, and sustained contact with local nature, guided by a teacher who models a sense of wonder and respect for the environment. They experience an atmosphere of solitude that encourages them to make a personal connection with their surroundings. At the same time, they develop a number of valuable academic skills that teachers strive to address throughout the curriculum.

Nature Journals and Educational Outcomes

Nature journaling can further many educational goals. The processes of observing, reflecting, writing, and drawing help students develop basic literacy skills, critical and creative thinking abilities, and the capacity for effective communication and creative self-expression. Because nature journaling is a flexible medium, it can be used at all levels, from emergent writers to accomplished authors, from students with learning disabilities to those with exceptional talents. Furthermore, it can highlight each student’s unique gifts, fostering both self-confidence and appreciation for the accomplishments of classmates.

The Value of Writing and Drawing

Writing is a powerful tool for learning, according to many researchers and educators. The writing process is more than simply a way to express what we already know; it actually helps us discover or create new meaning out of ideas and experiences. When we put words on paper, we capture and clarify our thoughts. Karen Bromley, author of *Journaling: Engagements in Reading, Thinking, and Writing*, explains, “Journals provide students with records of their own thoughts, ideas, and observations, and so invite them to reread, revisit, and perhaps revise past thoughts.” Journals encourage expressive, speculative, and unstructured writing—the kind of writing closest to thinking. The process of making a journal entry is often more important than the product, and the audience is primarily the writer him- or herself. In contrast, much of the writing done in school is directed toward a teacher or a generic reader, and students do not experience the many benefits of writing as an opportunity to explore and clarify personal meaning. Nature journaling is an excellent opportunity to incorporate more expressive writing in school, and thus help students engage more fully in writing as a process for learning.

Drawing, too, is a powerful tool for learning. Translating an observed object into an image on paper requires close observation and great attention to detail. Clare Walker Leslie and Charles Roth explain in *Keeping a Nature Journal*, “Drawing helps you observe. It demands that you, the observer, focus intensely on the relationships.” Here, too, the process is more important than the product. We teach writing not to turn every student into a poet or an author, but to encourage deeper thinking. Likewise, drawing encourages deeper seeing; it enriches our experience of the wonder and beauty of the natural world whether or not we are gifted artists.
Active, Place-Based Learning
Regular entries in a journal encourage students to ask their own questions and be fully engaged in finding the answers. Students are often passive participants in their education. Information is delivered to them through lectures, textbooks, videos, and computers. Journaling provides both the time and the structure for reflection, and requires students to take an active role in constructing their own meaning from experiences. The outdoor environment is an authentic and relevant setting for learning, and through their interaction with that setting, students strengthen their observation skills, gain hands-on experience with the world around them, and clarify their own values and beliefs.

Furthermore, nature journaling is a strategy to restore the value of local and personal forms of knowledge. Intimate awareness of our places is dwindling, and schools tend to reinforce this trend by placing authority with general and impersonal sources of information, separating students from the knowledge that is particular to their place. In a book titled Place-Based Education, David Sobel accuses the American educational landscape of paralleling the landscape of urban sprawl. Textbooks, he says, are generic and identical from one coast to the other, providing “the same homogenized, un-nutritious diet as all those fast-food places on the strip.” Most schools could be anywhere or nowhere. Activities that focus on the local landscape and the local community counteract this pattern, helping students rediscover the value of the land around them and their own knowledge and experiences. Place-based education is gaining momentum across the country, and nature journaling is an excellent way to join its many proponents.

Almost everyone who cares deeply about the outdoors can identify a particular place where contact occurred... Often the place that makes a difference is unspectacular: a vacant lot, a scruffy patch of woods, a weedy field, a stream, a green ravine, or a ditch.

- Robert Michael Pyle - The Thunder Tree

A sense of place is central to the naturalist’s outlook on the world. Cultivating a sense of place is a conscious decision to rediscover and rehabit a home ground. Nature journals can help students develop a commitment to their place that can only be acquired through direct contact with it. As they become familiar with their place, they become a part of it, a participant in the community rather than just a passive observer of it.

Interdisciplinary Connections
Education is often fragmented into discrete disciplines that de-emphasize connections between subject areas. In contrast, an interdisciplinary approach creates real, relevant learning experiences that help students understand the complexity of the world we inhabit. Nature journaling fits well in an integrated learning environment, by encouraging students to consider their world from a variety of perspectives. It breaks down dichotomies between science and art, knowledge and emotion. It helps environmental education make the leap from science to other areas of the curriculum such as language arts, visual arts, and social studies. These other disciplines offer valuable perspectives that science alone cannot provide. “Science can’t give us a reason to appreciate the sunset, or any purely objective reason to value life – these values must come from another source,” declares David Orr in Earth in Mind.

There are many inherent connections to explore among the disciplines. Both scientists and artists make use of curiosity, inquiry, and the patterns of nature. Furthermore, the arts teach
divergent thinking, encouraging students to come up with creative new ideas rather than converge on a single "right" answer. Innovation is essential for solving complex environmental problems, and it requires scientific knowledge combined with an active imagination. This generalist perspective is another key characteristic of the naturalist, and nature journals can help students begin to see and appreciate the valuable contributions of diverse perspectives on the environment. Nature journaling reinforces intellectual understanding of the environment by helping students learn to identify different species and see ecological processes at work. This is vital if we as a species are to recognize changes and problems in our environment. At the same time, nature journaling also encourages students to form an emotional attachment to places and other species, an attitude that kindles a desire to act on their understanding.

Nature Journaling in Educational Settings

The valuable outcomes that nature journaling promotes clearly justify its use in education. But how do you incorporate it into an already busy schedule? With a bit of tailoring, nature journaling can successfully fit a variety of educational settings.

Nature Journaling in the Formal Classroom

Nature journaling has a distinct niche in the formal classroom. It can be done right on your school grounds; it does not require a spectacular landscape to be effective. With guidance, students can find plenty of inspiration in the schoolyard. The weeds in the sidewalk cracks, the clouds in the sky, and the view out the window all offer inspiration. If you are lucky enough to have a nearby park, field, pond, or wooded area, by all means use it. But if you do not, it need not stop you! Over time, the observations you make with your journals may even help your class discover opportunities to enhance the beauty, quality, and learning potential of your immediate neighborhood. You could create wildlife habitat with birdfeeders, birdhouses, and butterfly gardens; reduce runoff and erosion by planting trees or restoring a wetland area; set up a weather station with a rain gauge and wind vane; or improve possibilities for recreation and inspiration by building a nature trail or planting a flower or vegetable garden.

Nature journaling doesn’t have to be one more “extra” to fit into your day. It meshes beautifully with, and enhances the study of, almost any discipline. Besides science and language arts, it can be integrated into the visual arts, math, geography, history...even music and physical education. See Appendix A for subject area correlations for specific activities. Look for ways to use journaling to accomplish goals and address academic standards that are already part of your curriculum, instead of trying to find room to squeeze it into an already tight schedule. The biggest initial challenge with nature journaling in the formal classroom is making a place for it. Once you come to value it and commit to making it a priority, you will find your own creative ways to incorporate it into the school day.
Nature Journaling in Nonformal Settings
Journaling can be used equally effectively in nonformal educational settings. At nature centers and other sites where school groups visit for a few hours to a few days, the time is often scheduled down to the minute. Though students spend time in an inspiring natural setting, they rarely have time to fully absorb their surroundings without the constant stimulation of group activity. Nature journaling offers students a chance to slow down, observe carefully, make connections to previous experiences and knowledge, and reflect on the personal relevance and deeper significance of a field trip experience.

You could devote part of the daily schedule to a nature journaling lesson composed of a series of activities. Alternatively, you could integrate nature journaling into existing programs, as an introductory activity to help engage students in the topic, or as a conclusion that will help them process their new knowledge. A challenge in nonformal settings is the fact that journaling tends to become more and more effective as students develop familiarity with the process. If students spend only a short time at your facility, you won’t have time to slowly build skills and comfort levels, and you often won’t know how much experience students have with journaling before they arrive. But if you are sensitive to their needs and flexible enough to adapt to the situation at hand, you can strike an effective balance between active exploration, reflection, and creative self-expression.

Collaboration Between Formal and Nonformal Settings
Nature journaling offers excellent opportunities for collaboration between formal and nonformal educational settings. If you are a classroom teacher taking students on a field trip, you might have them write about their expectations for the trip or list questions to which they hope to find answers. You could use some of the activities in this guide to explore the schoolyard before the trip, and then have students bring their journals along and draw comparisons between the field trip destination and what they observed at school. When you return to school, have students reflect on the experience and perhaps expand some of the notes they jotted down outdoors into a polished poem, prose piece, or art project. In turn, nonformal educators can have students journal on site, and then provide teachers with suggestions for continuing to use journals back in the classroom to further reflect on the experience.

The Past, Present, and Future of Nature Journals
You and your students will be in good company as keepers of nature journals. Nature journaling has a long history that continues to this day. In Chapter Four you will find brief sketches of the lives and work of journal-keepers of the past and present. Exploring their stories with students is an excellent way to introduce students to the value of journaling. They will see the importance of recording information in a journal for a wide range of professions, from writers to scientists to explorers to artists. Delve deeper into some of the other resources listed in the bibliography, and be assured that you are building your efforts on the sturdy foundation of a well-established tradition!
A Historical Context for Nature Journaling

The first nature journals were written on the walls of caves and cliffs around the world. The cave paintings and petroglyphs of our earliest ancestors depict the animals of their time and the events of their lives, giving us a rare glimpse of a long-ago world.

In more recent centuries, scientists, explorers, writers, artists, and naturalists have all used journals to help them keep track of their observations and discoveries. Renowned journal-keepers in recent history include Charles Darwin, Meriwether Lewis and William Clark, Henry David Thoreau, John Burroughs, John Muir, Aldo Leopold, and Rachel Carson (see pages 23-25). They all used nature journals to help them accomplish the things for which we remember them today. Their gifts as both observant scientists and eloquent writers shine through in their journals. They exemplify the naturalist’s broad outlook as they contemplate our place in the environment and reveal a larger ecological picture.

Today’s Nature Journalists

Contemporary scientists, natural history writers, and artists continue to find nature journals enjoyable and useful. Many writers use journals as a first step on the path to a polished piece of work. For instance, most of Edward Abbey’s Desert Solitaire came out of the pages of the journal he kept as a park ranger at Arches National Monument.

For others, the journal is an end in itself. Clare Walker Leslie and Hannah Hinchman are avid journal-keepers whose extensive volumes are filled with artistic renderings of the natural world. Both emphasize the value of the journaling process in coming to understand a place more deeply. In A Trail Through Leaves, Hinchman also suggests that a journal is a valuable tool for better understanding yourself. She writes, “When I began my first journal, I meant it to be a volume of woods lore....Before I closed the covers on Volume One, I had discovered that the journal was my most powerful ally in crafting the kind of life I wanted. I was building a scaffolding of choices and attitudes, forging affinities, discovering what colors, places, times of the day I could truly call ‘mine.’”

There are countless citizens in every community who enjoy keeping a journal. They, too, can offer valuable insights on the process and the product, and even more importantly, they provide an authentic and local perspective. In addition to exploring the works of published authors, consider seeking out dedicated and enthusiastic journal-keepers in your own place and inviting them to share their experiences with students.

I write to record the truth of our time, as best as I can see it....I write to make a difference....To honor life and praise the divine beauty of the world. For the joy and exultation of writing itself. To tell my story.

- Edward Abbey -

One Life at a Time, Please
Writing the Future
All the benefits that nature journalists of the past and present enjoyed can be experienced by those who begin a journal today. But the role of the nature journal in the future may be even more critically important. We are facing a worldwide environmental crisis. Many native cultures that lived sustainably in their homelands for centuries were guided by a worldview that was firmly rooted in local nature. People felt a deep responsibility for the world around them and viewed the animals, plants, rocks, water, and earth of their homes as sacred. Our increasingly global society lacks this sense of the sacredness and interdependence of creation; we have no story to tell us how to live in balance with our world. Nature journaling is one way to begin rewriting that story.

Every shining pine needle, every sandy shore, every mist in the dark woods, every clearing and humming insect is holy in the memory and experience of my people. ...This shining water that moves in the streams and rivers is not just water but the blood of our ancestors.
- attributed to Chief Seattle -

A nature journal is a story about a particular place and a journal-keeper's own explorations and perceptions of it. Every page, every word and image that you and your students choose to include says something about your relationship with your place. Nature journaling sends you on a quest for meaning in the fertile boundary where science meets the arts, and it helps you create a personal map through the territory that brings the meaning into sharper focus. You draw connections between yourselves and everything around you. You examine your thoughts and feelings and values, and you develop ways to express yourselves clearly and effectively in your own voices. You struggle to define your role in the world. Perhaps you find that a measure of responsibility comes with that role.

The words journal and journey come from the same root. If a nature journal can start us off on a journey toward creating a new worldview — one that restores the sacredness of creation and helps us live more harmoniously with the natural world, other species, and present and future generations of the human community — then perhaps this is some of the most important work we can do.
2. The Outcomes of Nature Journaling

The nature journaling activities in this guide seek to promote three broad aims, listed below along with more specific goals that contribute to achieving them. On the following pages, the aims and goals are illustrated in a model that reveals further interconnections between them.

AIMS

1. **Environmental Sensitivity.** Students develop their sensitivity to the environment through sustained contact with the outdoors, solitude in nature, and positive role models.

2. **Naturalist Outlook.** Students explore the local surroundings as naturalists, strengthening both their intellectual understanding of the environment and their emotional connection with their place.

3. **Self-Identity.** Students engage in writing, art, and other expressive activities that encourage critical thinking, creative self-expression, and values clarification, leading to a deeper sense of self-identity and a stronger personal voice.

GOALS

A nature journal is a lens through which we view the world around us. Changing lenses reveals different aspects of our environment and develops different skills. The activities in the guide are arranged into six sections, each one a lens that offers a different perspective on the natural world. The goal of each section reflects the perspective it promotes.

**Sensory Awareness: Opening Your Eyes**

Students explore the natural world through each of their senses. They develop a keen sensory awareness of their environment and perceive its details more clearly.

**Curiosity and Wonder: Looking With New Eyes**

Students look at aspects of the world in new ways, in a spirit of discovery. They find an appreciation for the beauty and intricacy of nature and awaken their curiosity to learn more.

**Observation Skills: Zooming In**

Students sharpen their skills of observation, zooming in on details, patterns, cycles, and changes in the environment. They come to recognize the biodiversity and ecological processes at work all around them.

**A Place in Space and Time: Zooming Out**

Students consider the unique features of their place through different spatial and temporal scales, zooming out to view it in a broader historical and regional (even global) context. They feel a sense of place: connection with and care for the place where they live.

**Biophilia: Looking Through Other Eyes**

Students learn to recognize other species that share their place, investigating their lives and imagining the world from their unique perspectives. They experience a feeling of empathy toward other living things and understand that their own lives are enriched by biodiversity.

**Reflections: Looking Within**

Students engage in an internal dialogue in which they consider and clarify their own thoughts and feelings about their place in the natural world. They develop strong critical and creative thinking skills, a deeper awareness of their own values, and a personal voice in which to express their views.
The Nature Journaling Tree

Keen Senses

Appreciation & Enjoyment of Nature

Environmental Sensitivity

Empathetic Perspective

Naturalist Outlook

Sense of Place

Knowledge of Species & Ecology

Values Clarification

Broad, Interdisciplinary View

Critical and Creative Thinking Skills

Personal Voice

Positive Outdoor Experiences

Solitude in Nature

Writing and Drawing

SEEDS
Examples
Modeling

Sensory Awareness

Curiosity and Wonder

Close Observation

Encounters with Other Species

Explorations of Place

Self-Reflection

Self-Identity

ROOTS

Safe and respectful atmosphere
Balance of guidance and freedom

Soil

Kate Hofmann 2004
THE NATURE JOURNALING TREE

Nature journaling is a process that helps students sink roots in their local environment. As new skills and attitudes grow out of these roots, nature journaling becomes a tool for branching out toward greater environmental literacy. The nature journaling tree places the aims and goals of the guide into a framework based on this metaphor.

SOIL
Preparing fertile soil is the essential first step for successfully introducing students to nature journaling. Students need a safe and respectful atmosphere where they feel comfortable exploring, expressing, and sharing their views. They also need a balance between guidance and freedom. Within the structure of clear expectations, each student should be encouraged to be creative and explore his or her own unique style.

SEEDS
When the soil is prepared, you can add the seeds. These are the inspiration that draws students into a nature journaling project and stimulates their interest and creativity. You can plant these seeds by exploring the lives of renowned naturalists and journal-keepers of the past and present, showing students examples of the work of these and other nature journalists (including other students), and modeling the journaling process for students.

ROOTS
Nature journaling helps establish the roots of environmental literacy. Keeping a journal is a way for students to gain awareness and knowledge about the natural world and skills for becoming responsible citizens in their home places. The roots of the tree are the inherent opportunities provided by nature journaling: sensory awareness, curiosity and wonder, close observation, explorations of place, encounters with other species, and self-reflection. These roots are the goals of the guide and also the sections into which the activities are arranged. All these components should be part of a nature journaling experience, as each one is a different lens that, together with the others, helps students construct a complete picture of their place and their own relationship with it.

TRUNK
The processes employed in nature journaling form the trunk of the tree. These are the means through which the opportunities at the roots grow into new skills and attitudes. Positive experiences in the outdoors are essential. Regular contact with local natural surroundings, including experiences of solitude, fosters environmental awareness and knowledge. The processes of writing and drawing are not just a form of communication but a powerful way to create meaning from experiences. Translating observations and ideas into words or images leads students to ask deeper questions about aspects of their world, think critically about ideas, come to understand them on deeper levels, and store newfound knowledge in long-term memory.
BRANCHES
The solid base formed by the roots and trunk of the tree help students branch out toward greater environmental literacy. The three main branches on the tree represent the guide’s three broad aims. The leaves on those branches are the skills and attitudes that support each of the aims.

Environmental Sensitivity. Childhood experiences in the outdoors – particularly those that involve solitude and positive role models – are the most important factor in developing environmental sensitivity, a key prerequisite to environmentally responsible behavior. Nature journaling promotes the following characteristics of environmentally sensitive citizens:
- **Keen senses.** Students become more perceptive and observant, an important skill for identifying patterns and changes in the world around them.
- **Appreciation and enjoyment** of natural settings. Students explore with a sense of wonder, developing a stronger appreciation for the beauty and complexity of the natural world. They feel comfortable spending time outdoors alone and with others.
- **An empathetic perspective** toward the environment. Students develop a connection with places and other living things that compels them to work toward preserving or restoring biodiversity and environmental quality.

Naturalist Outlook. Being a naturalist is less an occupation than an outlook on the world, one that includes both an emotional connection with nature and an intellectual understanding of the environment. Nature journaling promotes the following aspects of a naturalist outlook:
- **Sense of place** is a deep awareness of one’s home place, and a conscious decision to identify with it and take responsibility for the quality of life there. Choosing to value the local is a key factor in creating healthy, vibrant, living communities, and also an important step in recognizing relationships between other places and one’s own.
- **Knowledge of species and ecology.** Contact with the natural world enhances students’ skill in identifying other species and recognizing ecological principles at work.
- **An interdisciplinary view** of the environment. Nature journaling invites students to explore nature from many angles: science, math, literature, history, art, music. This “big picture” perspective is essential for devising solutions to complex environmental problems.

Self-Identity. In a journal, students’ own observations, ideas, and opinions have value. As they reflect on the natural world and their place in it, they develop a stronger sense of self-identity and thus a firmer set of convictions on which to base attitudes and behaviors toward the environment. Nature journaling promotes:
- **Values clarification.** Students clarify their own values about the environment by questioning and contemplating their place in the natural world.
- **Critical and creative thinking skills.** As they draw conclusions from their observations and ideas, students exercise their critical thinking abilities. At the same time, the creative nature of journal-keeping encourages students to think divergently and invent original solutions to problems. These are essential skills for effective decision-making regarding the environment and in all aspects of life.
- **Personal voice.** Students strengthen their own voice by striving to put their thoughts down in words or images and exploring different styles of expression. They experiment with new ways to tell the story of themselves, their place, and the connections between them.
3. Teaching Nature Journaling

Teaching nature journaling well is an art...but a learnable one! This chapter provides a number of ideas and strategies to help you succeed in your role as a facilitator of the process.

Defining Your Role

A Fine Line Between Structure and Freedom
In leading nature journaling, you tread a fine line. On one hand, you want to guide and motivate your students to extend their perceptions, think with greater depth and breadth, and refine their skills in translating their observations and thoughts onto the pages. You want to give them prompts that will help them get started if they are unsure of where to begin, and positive responses that will encourage them to keep going. On the other hand, you don’t want to stifle their creativity. You want them to feel ownership and pride in what they create, develop their own style, and feel that the final product is uniquely theirs.

Become a Journal-Keeper Yourself
The best preparation for beginning a nature journaling unit is to become a journal-keeper yourself. Whether or not you have kept a journal in the past, try the activities before doing them with students. Strive to stretch your own comfort level. For example, if writing comes easily to you but you rarely draw, be sure to try some drawing activities. Expanding your repertoire will give you more angles from which to engage students, and also help you understand the challenges they face.

To see a wren in a lush, call it 'wren', and go on walking is to have seen nothing. To see a bird and stop, watch, feel, forget yourself for a moment, be in the bushy shadows, maybe then feel 'wren' - that is to have joined in a larger moment with the world.

- Gary Snyder -
A Place in Space

Journal With Your Students
You are an important role model for your students. Journal along with them; let them see you doing the same activities you ask them to do. You will demonstrate your own enthusiasm and convey the value of the process.

You Need Not Be An Expert
No one says you must be an expert on nature to facilitate nature journaling. You need not identify every plant and bird you encounter; you can observe and appreciate them whether or not you know their names. Demonstrate the value of lifelong learning by carrying field guides with you and looking up the answers to questions (including your own) as they arise. You may not be able to teach wonder in the presence of nature, but you can exude it!

Consider Yourself a Guide
Think of yourself as a guide who walks with students and helps them see in different ways, providing them with opportunities to make their own discoveries and experiment with a variety of techniques. The skills you need to be an effective guide come from your own personal experience and enthusiasm for nature and for journaling. Strive to draw students into journaling projects in a spirit of collaboration, where they can catch your enthusiasm and follow your lead.
A CLOSER LOOK: Tips for Taking Students Outdoors

Going outdoors is ESSENTIAL to achieving the aims of nature journaling. Nature journaling is a perfect opportunity to get students looking, listening, and learning outside, in any season of the year. When students know what to expect and what you expect from them, spending time outside with their journals can be a highlight of the day.

Conditions
Weather can greatly impact the success of a journaling session. On those glorious days when the sun is shining and everyone wants to be outdoors, your job is easy. But nature journaling can also reveal how much there is to see and learn on stormy or wintry days. (And while others sit inside, you can revel in your adventurousness!) Just keep in mind that students are more likely to enjoy the experience and give it their best effort if they are comfortable.

- Before you go out, make sure students are properly dressed for the weather. You might want to collect some extra hats, mittens, sweatshirts, and rain ponchos.
- On hot days, carry sunscreen and water with you. Seek out shade and cool breezes.
- Take advantage of microclimates in cold weather. Look for low areas or trees to block the wind, and sunny rather than shady places.
- On particularly cold or wet days, adjust the length of time students spend outdoors. Leave the journals inside, and go on a walk to gather observations and impressions; then return inside to record them. Or take scratch paper outside for quick notes and sketches.

Preparing To Go Out
Many students are accustomed to viewing the outdoors as a play space rather than another learning environment like the library or the computer lab. Be patient, and recognize that it may take some time to develop appropriate outdoor behavior.

- Give clear directions. Be sure all students understand what they will be doing before going out.
- Agree on a signal for beginning an activity and gathering the group together afterward: a clapping rhythm, a bird call, or a musical bell can all work well.
- Set expectations for their time outdoors, and establish consequences for not following them. Rules might include the following:
  1. Safety first.
  2. Respect all living things (other people, plants, animals).
  3. Stay in the established boundaries and follow directions.

Outside
- Clearly designate when it is time for students to be focused, quiet, and working.
- If students have a familiar place they always go or a process they always follow when it is time for nature journaling, it may be easier for them to settle in and focus on the task at hand.

Tricks for the Trail
- You need not always step and sit down to journal. When you travel from place to place, have students record their observations and feelings as they walk. Rotate leaders and ask them to note whether they feel or notice different things at different places in the line.
- Be ready to take advantage of spontaneous gifts such as animal sightings. Model appropriate behavior, and share in the discovery and wonder.
Creating an Environment for Journaling

Foster Safety, Trust, and Respect
Journaling asks students to take a leap into the realm of self-expression. Whether you are planning a one-hour lesson or a year-long endeavor, your first task is to establish an atmosphere where students feel comfortable sharing personal opinions and emotions. Discuss with students ways of communicating that are considerate of others’ feelings. Foster mutual respect by listening carefully to what students have to say. Send the message that their opinions are valuable, their voices are worth listening to, and their ideas will be respected. This will help create a place where students feel safe enough to take risks and develop their own voices.

Respect Privacy
Journaling can bring deep feelings and private matters to the surface. Some of these may be appropriate to share with a teacher, but some may not. Be sure to establish in the beginning that a nature journal is different from a diary; it is a place to consider the world around us and our place in it, and entries should be related to this area of study. If you will collect and read students’ journals, respect their need for privacy by encouraging them to use loose-leaf notebooks and remove sections they don’t want others to read before handing them in, or paperclip pages together that should remain private.

Setting Students up to Succeed

Establish Guidelines and Expectations
Begin any journaling project by establishing guidelines for students to follow. You may want to have students help brainstorm their own rules and post them in the classroom. Be sure they know how they will be assessed. Once you have established criteria and students know what is expected of them, they can move freely within this structure. The guidelines are like a jungle gym: once the bars are in place, you can use them to do all sorts of amazing things – swing from rung to rung, hang from your knees, flip upside down, slide down the poles… Every student will find a different way to use the framework. Eventually, some may experiment outside the bars, but all should start by learning techniques and building strength and flexibility. Some students crave structure, while others revel in freedom. Strive to give them just enough direction to help them succeed, but not so much that it stifles their creativity.

Build Ownership
Students will be more invested in the journaling process if the journal they use feels special to them. Build a sense of ownership by having them select, make, or decorate their own journals. For journal entries, provide different kinds of paper and a variety of writing and drawing implements. Encourage them to experiment with all the media and personalize their entries.
Celebrate Individuality
There is no wrong way to keep a nature journal. The process of journaling does not lead down a straight path to a single answer. Help students explore less-traveled trails and find their own way. Provide examples of a wide variety of styles. Emphasize that their journal won’t—and shouldn’t—look like anyone else’s! Each one of us has a unique way of looking at the world and expressing what we see.

Provide Opportunities for Personal Choice
When choosing activities, ask students for their input. Provide a diversity of activities that will engage the many different types of learners in your group. Offer options. Students will find their work more meaningful if they can tailor it to fit their own preferences. Encourage them to draw connections between journaling projects and other school subjects or outside interests.

Fostering Growth

Cultivate Enjoyment
As you come to see what individual students respond to and get excited about, tailor activities to meet the specific needs of your class. What activities really let certain students shine? Which students find the process of making the entries alone satisfying, and which ones thrive on sharing their work and receiving positive feedback? Use these insights to maintain enthusiasm and promote growth.

Build Bridges
Although initially you want to engage students by focusing on what they enjoy, you will also want to encourage individuals to stretch their abilities by trying things that are more challenging for them. Strive to build bridges from the familiar to the new. For example, if a student enjoys drawing and is reluctant to write, encourage him to begin writing captions for his pictures and later expand these into more complete paragraphs. If a student is a kinesthetic learner and has difficulty sitting still to journal, suggest that she walk around, pausing along the way to write or draw what she observes.

Encourage Goal-Setting
Make time for students to set goals, independently or in collaboration with you. Personal goals help to build ownership and ensure success, by encouraging students to think through the reasons for keeping a journal and the steps they will follow. From time to time, ask students to reflect on their progress and consider what they have accomplished.

The Flow of a Nature Journaling Experience

Start Where Students Are
As you plan journaling exercises, consider students’ past experiences with journaling. If they are new to it, start slowly. Begin with low-pressure group projects or warm-ups. Once their curiosity is aroused, introduce individual journals. Keep initial assignments fun, concrete, and specific. Appeal to their spirit of adventure and mystery; set activities up as a search for clues about what is happening outdoors or a hunt for treasure.
Gradually Build Comfort Levels
Proceed at a pace that gradually builds students’ comfort level with the process of journaling and with expressing their creativity and deeper feelings. Generally this means moving from more structured to more open-ended types of activities over time. Begin with opportunities to simply record observations and events in words or pictures. Next challenge them to make connections to the broader context of the world around them. Finally, ask them to record their personal feelings about what they observe: the meaning of the observations in their own lives.

Strive Toward Independence
Ultimately, a nature journal should be an individualized, open-ended endeavor. The activities in this guide are intended to be bridges that move students from active, structured exploration of the outdoors to a more free-form process of reflection and self-expression. Eventually you may not need to provide prompts at all. When they are ready, give students the privilege of spending time in a favorite outdoor place and recording their thoughts in a format of their choice.

Assessing Student Learning
Assessment can be a challenging aspect of journaling, but also a valuable one. It is a window into the journal-keeper’s perceptions and needs, and reveals whether you have set up an atmosphere where students feel safe enough to take risks. In both formal classrooms, where it is a necessity, and in nonformal settings, where it may play a more minimal role, it helps educators refine their approach and reach individual students more effectively.

Emphasize Content Over Mechanics
Journals are not the place for stylistic perfection. Students should be able to invent spellings, experiment with language, and express themselves freely. Emphasize communicating whole thoughts, including rich details, and telling a compelling story. De-emphasize grammar and mechanics. Journal entries are a rough draft that can later be revised into a polished product.

Respond to Student Entries
One way to monitor students’ progress and provide them with feedback is to respond to their entries. Use a separate sheet of paper (try sticky notes) for your responses so students can remove them later. Alternatively, you could respond directly in a student’s journal, engaging in a written conversation. Responses can be very important for beginning journal-keepers. They provide proof that what students write is important, and help students develop confidence in their work and themselves. Responses also set up a dialogue between you and the student, an opportunity for each of you to get to know the other in a new way. In your responses, strive to:

- **Support the message.** Connect with what a student says by agreeing, sharing similar ideas, or simply acknowledging the value of his or her opinions.
- **Provide information.** Include facts or information when appropriate, or suggest resources a student can use to find out more about a given topic.
- **Clarify and extend thinking.** Ask for clarification, and challenge the student to rethink and expand on ideas. Pose thoughtful questions.
Create Assessments That Foster Growth
A journal reflects a personal response to the environment, and thus journaling should be an activity with minimal input from others. Use questions rather than criticism to encourage closer observation and deeper thinking. Give beginning journalists a chance to develop confidence. Don’t try to assess all aspects of their progress at once. Instead, focus on one or two areas for improvement, and evaluate holistically, not page by page. What does the journal as a whole indicate about a student’s effort, understanding, and growth?

Strategies for Keeping Assessment Manageable
Because journal entries are so varied and personal, the process of reading and responding can be illuminating but also overwhelming. Particularly if you have many students, consider your own sanity when planning your assessment strategy! Try collecting a portion of the journals each week, so you see each journal several times in a grading period, but you don’t have to read them all at once. Use an assessment rubric with clear criteria. If possible, incorporate self-assessment (see Appendix E on page 90) and opportunities for students to receive feedback from peers. Have open-journal “quizzes” to create an extra incentive for students to make complete entries.

Curriculum Connections and Extensions

Draw Curriculum Connections
Journals work best for the greatest number of students when they are used actively in class and students see concrete evidence of their function and importance. Strive to tie nature journals to academic pursuits whenever possible. Encourage students to make connections between their observations in nature and what they are learning in other subjects. Science concepts and vocabulary can be put to use in journal entries. Writing techniques such as simile and metaphor, active verbs, and allusion to literary works can all enhance an entry. When learning different forms of poetry, have students employ them in their journals. If you are studying charts or graphs or fractions in math, represent natural phenomena in these terms. Draw connections between the landscape and events of historical significance in your area. Put new art techniques to work on the pages of the journal.

Infuse Journals Throughout the Day
Consider ways to use nature journals throughout the school day. For example, replace quizzes and homework with journal entries from time to time. Use nature journals to stimulate class discussion, start small-group activities, and reinforce learning experiences. Take them along on field trips: prepare for the trip by writing about previous knowledge and listing questions; record information and impressions on the trip; and reflect on what was learned afterwards.

Use Journals as Jumping-Off Points
Provide opportunities for students to use their journals as a source of raw material for other projects. These extensions further reinforce the value of keeping a journal. For example, students could:
- Expand observations from journal entries into an essay or poem.
- Use sketches and notes to develop a detailed drawing or painting.
- Develop a science research project from questions and observations in their journal.
Sharing Journal Entries

The Benefits of Sharing
Incorporating time to share journal entries with classmates offers many benefits. For inwardly-directed students, the journaling process alone can be satisfying, but you may find that other students thrive on sharing and discussing their work with the class. Regardless of their preferences, sharing confirms the value of students’ work. It reinforces new understanding, validating students’ own opinions and simultaneously exposing them to new ideas. It promotes discussion and encourages further reflection; students are pushed to extend their thinking and be more descriptive in their writing. It helps students appreciate their own talents and those of their classmates. Share your own work with them, too; you become a partner in the game of discovery and they see that learning is a lifelong, ongoing process.

Techniques for Sharing
A variety of techniques can help you incorporate sharing into the nature journaling experience. Try the ideas in the sidebar and see what works best for your group. Regardless of the method you use, encourage comments and discussion, but emphasize the necessity for positive, constructive feedback. Model appropriate responses.

A CLOSER LOOK:

Sharing Journal Entries

Prompts to Guide Discussion
- What do you like most about this entry?
- Did anything in it help you remember something you had forgotten?
- What things did you see in the same way as this person?
- What did you see in different ways?
- Are there any techniques that this person used that you would like to try?

Partner Sharing
Divide students into pairs to share and respond to one another’s entries. Have them refer to the list of prompts.

Buddy Journals
Have students exchange journals and respond to one another in a written dialogue.

Sharing Circle
Form a class circle and invite students one at a time to share an entry with the group. Encourage comments and discussion.

Talking stick
Designate a special object for sharing sessions. The student holding the object is the speaker, and has the undivided attention of the class until s/he passes it on.

Reluctant Sharers
Not all students will be equally comfortable sharing their work. Encourage them to join in, but try not to make it a requirement. Consider having hesitant students choose entries for you to read for them. Have them share in small groups rather than with the whole class, or in other ways besides orally: assemble a gallery or let them comment on each others’ work in writing. As they become more comfortable with their work and with the sharing process, eventually most students will open up.
A CLOSER LOOK:

Materials for Nature Journaling

Assembling supplies is a great way to get organized for teaching nature journaling. You may want to create a kit - as simple as a small box or backpack of crayons and colored pencils, or as elaborate as an entire trunk or shelf full of materials. Consider making the kit available to students when they are looking for materials or inspiration.

Here are a variety of things to collect for your kit or classroom:

The Bare Essentials:
- A journal for each student (see page 27 for ideas)
- A pencil for each student - and a few extras!
- Appropriate clothes and shoes for the weather
- Outdoor gear: sunscreen, water bottles, raincoats, hats, first aid kit, etc.

Other Useful Items:
- Clipboard or cardboard for a hard writing surface if journals are not hardbound
- Art supplies:
  - Crayons, colored pencils, watercolor paint sets, pastels, charcoal pencils, etc.
  - An assortment of paper (different textures, colors, weights)
  - Clear contact paper for covering pressed leaves or flowers
  - Glue sticks for pasting in objects or loose entries
- A hand lens or magnifying glass for each student
- A musical bell or bird call to signal the beginning and end of journaling activities
- Blindfolds for sensory activities
- A variety of natural objects (pinecones, sticks, leaves, rocks, seeds, bark, acorns, etc.) for drawing and sensory activities
- Rulers, compasses, and graph paper for map-making
- Equipment to keep track of the weather:
  - Thermometer (one that records the daily maximum and minimum is especially nice)
  - A wind vane or compass for determining the wind direction
  - A rain gauge (for rain) and meter stick (for snow) to measure precipitation
  - A book or poster for identifying cloud types
- Bird feeders or bird houses outside the window for animal observations
- Reference materials on local natural history:
  - Field guides to wildflowers, trees, birds, insects, mammals, etc.
  - Reference books about the geology, weather, and climate of your area
  - Maps of your neighborhood, city, watershed, and region
- A calendar for keeping track of phenology dates, moon phases, solstices and equinoxes, and other seasonal events
- Sample journal entries from past students and others for inspiration
- Books of historical and contemporary nature writing
- Relaxing music or recordings of nature sounds to play during indoor journaling time
4. Beginnings and Endings

Introducing and concluding a nature journaling experience skillfully is essential for its success. This chapter provides you with an assortment of ideas for beginnings and endings.

Introducing Nature Journaling to Students

Set the Stage
To get nature journaling off to a successful start, think carefully about first impressions. Before you launch into the activities, it is important to set the stage by discussing what a nature journal is and the reasons for keeping one. Some students may have negative feelings about journaling, while others may be avid writers or artists. Give them a chance to share their impressions. What do or don’t they enjoy about it? Encourage them to keep an open mind. If students prefer not to call it a journal at all, you could agree on another name, such as a nature notebook or an explorer’s log.

Define Nature Journaling Broadly
Emphasize to students that a nature journal is a special kind of journal. Like other journals, it is a place to record what you see and do and think and feel. But in a nature journal the place where you do all these things is very important. In looking at your nature journal, someone would learn a lot about you and what is important to you, but they would also learn about where you live: what the seasons are like there, what kinds of plants and animals share your neighborhood, whether you have lakes or rivers or mountains or a desert or ocean nearby. A nature journal is a way to celebrate what is special about your place. You can do this in lots of different ways. You will probably include some written words, but you could also include drawings, paintings, photographs, pressed plants, bark or leaf rubbings...your journal could even be an audio or video recording, a website, a collage, or a three-dimensional sculpture.

Emphasize the Personal Value of Nature Journaling
Discuss with students the benefits of keeping a journal. How many of them like to bring a camera when they go somewhere interesting or exciting? Why? Photographs help us remember places we have been and things we have done, and also help us share our experiences with family and friends. A journal entry, too, is a snapshot from a very particular place and time, and a nature journal can make even ordinary trips interesting and exciting. It will help you look closer and see things you have never noticed before. Every moment that you mark in the pages of your journal, you have claimed for your own. You can look back five years from now, or ten, or twenty, and all the details you captured will be just as fresh as if they just happened. A journal is a place to record not just what you saw through a camera’s viewfinder, but what you heard and smelled and touched and tasted, and how you felt.

Establish the Communal Value of Journals
A journal certainly has value as something we can share with family and friends and enjoy looking at in the future.
But it can be useful to society as a whole, too. Another way to engage your students in nature journaling is to explore how the importance of journals extends beyond their personal significance. Long ago, our ancestors recorded events on the walls of caves and cliffs, and others read messages and stories in the pictures. Before cameras and computers, explorers and scientists wrote their important discoveries in logbooks and journals. In fact, the journals of many famous people are so highly regarded that they are kept in museums. Other people are famous because of their journals, such as Anne Frank. Many ordinary citizens are journal-keepers too, and their observations help us understand patterns and changes in our environment. They record information about temperatures, the dates of the first snowfall, and when lakes freeze and thaw, the kinds of trees and plants in their area, and animals they spot. Scientists combine all these observations to reveal changes in our global climate and the ranges and populations of wildlife and plant communities.

Explore the Lives and Work of Historical and Contemporary Nature Journalists
You and your students are in good company as keepers of nature journals. People have been recording their impressions of nature in journals for centuries. Scientists, explorers, writers, and artists have left us a legacy of observations and musings and realizations in the pages of their journals. Though initially the names of historical naturalists like Henry David Thoreau, Aldo Leopold, and Rachel Carson may not captivate your students, their stories are fascinating and their writing is rich and evocative. If you can bring them to life for your students, they can follow in the footsteps of excellent role models. In addition to figures who loom large in history, there are many engaging contemporary nature journalists. The following pages contain brief biographical sketches and excerpts from the writing of some renowned nature writers and journal-keepers of the past and present. Whether you choose in-depth study or a quick overview, the most effective way to explore their lives and writing with students will depend on their grade level, previous experience, and interest. Try one of the following strategies:

- Bring in books by a variety of the people on the following pages and share their lives and work with students. Emphasize how they used their journals to accomplish the things for which we still remember them today. See the bibliography for additional resources, and look for audio or video recordings to further illuminate their lives.

- Make copies of the next three pages and have students choose one of the naturalists (or another of their choice), then copy a quote or passage into their journal and write a response to it. Do they agree or disagree with any opinions shared? How did the word choice make them feel? Did the passage remind them of times or places in their own lives?

- Have students adopt a naturalist of their choice and research this person’s life and work. The bibliography lists a number of biographies for youth. Have students create a one-page report that includes a photograph, a biographical sketch, and a description of the place where the person lived, as well as some excerpts from his or her writing. Make a copy of each report for all the students; they can bind the pages together to create a convenient directory of naturalist writers for future reference and inspiration.

- Alternatively, or in addition, students could present their naturalist to the rest of the class. Have them come as the character, dressed appropriately and with relevant props. They should point out where they live on a map, explain what has happened in their lives, and read some of their work, concluding with a chance for the class to ask them questions.
Gilbert White (1720-1793) was a country priest and amateur scientist who delighted in the natural surroundings of his English village. He took long daily walks and wrote letters to fellow naturalists about the "natural curiosities" he observed around his home, later compiled into a book.

From *The Natural History and Antiquities of Selborne*:
February 22, 1770. "Hedge-hogs abound in my gardens and fields. The manner in which they eat the roots of the plantain in my grass-walks is very curious; with their upper mandible, which is much longer than their lower, they bore under the plant, and so eat the root off upwards, leaving the tuft of leaves untouched."

Meriwether Lewis (1774-1809) and William Clark (1770-1838) made an 8,000 mile journey across the North American continent and back from 1804 to 1806. The two kept a detailed log of their challenges and adventures and described hundreds of plants and animals they encountered.

From *The Journals of Lewis and Clark*:
Wednesday, April 17, 1805. "The whole face of the country was covered with herds of Buffalo, Elk & Antelopes; deer are also abundant, but keep themselves more concealed in the woodland. [They] are so gentle that we pass near them while feeding, without appearing to excite any alarm among them; and when we attract their attention, they frequently approach us more nearly to discover what we are."

Charles Darwin (1809-1882) kept a detailed log of the many strange plants and animals he saw when he sailed around the world in the Beagle. These careful observations were the evidence he used to propose the theory of evolution, now one of the foundations of modern science.

From *The Voyage of the Beagle*:
September 15, 1832. "The natural history of the Galapagos islands is eminently curious, and well deserves attention...I will first describe the habits of the tortoise, which has been so frequently alluded to. Some grow to an immense size: Mr. Lawson told us that he had seen several so large, that it required six or eight men to lift them from the ground..."

Susan Fenimore Cooper (1813-1894) was the first American woman to publish a book of nature writing and a careful observer of the interactions between humans and other living things. Not only did she celebrate the details of her home, she also tried to help people see their connections to other places and why they should take care of the land.

From *Rural Hours*:
May 28, 1849. "The mandrakes, or May-apples, are in flower... This common showy plant growing along our fences, and in many meadows, is said also to be found under a different variety in the hilly countries of Central Asia. One likes to trace these links, connecting lands and races, so far apart, reminding us, as they do, that the earth is the common home of all."
Henry David Thoreau (1817-1862) is best known for Walden, or Life in the Woods, a book inspired by his life at Walden Pond in Concord, Massachusetts. Thoreau assembled Walden from the pages of his daily journal, which he kept for 40 years. It was 15 volumes long in the end!

From "Where I Lived, and What I Lived For": "I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived. I did not wish to live what was not life, living is so dear...I wanted to live deep and suck out all the marrow of life."

John Burroughs (1837-1921) spent most of his life near the Catskill Mountains in New York. He believed in careful and scientific observation, and was one of the first popular writers to embrace Charles Darwin's theory of evolution. Yet he also believed that knowledge about the world had to be accompanied by love for it.

From his journals:
November 27, 1877. "We talk of communing with Nature, but 'tis with ourselves we commune. Nature has nothing to say. It all comes from within. The air supports combustion, but 'tis the candle that burns, not the air. Nature furnishes the conditions - the solitude - and the soul furnishes the entertainment."

John Muir (1838-1914) was born in Scotland, grew up in Wisconsin, and found his true home in the mountains of California. He worked hard to save wild places, and was known as the father of our national parks. As he rambled from Alaska to South America, he kept a journal to record the rocks, plants, and animals he saw. From his field notes, he wrote vivid, exuberant accounts that brought these places alive for readers.

From John of the Mountains: "Wonderful how completely everything in wild nature fits into us, as it truly part and parent of us. The sun shines not on us but in us. The rivers flow not past, but through us, thrilling, tingling, vibrating every fiber and cell of the substance of our bodies, making them glide and sing. The trees wave and the flowers bloom in our bodies as well as our souls, and every bird song, wind song, and tremendous storm song...is our song."

Aldo Leopold (1887-1948) wrote poetic essays around the circle of the year at his family's shack in rural Wisconsin in A Sand County Almanac. Leopold believed in the importance of conservation, and he was a careful observer of ecology. He also developed a "land ethic" that helps us understand humans' relationship with the natural environment.

From Round River: "The outstanding scientific discovery of the twentieth century is...the complexity of the land organism. Only those who know the most about it can appreciate how little we know about it. The last word in ignorance is the man who says of an animal or plant: 'What good is it?' if the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering."
Rachel Carson (1907-1964) awakened the world to the danger of pesticides like DDT in the 1960s with a book called Silent Spring. She was an award-winning author as well as an excellent scientist. Her journal entries (like the one below) are filled with examples of poetic writing and the curiosity and wonder that made her scientific discoveries possible.

**From Lost Woods:** "Saw tracks of a shore bird...followed them a little, then they turned toward the water and were soon obliterated by the sea. How much it washes away, and makes as though it had never been. Time itself is like the sea, containing all that came before us, sooner or later sweeping us away on its flood and washing over and obliterating the traces of our presence, as the sea this morning erased the footprints of the bird."

Edward Abbey (1927-1989) worked as a park ranger in the desert southwest, where he developed a deep love of the land and bitter anger about environmental damage. Desert Solitaire is a powerful personal response to the desert landscape, but he also wrote fiction: The Monkey Wrench Gang is a wry and irreverent account of another approach to environmental protection.

**From Desert Solitaire:** "The air is so dry here I can hardly shave in the mornings. The water and soap dry on my face as I reach for the razor: aridity....Sometimes it rains and still falls to moisten the desert – the falling water evaporates halfway down between cloud and earth. Then you see curtains of blue rain dangling out of reach in the sky while the living things wither below for want of water."

Annie Dillard (b. 1945) says she writes not about nature so much as "what it feels like to be alive." But Pilgrim at Tinker Creek is an important contemporary work of nature writing. In it, she explores the mysteries of the natural world around her home from many perspectives.

**From Pilgrim at Tinker Creek:** "I live by a creek, Tinker Creek, in a valley in Virginia's Blue Ridge....It's a good place to live; there's a lot to think about. The creeks are an active mystery, fresh every minute....The mountains are a passive mystery, the oldest of all....You can heave your spirit into a mountain and the mountain will keep it, folded, and not throw it back as some creeks will. The creeks are the world with all its stimulus and beauty; I live there. But the mountains are home."

Leslie Marmon Silko (b. 1948) is a leading voice among today's Native American writers. Her poetry, fiction, and essays emphasize the importance of storytelling as a way to make sense of our experiences in the places where we live.

**From "Landscape, History, and the Pueblo Imagination":** "Stories are most frequently recalled as people are passing by a specific geographical feature or the exact place where a story takes place....There is a giant sandstone boulder about a mile north of Old Laguna...ten feet tall and twenty feet in circumference. When I was a child, and we would pass this boulder driving to Paguate village, someone usually made reference to the story about Kochininko, Yellow Woman, and the Estrucuyo, a monstrous giant who nearly ate her."
Share Examples
In addition to the renowned naturalist writers, share other examples of journal entries to inspire students with the range of possibilities. Introduce them to published examples of journals. Read excerpts from literature in which characters keep journals. Show them some of your own work, and share with them the work of students their own age, to give them confidence that they can do something similar. Discuss the examples and encourage students to find techniques that others have used that they would like to try.

Ease Into Journaling
Especially if students are reluctant about journaling, consider starting with some fun group projects to ease them into it. Create a class phenology chart where students can record observations about weather, seasonal changes, and plant and animal sightings. Make a class journal about a particular event or phenomenon (such as animal sightings, fall leaves, signs of spring) and have each student contribute a page.

Model the Process
If students are new to journaling, they may need some guidance regarding what goes into a good entry. Model the process for them. Verbalize your thought process, and then translate your thoughts into words and drawings on the blackboard or an overhead transparency while students follow along. Demonstrate what should be included in each entry. When students understand the basic idea, brainstorm a list of additional topics or approaches as a class. Write a class entry: students contribute; you record. Then send them off to get started on their own journals.

A CLOSER LOOK:

"What advice would you give someone your age who was about to start a nature journal?"

Here are some insightful answers to this question provided by a group of sixth graders:

- It’s more fun than you think and you learn a lot about nature.
- Don’t be hard on yourself.
- Just relax and have an open mind.
- You learn a lot without having to take a test.
- Think hard but not too hard and have fun.
- Go outside and close your eyes and listen to what you hear.
- Imagine.
- Write about what you feel.
- It’s your journal so be creative with it.
- Notice everything about everything.
- You have to try it! It’s the best time ever.

Encourage Creativity
Emphasize to students that the most important thing to remember about a nature journal is that it is theirs. Their journal won’t look like John Muir’s or Rachel Carson’s or yours or anyone else’s, because every one of us sees the world in a different way. We could go on a hike and walk down the exact same trail, but we would all notice different details and feel different things and think different thoughts. Try to help students feel empowered to interpret activities creatively and in a way that reflects their own style. A journal is a work in progress, not a final product, and there’s no such thing as the wrong way to do it.
A CLOSER LOOK:

Types of Journals

Though nature journaling need not be done exclusively on the pages of a book, it lends itself well to this format...and it gains appeal quickly when students have a special journal to use.

There are many options for student journals, including both purchased and handmade varieties. Regardless of which you choose, try to give students an opportunity to make it their own by decorating or personalizing it in some way.

Purchased journals:
- A spiral notebook ~ readily available and inexpensive
- A blank book or sketchbook ~ more expensive, but much sturdier and more satisfying, and they come in all shapes and sizes, with decorative covers or plain, with blank pages, ruled pages, or a combination. Look for them at bookstores or art supply stores
- Folder or binder with loose-leaf pages ~ a major advantage here is that you can easily add or remove pages, which can later be bound together into a book

Recipes for Hand-Made Journals:

**TWIG BINDING**

1. Assemble covers and as many pages as you like.
2. Punch two holes at the top.
3. Feed one end of a rubber band up through each hole.
4. Lay a sturdy stick across the top, and loop the rubber band around its ends.

**YARN BINDING**

1. Just like it looks—folded cardboard cover with pages inside and yarn ties.

**SEWN BINDING**

1. Crease the pages down the middle. Use a large needle to poke holes along the crease. Sew through the holes with sturdy thread.
2. Tape two pieces of cardboard together, leaving a gap so they open and close smoothly.
3. Lay the pages on the covers and glue the first and last page onto the inside of the cover.
Concluding a Nature Journaling Unit

There are many ways to bring closure to a nature journaling unit. Whether students have been working on their journals for an hour, a week, or months, a well-planned conclusion helps them reflect on their progress and appreciate their achievements. It may also encourage them to continue nature journaling on their own. Choose from among the following suggestions, or devise an approach of your own.

Self-Assessment. Have students write a final entry in which they reread and evaluate their journal. Which entries stand out as particularly valuable? Why? What patterns do they find between entries? What does the journal reveal about who they are and what is important to them? See Appendix E on page 90 for a list of suggested questions for self-assessment.

Time Capsule. Ask students to imagine that their journals are discovered one hundred years from now. Discuss with them how journals kept by ordinary people in the past have given us clues about how daily life and places have changed over time. What would their journals reveal? What would a reader learn about this place, and about the person who wrote it and what was important to him or her?

Travel Brochure. In groups or individually, have students use their journals to write a travel brochure about their place. What is special about it? What would attract people to it? They might also consider the attractions for other species: if, for example, a deer, a hawk, a wolf, or a frog was looking for a home, why should it come and live here?

Guided Tour. If each student has a site she or he has visited consistently throughout the journaling experience, and if these sites are within walking distance of one another, conclude with a walking tour. Have students choose a name for their site to share with the group, and give each student a chance to take the lead and guide the others to his or her chosen location. At the site, the student can explain its most interesting features and some of the experiences or insights gained there, and/or share some favorite journal entries. Before the tour, you could compile a map that shows each site and the path you will follow between them. You may want to create a ceremonial mood and ask students to remain silent as you travel from site to site. End the walk with a celebration: break the silence and share refreshments!

Journal Buddies. Partner with a class of younger students and have your students choose some of their favorite journaling activities to adapt and teach to the younger class. Encourage them to review the teaching techniques and activities you used and discuss which seemed most effective, then design their approach based on what their conclusions. Have them help the younger students make journals of their own, and then divide into pairs or small groups for the activities.
**Gallery Exhibit.** Set up an exhibit of the students' journals. Be sure to give them a chance to remove or cover any pages they want to keep private. Ask them to write a few paragraphs about who they are and what they'd like people to know about their journals. Mount these for display, along with photos of the students at work and the places that inspired their entries, as well as any finished pieces of writing or artwork that emerged from the journaling process. Invite other classes and parents to view the exhibit and mingle with the artists.

**Nature Journaling Conference.** Hold a conference where students present the results of their nature journaling projects. Students' sessions could follow one of the following formats: a) highlights from a few favorite entries, b) insights about what makes their place special, or c) an in-depth look at a topic they found especially interesting and explored in detail. Discuss effective presentation techniques and encourage students to use visual aids. Create a program for the conference, design nametags for the presenters, and invite other classes or parents to attend. You could even invite a long-time journal-keeper from the community to give a keynote address.

**Class Publication.** As a class, create a publication that incorporates work from all of the students' journals, such as:
- A newspaper or newsletter
- A natural history magazine
- A field guide to a particular place or season
- A collection of essays, poetry, and artwork focused on a place
- A phenology calendar that shows the common seasonal happenings of each month
- Natural history or phenology pages for a school website
- An audio or video recording that features students reading their work

Make a copy of the publication for every student, and be sure to make extras to distribute in your community. You could even sell them to cover the costs of production or to raise funds for a special field trip. Hold an event to celebrate the students' achievement, such as a public reading, a book signing, or a guided hike where students explain features of interest.
The pursuit of truth is like picking raspberries. You miss a lot if you only approach it from one angle.

- Randal Marlin -
5. Nature Journaling Activities

A nature journal is a set of lenses that helps students open their eyes and see the world around them in new ways. Changing lenses reveals different aspects of the environment and develops different skills. The activities that follow provide intellectual and emotional interaction with the environment and make use of both written and artistic forms of communication. The activities are arranged into six sections, each one a lens that offers a different perspective on the natural world.

The Six Section Themes

Sensory Awareness: Opening Your Eyes
Curiosity and Wonder: Looking With New Eyes
Observation Skills: Zooming In
A Place in Space and Time: Zooming Out
Biophilia: Looking Through Other Eyes
Reflections: Looking Within

Components of Each Section

A Quotation introduces the section theme.

The Goal explains the intended outcome of the activities in the section.

Excerpts from Students' Writing illustrate the kinds of awareness promoted by each theme.

A "Warming Up" Activity helps students start thinking about the theme and prepares them for the in-depth outdoor activities. This is a brief introductory activity that can be done either indoors or out.

"Digging In" Activities provide opportunities to head outdoors and explore the theme in depth and from multiple angles.

A page of "Exploring Further" ideas at the end of each section gives brief descriptions of additional activities to continue exploring the section theme.
Activities

Sensory Awareness: Opening Your Eyes
1. Mystery Bags.................................................. 35
2. Sound Maps.................................................... 36
3. Blind Walk.................................................... 37
4. Silent Hike..................................................... 39
Ideas for Exploring Further.................................. 42

Curiosity and Wonder: Looking With New Eyes
5. Partner Drawing.................................................. 45
6. I Wonder......................................................... 46
7. Natural Alphabets............................................. 47
8. Treasure Map................................................... 48
Ideas for Exploring Further.................................. 50

Observation Skills: Zooming In
9. Memory Game.................................................. 53
10. Close Up Drawing............................................ 54
11. Field Guides................................................... 55
12. Time Lapse..................................................... 56
Ideas for Exploring Further.................................. 57

A Place in Space and Time: Zooming Out
13. Place Descriptions.......................................... 61
14. My Place....................................................... 62
15. Phenology Calendars....................................... 63
Ideas for Exploring Further.................................. 64

Biophilia: Looking Through Other Eyes
16. Rock Pass..................................................... 67
17. New Perspectives............................................ 68
18. Animal Detectives.......................................... 69
19. Snail Trails.................................................... 70
Ideas for Exploring Further.................................. 71

Reflections: Looking Within
20. Symbolic Objects............................................ 75
21. Circle Poems.................................................. 76
22. Celebrations.................................................. 78
Ideas for Exploring Further.................................. 79
Sensory Awareness
- Opening Your Eyes -

Going out together to discover new places is the surest way to be reminded that we do not see the land with the same eyes, nor smell it with the same nose. It sings different songs to each of us.

- Gary Nabhan -
The Geography of Childhood
Sensory Awareness
- Opening Your Eyes -

Goal:
Students explore the natural world through each of their senses. They develop a keen sensory awareness of their environment and perceive its details more clearly.

I felt the wind in my hair and felt the snow crunch under my feet. ~ Jason, Grade 6
I heard birds whistling all over but didn’t see one. ~ Catherina, Grade 7
I felt cold, and the snowflakes landing on my face. ~ Vanessa, Grade 4
I felt a big tree that was wet with the dew from the morning. ~ Megan, Grade 7
I felt the leaves that were smooth in the middle, but as you moved your fingers outward the edges became jagged and not as smooth. ~ Ray, Grade 7
I walked by some whistling trees. ~ Dominique, Grade 6
I saw dark, wispy smoke-like clouds...shards of ice laying around, and also I saw the crisp light-blue sky. ~ Taylor, Grade 6
1. **Mystery Bags**

**Preparation**
Put a different natural object into each of the paper bags. Number each bag and set it up at a separate station.

**Procedure**
1. Discuss our five senses, and the fact that as humans we tend to rely most on sight. When we focus on our other senses, it can open up new dimensions of understanding.
2. Tell students you have placed “mystery objects” in each paper bag. Ask them how they could find out what is inside. They could peek in the bag and see. Sight is just one of our five senses. Is there another way to find out about the objects without using our eyes? In just a moment, they will have a chance to try to guess the identity of the objects without looking at them.
3. Divide students into small groups to travel from station to station. They should bring their journals and pencils.
4. As they move through the stations, have them reach into each bag in turn and feel the object inside. They could also shake the bag and listen to the sound it makes, or smell the object to see if that gives them any new information, but they must not look!
5. Have them write down the number at each station and some descriptive words about the object. Is it soft, hard, lumpy, smooth, squishy, silky, etc? After thoroughly exploring and describing the object, they can write what they think it is in their journal. Emphasize that they must *not* say their guess aloud!
6. After students have been to all stations, discuss each bag one by one. What words did they use to describe the object? What do they think it is? Reveal the objects and talk about how much information they were able to discover using senses besides sight. What are the strengths and limitations of each sense? Are all of our senses equally important?

**Alternatives and Extensions**
- For a more extended exercise, students could draw the object as accurately as they can based on how it feels.
- Students could also move through the stations with a partner. One partner describes to the other what the object feels like, using as many descriptive words as possible without naming the object, while the other attempts to guess what it is. For this option, you’ll want the stations far apart so that the objects’ identities aren’t inadvertently revealed too soon.
2. Sound Maps

Preparation
Choose an outdoor location with a variety of interesting sounds and an area large enough for students to spread out to listen.

Procedure
1. Explain to students that they will be making a map of the sounds they hear around them. Have them make a mark in the center of a fresh page. This represents their own location on the map. Each time they hear a sound, they will mark its location in relation to themselves. Nearby sounds are indicated close to the center mark, faraway sounds near the edges of the paper. Marks should be interpretive and quick so as not to take much time away from listening. Suggest to students that they think about the signature that different sounds would make on their paper — a wavy line for the wind, for instance, or a series of swishes and dots for birdsong. If they choose, they can add a legend to help them remember what the symbols mean.

2. Show students how to make “deer ears” by cupping their hands behind their ears to magnify the sounds.

3. Agree on a signal for starting and stopping. Tell students that they should find a listening place away from others where they can sit comfortably until you call them back. Give them a moment to get situated, then give the signal to begin listening.

4. After five to ten minutes of listening and mapping, call the group back together to share what they heard. How many kinds of sounds did they hear? Did they hear different sounds depending on where they were? What sounds did they especially like, or not like? Did any sounds surprise them or make them curious? Ask them to consider how the sounds they heard compare to what they might hear in other locations — a busy street corner, a forest, a lakeshore.

Alternatives and Extensions
- Mapping requires relatively advanced spatial skills. If your students are not ready for mapmaking, simply have them close their eyes and count how many different sounds they hear.
- Do this activity again and compare sounds in a different location, or at a different time of day or time of the year.
- Have students share the sound signatures they used. Discuss why they interpreted them that way, and why it is that people perceive the same things in different ways.

This activity is adapted from *Sharing Nature with Children II* by Joseph Cornell.
3. Blind Walk

Preparation
Find an outdoor area with a variety of sensory stimuli – trees to touch, logs to step over, evergreen needles or flowers to smell, running water, bird songs, etc. Check the area for any safety concerns (poisonous plants, broken glass, steep hills) so you can caution leaders to avoid these areas with their blindfolded partners. Then try it! Have someone guide you through the area, and make a sample map as a model for students.

Procedure
1. Take students outdoors and divide them into pairs. They should work with someone they trust, but certain pairs of best friends may find it difficult to concentrate together. Use your judgment. A fun way to divide into random pairs is to take a bucket and put in two oak leaves, two pinecones, two acorns, etc... then each student reaches in and pulls out one item. The person whose object matches theirs is their partner.

2. Pass out blindfolds, and explain that one partner will start as the leader and the other will wear the blindfold. With the leader guiding, the blind student will use his or her other senses to create a mental picture of the path traveled.

3. Model good guiding techniques. Leaders should take their partners’ hands or elbows or put a hand on their shoulders; they should walk slowly and keep their partners safe. Suggest that they keep spoken directions to a minimum (or even don’t speak at all) and stop often to soak up sensory impressions.

4. Provide suggestions for the blind partner: Listen to the sounds of the wind and the birds. Try to feel on your skin when you are walking through sun or shade. Notice what the ground feels like under your feet, and if this changes. Touch everything you can. For instance, if you encounter a tree, feel its bark: is it rough or smooth? Can you reach all the way around it? Does it have any branches low enough to reach? As you walk through grass, try to feel how long it is, and if it is wet or dry. What can you smell?

5. After ten to fifteen minutes of exploring, the blind partners can take off their blindfolds and retrieve their journals. Have them create a map in which they attempt to reconstruct their walk, putting in as many details as they can recall about each of the things they encountered on the way. (Try to have another activity to engage the leaders at this point, so they are not tempted to give their partners hints.)
6. When they think they have all the landmarks on their map in the correct order, have them try to retrace their steps with their eyes open this time. Remind them that they can still use their other senses too — if they are not sure whether it is the same tree or not, touch it and see if it feels the same! Leaders can go along, but they should give their partners a chance to try to piece the whole trail together before they tell them if they missed anything. Have them compare their maps with the actual path traveled and see how close they came.

7. When they finish, partners switch roles and repeat the activity. New leaders should be sure to take a different route.

8. When everyone is finished, gather the group together and discuss the experience. How much of the walk were they able to remember when they made their maps? Were they surprised by anything that looked different than what they were picturing in their minds? Did the path seem longer when they were blind or when they could see? Did objects seem bigger or smaller?

9. Conclude the experience by having students discuss their favorite sensory impressions from this activity. You could give them a few minutes to return to a favorite spot on their path to write or draw more about what they experienced there.

**Alternatives and Extensions**

- As a class, agree on a series of perhaps ten favorite spots encountered in this activity. Draw a map of the path to travel to get from one to the next, and give each spot a name. Write a few prompts to help others explore it, such as: “Kneel down and touch the spongy moss” or “Smell the lilac bush.” Make copies of the map and give it to another class or the students’ parents to follow.

- If time or space is limited, you could have leaders guide their partners to just one tree and back to the starting place. After drawing the tree, the previously blind partner tries to find it.
4. Silent Hike

Preparation
Plan a route for an outdoor walk. Seek out a variety of sensory stimuli along the way. Look for opportunities to experience close-up views, landscape vistas, different colors and shapes, smells, sounds, and textures. Practice the hand signs on page 40; sign language is an excellent way to give directions while maintaining a quiet mood. Make a copy of the chart on page 41 for each student if you wish to use it. If possible, arrange to take students out in small groups for the walk; a large group detracts from the quiet mood.

Procedure
1. Discuss our five senses and brainstorm a list of words to go along with each sense. For example, words for the sense of touch could include smooth, rough, warm, cool, silky, spiny.
2. Explain that you will be going on a walk outdoors in a few minutes. This is not just any walk – it is a Silent Hike. On a Silent Hike, a person uses all of her senses. She walks slowly, opens her ears, breathes deeply, and stops along the way to look closer or touch things with interesting textures. Of course, on a Silent Hike there is no talking!
3. Pass out the sensory impressions chart, or have students make their own charts in their journals. Explain that as they walk, they will record sounds, smells, sights, and textures they experience on their charts. Encourage them to use specific, vivid words and phrases. Discuss similes and metaphors, and suggest that they draw comparisons to make their descriptions even more effective: moss might feel “like a thick carpet” or leaves appear to be “dancing” in the wind. If you choose to include the sense of taste, emphasize that students should use it only when you indicate to them that something is safe to taste.
4. Teach students the signs you will use to give directions and direct their attention to interesting things while you walk. You may also want to have students rotate through the line from front to back on the walk, so that each student has a chance to be the leader. You can tap students lightly on the shoulder to indicate that it is time for the leader to step to one side, let the line pass, and join again at the end.
5. Afterward, have students write a paragraph or a poem using their descriptive words to bring the writing alive. Encourage them to help a reader imagine the experience in rich sensory detail.
Sign Language for a Silent Hike

Teach students some of these signs before you go out for a Silent Walk. You can use the signs to give directions and also to direct students’ attention to interesting sights, sounds, smells, and textures. Practice the signs together, and encourage students to use them to share their observations with you and each other. For example, if they notice something they want others to see, they can tap a neighbor lightly and use the “see” sign to show him or her where to look. Take a look at a sign language dictionary to add to your repertoire after you get these down.
Silent Hike Sensory Impressions

In each column, make a list of words and phrases that describe what you experience with each of your senses on your hike. Be as descriptive and precise as you can.

<table>
<thead>
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<th>Things We Encountered</th>
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More Ideas for Developing Sensory Awareness

**Onomatopoeia.** This delicious word means words that sound like what they describe: burble, murmur, chickadee-dee-dee! Although we already have many words that came to us from the natural world, there are many more waiting to be harvested. What is the word for the sound of your favorite bird songs, rain falling on a lake, the wind in the trees? Go out with students to listen to the sounds around you, and collect a new vocabulary given to you by nature. Then use these words in your writing.

**Natural Art Explorations.** Any of these techniques add color and texture to journal entries and provide hands-on contact with elements of the natural world.
- Press leaves and flowers in your journal, then cover the pages with clear contact paper.
- Make bark or leaf rubbings. Try a variety of trees. Use field guides to identify and label them, or just compare the different shapes and textures.
- Pain with watercolors using water from a stream, pond, or puddle.
- Make prints by dippng leaves, ferns, pine needles, and other natural materials in paint.
- Make natural paint cut of mud, pond water, or clay. Use twigs, pine needles, pinecones, and feathers for paint brushes.
- Paint a colorful design on paper, then set it out during a rainshower to be transformed. After it dries, paste it onto a journal page.
- Make collages by gluing soil, different shades of sand, flowers, leaves, and other objects onto a page. Add words to explain where the materials came from and what they mean.

**Spoken Poem.** In a place with a variety of sensory stimuli, gather your group into a circle and ask them to stand quietly for a few minutes to soak up the sounds, scents, and sights around them. Then create a spoken poem by going around the circle with each person contributing a word or phrase that describes one thing they experienced. It is fine if two people choose to say the same thing; poetry often uses repetition. The result can be quite delightful. You might even want to capture it by recording it on a tape.

**Writing Prompts.**
- What are some of your favorite sensory impressions? Write about some of the smells, sounds, sights, tastes, textures, and touches that you can remember most vividly or that bring you good memories.
- If you had to give up one of your senses, which one would it be? What specific sensations (particular smells, sounds, colors, etc.) would you miss the most after giving it up?
Curiosity and Wonder
- Looking With New Eyes -

One way to open your eyes is to ask yourself, "What if I had never seen this before? What if I knew I would never see it again?"

- Rachel Carson -
The Sense of Wonder
Curiosity and Wonder
- Looking With New Eyes -

Goal:
Students look at aspects of nature in new ways, in a spirit of discovery. They discover an appreciation for the beauty and intricacy of nature and awaken their curiosity to learn more.

I like to go on nature walks, because I can explore. ~ Emily, Grade 4

I saw mice tracks! ~ Luke, Grade 5

All of the trees I saw had ice shining on them. I'd never seen anything like it. It was really cool. ~ Julia, Grade 6

When I saw the tree I thought of it being upside down and looking at the roots. ~ Bailey, Grade 7

I was thinking of how cool everything is going to look when it's covered with snow. Also I was thinking of how many more clouds are in the sky and the difference it makes in light. ~ Jenna, Grade 4
5. Partner Drawing

Background
Careful observation and accurate, detailed description are important skills for nature journaling. This game is not only fun, it is excellent practice for descriptive writing. In order to successfully describe an unidentified object to their partners, students must be very clear and complete.

Preparation
Gather an assortment of natural objects – pinecones, leaves, sticks, acorns, driftwood, seed pods, flowers, bark, etc. Unusual or oddly-shaped objects are especially effective. Alternatively, locate an area outdoors where students can find their own objects.

Procedure
1. Hold up an object and ask students to help you describe it without naming it. Imagine someone is listening who cannot see the object, and model the kinds of details to mention: size, shape, number of different parts and how they relate to each another, whether the shape reminds them of anything.
2. Have students pair up and sit back to back. Instruct each pair to choose an Artist and a Describer. Artists close their eyes. Describers raise their hands, and you place an object in each raised hand. Or Describers could go and find their own nearby natural object or focus on a distant object.
3. Artists then open their eyes. As Describers explain the object’s appearance as accurately and in as much detail as possible, Artists try to draw exactly what they are told. Describers must not name the object or give clues about its identity; the goal is not to get the Artists to name the objects correctly, but to give them enough details that they are able to draw this particular stick, or pine cone, or rock. Artists can ask questions if needed.
4. When a pair finishes, they switch roles with new objects.
5. Afterward, have them compare the drawing and the actual object. How well do they match? Discuss what kinds of words or phrases the Describers used that Artists felt were especially effective. Which job was more difficult? Do they notice more about the object after trying to describe or draw it? Discuss the importance of being very clear and very descriptive so that your partner can see in his or her mind what you see in front of you, and relate this to writing descriptive journal entries.
6. I Wonder...

Background
Curiosity is fundamental to the outlook of scientists and naturalists. The world is full of things to wonder about, and the first step to learning something new is to ask a question. An excellent beginning for this activity is one of those spontaneous events that prompts lots of questions from your students: a rare animal sighting, a dramatic weather event, a new object in the classroom, an intriguing book or article on a topic that interests them. You could wait for this to occur, or orchestrate it yourself by revealing something unusual to the group.

Preparation
Gather an assortment of the following items for sparking curiosity and encouraging independent research: an assortment of natural history reference materials such as books, posters, magazines, and field guides; natural artifacts; photographs; magnifying glasses and/or a microscope. Designate a place to keep these materials where students can access them readily.

Procedure
1. If students need some prompting to spark their curiosity about aspects of the natural world, give them time to explore outside or peruse the materials you have brought in. If an event has already generated excitement and questions, skip this step.
2. Have students open to a fresh page in their journals and write “I Wonder.” Then ask them to write down several questions they have about something in the outdoor environment.
3. Encourage students to continue adding to their list of “I wonder...” questions. Whenever new questions pop into their heads, as they are working on other activities in their journals or just exploring outside during free time, they can jot these down. In addition to scientific questions, it is fine to include questions that are simply musings without an answer.
4. Have students select one of the questions to which they think they could find an answer, and investigate it using reference materials, their own observations, or a combination of both. Keep the reference materials accessible so they can work independently on their research when they have time.

Alternatives and Extensions
- When students have a list of both scientific and imaginative questions, create a poem with the theme “I wonder...”
7. Natural Alphabets

Background
Kjell Sandved’s picture book *The Butterfly Alphabet* is a remarkable collection of close-up photographs of butterfly wings with patterns that resemble each letter of the alphabet. *ABCs Naturally* by Lynne Diebel and Jann Kalseheur depicts the alphabet in photographs of a variety of natural objects. Both are excellent examples of creative thinking and close observation of the patterns of nature.

Preparation
Choose an outdoor area to take students to search for letters. You could go to a central location, set boundaries, and let them wander, or walk slowly as a group as the changing scenery presents new views.

Procedure
1. Explain to students that a nature journal is a way to see the world with new eyes. Show them *The Butterfly Alphabet* and/or *ABCs Naturally*. Suggest that they can try to see the world this way too. When we look for them, we can find letters hiding in many of the patterns of nature—tree bark, branches, leaves, clouds, mud cracks, shadows. Point out several examples to get them started.

2. Have students search for the letters in their first names. They will need to look both up and down, think big and think small. You can tell them they can look at both natural and human-made patterns, but specify that they must be “found” letters, not real letters printed on a sign, a license plate, or someone’s shirt! Making the letters themselves does not count either. They should draw each letter they find in their journal, making sure to draw it accurately the way it appears. They could also make notes about where they found each letter.

3. Afterward, invite them to share their favorite discoveries and discuss the process. Were they surprised at how many letters they found once they started looking?

Alternatives and Extensions
- For a bigger challenge, have students hunt for the whole alphabet.
- They could also use digital cameras to take pictures of the letters they find.
- Follow up this activity by having students create a finished piece of art from their sketches, or make a cover for their journal.
8. Treasure Map

Preparation
Identify an area to do this activity. Copy the prompt cards on page 49 if you wish to use them, and/or gather paint sample chips in a variety of colors from a paint store.

Procedure
1. Explain to students that they are about to go on a treasure walk. What kind of treasure do you find on a treasure walk? You never know! You simply open your eyes and see what new, unexpected gifts are given to you by the world. It could be anything... a spiderweb sparkling with dewdrops, a deer track in the mud, a blooming flower, a tiny green bug.

2. Divide students into pairs or small groups, or have them work alone. Explain what you want them to look for. For younger students or those who would benefit from extra focus, hand out the prompt cards to guide their searching. You could give a whole set of cards to each individual or group, or assign specific categories to different groups. You could also pass out paint sample cards and challenge students to find a natural object that matches its color precisely.

3. Establish the following guidelines: Walk slow. Make a map of the path you follow. Whenever you see something unexpected or new or exciting (treasure!) mark your discovery on your map.

4. Model the mapping process for students so they understand how it works. Show them how to make a legend or label the features on their map. If you wish, discuss how to use a compass to add cardinal directions to a map.

5. Tell students how long they have to work, and establish boundaries. Circulate as they work to offer further guidance.

6. When students have finished their maps, give them time to share their discoveries with one another. They could lead a partner to favorite finds, or simply describe them to the group.

Alternatives and Extensions
- Have individuals or groups choose one treasure that they particularly liked and make a detailed map to it, marking the starting location and landmarks along the way. Then they can exchange maps and follow them to each other's treasure.
# Treasure Map Prompt Cards

<table>
<thead>
<tr>
<th>Collect Textures</th>
<th>Touch Everything</th>
<th>Can you find something in every color of the rainbow?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can you find something soft, hard, smooth, rough, silky, fuzzy, prickly, warm, cool...</td>
<td>Imagine you have never touched ANYTHING before. Feel grass, leaves, trees, rocks, soil as if for the first time.</td>
<td>Red-Orange-Yellow Green-Blue-Purple Black-Brown-Gray-White</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>△</th>
<th>○</th>
<th>□</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look for something that is a TRIANGLE</td>
<td>Look for something that is a CIRCLE</td>
<td>Look for something that is a SQUARE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Find Something Beautiful</th>
<th>Follow Your Nose</th>
<th>Close your eyes and listen. What do you hear?</th>
</tr>
</thead>
<tbody>
<tr>
<td>🍃</td>
<td>How many different smells can you find? Which one is your favorite?</td>
<td>Search for the source of the sounds.</td>
</tr>
</tbody>
</table>
More Ideas for Discovering Curiosity and Wonder

Folk Tales. Share with students several folk tales or myths that explain how things in nature came to be the way they are. Discuss story-telling as a traditional technique that people have used for centuries to understand and explain the world around them. You may want to discuss the scientific explanations for those phenomena as well. Then invite each student to look for something in nature that they find intriguing. Why is the cardinal so bright red? Why does a beaver have such a flat tail? Why does that aspen tree in the yard have four separate trunks? Ask them to write a story explanation that describes how this came to be. Sit around a campfire (with real flames or imaginary ones) and tell your tales to each other.

Solo Sit. This works well in a wooded area where birds and squirrels chirp and scurry, or near a pond where frogs call and dragonflies swoop, or any other natural place where there is usually a flurry of activity. Go out with your students and have each member of the group find a quiet place and make him- or herself comfortable there. Notice how your arrival may have disturbed the animals around you. Did the birds stop singing or the chipmunk scurry into its hole? If you sit very still and silent, you can watch the world come back to life around you. Animals will resume their activities, and you may even be lucky enough to get a close-up look at one. You will start to notice other things, too, the longer you sit – the wind in the trees, the buzzing of insects, the way the sun feels on your skin. Documenting this change makes an excellent journal entry.

Natural Sculpture. Collect a variety of interesting natural objects from the immediate vicinity: driftwood and rounded stones near a lake or stream, fallen leaves and sticks from a forest, last year’s grasses and seed heads in a meadow. Arrange them into a sculpture right there on the ground. Give the sculpture a name, and decide what it represents. You have made a three-dimensional, all-natural, wordless journal entry! Take a picture of it if you like, and then return from time to time to watch its progress as it returns to the earth. For inspiration from a master of this technique, look for books by Andy Goldsworthy at your library.

Writing Prompts.

- Imagine that you have shrunk to the size of a mouse. Look around you at the trees, the grass, the trails or sidewalks, and the buildings. What does your world look like? Where would your house be? What kinds of dangers would you have to look out for? Where would you play? Where would you go to rest?
- Go outside and look at something – a tree, a cloud, a blade of grass – as if you have never seen anything like it before in your life. Describe it, and give it a name. Do you like the way it is shaped, its colors, or the sound it makes in the wind? Does it remind you of anything? Could you use it for something?
Observation Skills
-Zooming In-

We do not describe the world we see; we see the world we can describe.

- John Searle -
The Artist's Way
Observation Skills
- Zooming In -

Goal:
Students sharpen their skills of observation, zooming in on the details, patterns, cycles, and changes in nature. They come to recognize the biodiversity and ecological processes at work all around them.

I saw a lot of trees, some hardly up to my knee. I also saw loads of fallen leaves. ~ Hannah, Grade 4

I saw snow! Something I didn't see on our first walk. ~ Julia, Grade 6

I thought how cool it is that God made it so we could still see the moon in the day. ~ Austin, Grade 7

There were trees with no leaves, but then had little piles of leaves which I assumed were nests. ~ Beth, Grade 8
9. Memory Game

Preparation
Arrange an assortment of natural objects on a tray. Ten to twelve objects works well – leaves, twigs, stones, flowers, seeds, pinecones, etc. Cover the objects with a bandana.

Procedure
1. Gather students in a circle on the floor. Place the tray with the covered objects in the center of the circle. Make sure all students can see the tray. Explain that they will have one minute to look at the objects and try to remember as many as they can. Reassure them that this activity is just a workout for their memories; they won’t be graded on how well they do!
2. Uncover the objects. After a minute, cover them up again. Pass out pencils and paper, and have students write down or draw as many of the objects as they can remember.
3. When they have finished, ask volunteers to name objects one at a time. Discuss the students’ strategies and success. How many made a list of items? How many drew them? Did anyone make a map of where each item was? This is an excellent illustration of how we all approach a challenge in different ways. Was it easy to remember all the objects? Do they think they could improve their performance with practice?
4. Discuss the importance of observation. How do scientists use close observation? Artists? Others? Nature journaling is one way to practice these skills. A journal can help you sharpen your observation skills and notice more of what’s around you, and it can also help you remember more of what you see.

Alternatives and Extensions
- A more involved, outdoor version of this activity is an effective way to begin and end an extended nature journaling unit. Before doing any other activities, take students on a short walk around the schoolyard without asking them to notice anything in particular. When you return, give them a blank sheet of paper and ask them to draw and label as many things as they can remember from the walk. You could also have them write a few sentences about what they experienced. Do the same thing at the conclusion of the unit. Pass back their work from the beginning, and ask them to compare the two. Did they notice more the second time? Does anyone feel she or he has become more observant? This is an excellent way to help students recognize the value of journal-keeping for enhancing observation and recall skills.
10. Close-Up Drawing

**Preparation**
Choose an outdoor area where students can search for small objects to draw: flowers, leaves, seed pods, rocks, lichens, moss, or insects, for example. They could also use small parts of larger objects, such as the bark on a tree, or a section of the ground. If you cannot go outside, bring an assortment of objects into the classroom and arrange them so students can choose one they find intriguing. Gather hand lenses and jar lids to distribute to students.

**Procedure**
1. Have students trace around a jar lid to make a circle in their journal. Give each one a hand lens or magnifying glass. Show students how to hold the hand lens up to their eye and then bring the object closer and closer until it comes into focus.
2. Send them on a search for a small object to draw, or have them select an object from your collection. After they have carefully observed the details of their objects, they should draw exactly what they see in the lens inside the circle on their journal page.
3. Encourage students to add written notes to describe what they see. Suggest that they make a sketch of the whole object and then indicate how their magnified circle fits into the bigger picture. Encourage them to write down any questions that occur to them while they draw. (You could begin the “I Wonder” activity on page 46 while doing this activity.)
4. Those who finish first could exchange objects with someone else and make a second drawing while others are still working, or look for answers to their questions.
5. Discuss with students the kinds of details they noticed about their objects as they drew. What did they discover by looking closer? What did they see that made them curious? Ask them to share some of their questions, and discoveries.

**Alternatives and Extensions**
- Start this activity by bring in close-up photographs of various objects and having students guess their identities.
- After students make their drawings, set up a display with the objects and the drawings, and let students try to match each drawing with its corresponding object.
11. Field Guides

Background
This activity is best introduced after students are familiar with journaling and have begun to develop their curiosity about particular aspects of the natural world. A wealth of information on natural history is available in field guides and reference books, as well as in popular science magazines and on the Internet.

Preparation
Collect an assortment of field guides and reference materials from the library. Make a list of potential topics that relate to the natural history of your area.

Procedure
1. Have students choose a subject they find interesting to investigate in more detail. Are they especially tuned into birds, or wildflowers, or the weather? Brainstorm a list of possibilities for those who need help selecting a topic. It should be one they can make direct observations about outdoors at school or at home.

2. Once they have chosen a topic, explain that they will become an “expert” in that subject and the author of a field guide to it. Show students examples of field guides, and have them dedicate a section of their journals to become their field guide. It should include their own observations, sketches and/or photographs, and information found in books. Encourage them to write down questions sparked by their observations, and then use those questions to guide their research.

3. Post a list of each expert’s topic. Encourage students to use their classmates as resources when they have questions that relate to someone’s field of expertise.

Alternatives and Extensions
- Look at Kristin Pratt-Serafini’s Salamander Rain: A Lake and Pond Journal for examples of field guide type journal entries.
- Make copies of each student’s field guide pages, or have them each take their best information and create one polished page. Compile these all together into a class field guide to your area.
- When students have fully investigated their topics, hold a conference where each student presents what she or he has learned to the rest of the group.
12. Time Lapse

Preparation
A time-lapse video of a seed sprouting or a flower opening is an excellent way to introduce this activity and generate interest. If you have access to one, cue it up to show students. Consider locally and seasonally appropriate subjects, and choose your own time-lapse process to follow.

Procedure
1. Show students some time-lapse photography. Or have them close their eyes while you describe a vivid series of images: a bare patch of soil in the snow; a tip of green poking up; a leaf unfurling, a stalk growing upward; a bud forming, swelling, darkening; a bright yellow crocus blooming!

2. Give students a chance to describe other amazing time-lapse sequences they have seen. Then, employing a bit of drama and mystery, reveal that these kinds of things happen outside the window every day.

3. Take students outside to select a location where they can follow a process over the course of several days to several weeks. Each time they go out to observe their phenomenon, they should note the date and time, make a sketch of what it looks like (using the same scale and perspective each time), and record any other observations.

4. After making their final entries, have students refer to their notes to describe what they observed to classmates. Discuss the process. Did they enjoy it? Did they make any discoveries? Did anyone notice something unexpected or surprising? What is the value of these kinds of close observations? Who uses them?

Alternatives and Extensions
- In addition to sketches, take photos of the subject’s progress.
- Use the notes and sketches to write a detailed description of explaining the process observed.
- Use sketches or photos to create a polished piece of artwork that shows the whole sequence in color and detail.
- Assemble a flip book of photos or sketches to view the process at fast-forward speed.

<table>
<thead>
<tr>
<th>Time Lapse Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>A bud opening into a leaf</td>
</tr>
<tr>
<td>A flower blooming</td>
</tr>
<tr>
<td>A fern unfurling</td>
</tr>
<tr>
<td>Fruit or seeds forming</td>
</tr>
<tr>
<td>Snow accumulating</td>
</tr>
<tr>
<td>A snowpile melting</td>
</tr>
<tr>
<td>A lake freezing or thawing</td>
</tr>
<tr>
<td>A dead plant or animal decomposing</td>
</tr>
<tr>
<td>A moon cycle from full to new and back to full</td>
</tr>
<tr>
<td>The stars moving across the sky in one night, or through the seasons</td>
</tr>
</tbody>
</table>
Insider’s View. Take students out to collect plants. Be sure to choose something common and abundant. There is rarely a shortage of things like plantain spikes, clover flowers, or dandelion seed heads! Bring back the plants and dissect them. Study them carefully, as scientists. Use a magnifying glass. Count the leaves or petals, break open seeds, note characteristics such as stem shape, leaf shape, texture, and color. Record your observations in words and sketches.

Observation Window. Designate one window in the classroom as the observation window. Put up bird feeders and corn for the squirrels outside it. Set up a rain gauge, a thermometer, and a wind vane. Keep field guides handy. Post a list where observers can write down what they notice. How many different species of birds visit the feeder? What kinds of clouds do you see in the sky? Keep track for a month of how many days are sunny or rainy, or graph maximum and minimum temperatures. Post your classroom phenology calendar nearby (see page 63).

Frames. Cut windows in different shapes and sizes of cardboard, and have students use them as frames to focus intensely on small pieces of the big picture. Encourage them to try a variety of views: close-up sections of tree bark and flowers; a square patch of soil or leaf litter; a view of the sky; a wide-angle vista of the horizon. Capture a view in a haiku poem: three lines of five, seven, and five syllables. Students could write a whole series of haikus, one for each of their favorite views, and then transcribe them around the edges of the frame.

Temporary Entries. On a sandy beach, a muddy sidewalk, or a snowy field, find a pointed stick and write a sentence about the place, the day, or your own feelings. If it’s a place where others seldom go, return each day and watch as your undisturbed words slowly fade away. You could even take a series of photographs, or sketch the process. If you choose to write your sentence in a place where lots of people pass by, watch them instead. Make yourself inconspicuous on a park bench with your journal, and keep track of how many people stop to read what you wrote. You could even give them instructions. “Look up at the clouds!” or “Step and take a deep breath of the fresh spring air!” See how many people follow your suggestion.

Writing Prompts.

- Think back to when you were very young. How has your neighborhood or your town changed since then? Were there other changes before you were born that your parents or grandparents talk about? What could you do to help your town change in good ways?

- In general, do you think kids or adults are more observant? If you think kids are, why do you think adults stop noticing as much as they get older? If you think adults are, how do you think they develop that skill?
I do not know whether it is possible to love the planet or not, but I do know that it is possible to love the places we can see, touch, smell, and experience.

- David Orr -

_Earth in Mind_
A Place in Space and Time
- Zooming Out -

Goal:
Students consider the unique features of their place through different spatial and temporal scales, zooming out to view it in a broader historical and regional (even global) context. They feel a sense of place: a connection with and care for the place where they live.

I saw "my tree". I got attached to my tree. ~ Brook, Grade 4
I thought that the wind talked to me. ~ Kirstie, Grade 3
When I was walking I thought I was in heaven. I thought the forest was very butufle and wonderfule. ~ Shannon, Grade 3
It was very beautiful outside. The sun shown just right. I saw an empty soda bottle. Someone should have picked that up. ~ Alexandria, Grade 6
13. Place Descriptions

Preparation
Read through the passage at right from Aldo Leopold, select another from a favorite author, or (even better) write one yourself about a meaningful experience.

Procedure
1. Have students close their eyes while you read a passage that evokes the rich details of a particular place and time. Ask what kinds of images they saw in their minds. Where was it? What season was it? Can they imagine what it feels like to be there?
2. Ask students to think of a place and time in their own lives that they remember clearly. Prompt them with questions to help them recall specific details. What was the weather like? What did you see, hear, and smell around you? How did you feel? Have them write a paragraph where, instead of naming the time and place of their memory, they give sensory clues that will transport a reader there with their words.
3. When they finish writing, have them read their descriptions to a partner or the class. The audience can give their impressions at the end. What images did they see? Where was it? What time of the day and year was it? Ask them to be more specific than just spring, summer, winter, or fall: was it the early fall of brilliant colors and crisp air, or late fall when the leaves are dry and brown on the ground and the sky is cold and grey? Discuss what kinds of things made the descriptions most effective. Encourage students to include these same kinds of sensory clues in their future journal-writing.

Alternatives and Extensions
- After listening to and discussing the students’ descriptions, have them revise their piece into a polished product.

"The geese weave low over the marshes and meadows, greeting each newly melted puddle and pool. Finally, after a few circlings of our marsh, they set wing and glide silently to the pond, black landing-gear lowered and rumps white against the far hill. Once touching water, our newly arrived guests set up a honking and splashing that shakes the last thought of winter out of the brittle cattails. Our geese are home again!"

- Aldo Leopold
"March" in A Sand County Almanac
14. My Place

Preparation
Find or make a map of the surrounding area to mark students’ places. Create guidelines about what you would like them to do when they visit their place. You may want to have specific exercises for each visit, or general instructions for all visits.

Procedure
1. Have students choose a place in nature to visit regularly over a period of time (for example, each day for a week, each week for a month, each month for whole school year). It need not be a spectacular location; the best places are those that are accessible and easy for students to visit frequently. Each student could choose a different place, or even an individual tree, in the schoolyard to call their own. They could also do this activity after school hours in their own neighborhood.

2. Mark each student’s place on a map. Encourage them to give it a name. Provide them with guidelines about what to do when they visit their place such as: record the time, the date, the weather, their observations, and changes they note from the last visit. Encourage them to record what they see, hear, touch, and smell there. Have them make a map of the site.

3. Many of the skills students have practiced in other activities can be done here. Try to provide opportunities to explore their places at different times of the day and different seasons of the year. If possible, they could even visit their site at night, or watch a sunrise or sunset there. Encourage students to look at their place from different perspectives (close-up, wide angle) and consider their place through time. How did it come to be here, and who else (people and other animals) spent time here?

4. At the end of the exercise, have students review the observations they made in their place and look for a story there. Have them reflect on what they learned in their place, and hold a guided tour where each student takes the class to his or her spot — physically or by way of an imaginary field trip — and tells the story of what is special about it.

Alternatives and Extensions
- Take a photo of students in their places (perhaps one in each season) that they can add to their journals.
- For additional ideas for exploring a place, see Joseph Cornell’s *Journey to the Heart of Nature*, which provides an excellent series of activities for regular visits to a chosen place.
15. Phenology Calendar

Background
Phenology is the recurring phenomena that indicate the changing seasons – temperature, wind speed, cloud cover, precipitation, time of sunrise and sunset, moon phases, animal sightings, migration and hibernation, plant growth, leaf drop, frosts, first snowfall, etc. By recording the dates when these phenomena occur, you create a picture of your place through the seasons. If you keep good records from year to year, you can make comparisons and look for patterns.

Preparation
Create a class calendar for students to record their phenology observations. This can serve as an example to help students create their own phenology pages in their journals.

Procedure
1. Introduce the concept of phenology to students. How do they know what season it is right now? What signs tell them? How do they think these changes affect other animals and plants?
2. Explain that phenology means keeping track of clues about the changing seasons and how plants and animals react to them.
3. Show them the calendar you have made, and encourage them to add their own observations over the course of the school year. Discuss the value of these records when they are kept over long periods of time. For example, scientists have used long-term records of ice-on and ice-off dates on northern lakes to study global climate change.
4. Have students incorporate phenology pages (perhaps one for each month) in their own journals.

Alternatives and Extensions
- If you collect data year after year, have students draw comparisons. They could represent temperatures, precipitation, and other patterns graphically and calculate averages over time.
- Make index cards with pictures of common phenological events, such as the first snowfall, lakes freezing, the first returning robin, the first thunderstorm, dandelions blooming, etc. Tie a string across the classroom, and use clothespins to hang each card on the string when you observe that event. You will have a visual display of the chronological progress of the seasons. Write the date that the event occurs each year on the back of the card.
More Ideas for Exploring Perspectives on a Place

**Phenology Penpals.** Connect with a class of students in a different part of your state, country, or even the world. Exchange observations about what is happening in the places where each of you live. Compare your places. How are the seasons the same or different? How does their weather compare with yours? What kinds of animals do they see, and what kinds of trees or flowers are blooming? Can you make any conclusions about similarities and differences between your place and theirs? Can you find connections between them, such as birds that migrate through both places, a river that flows from one to the other, or storms that affect both?

**Brainstorm Place Poetry.** This is a good way to introduce poetry to a skeptical group. It’s a bit like the magnetic poetry you find on refrigerators in many homes these days. Low-pressure, fun, and every now and then something profound emerges. Choose something of significance in your neighborhood – an old, gnarled tree, a river or stream, a hill where people go to watch the sunset. Go there, and sit where everyone can see this thing. Take along a big sheet of paper or a whiteboard. As you observe, ask students to call out words that come to mind. The words could describe what this place or thing looks like, smells like, sounds like, or feels like. They could also be about what it represents, or how it makes you feel. Write down the words, and when the storm of ideas subsides, post the board where everyone can see it. Students then arrange some of the words into their own poems. Haiku is a good form for this: three lines with five, seven, and five syllables each. Or let it be free-form. Either way, the word list tends to jumpstart the process.

**Close Up/Wide Angle.** Imagine your place from contrasting perspectives. What do tourists see when they pass through for a day or two? What does a long-term resident see? What does a tree see that has been rooted in the same place for a hundred years? What does a Canada goose see as it stops by on its way north in the spring? Try making some sketches that show these different views. Don’t be afraid to use humor! Perhaps for the tourist, there is nothing but a highway, a few motel signs, and an ice cream store. The goose may see a great big pond to land on, with all the houses and streets tiny and insignificant around it. Now think about what you see when you look at your place. What stands out? What details do your eyes simply pass over?

**Writing Prompts.**
- What are the names of some of the places in your neighborhood? Do you or your family or friends have made-up names for any places? Why did you choose them? Does it matter if a place has a name, or what it is?
- Think about each of the seasons in the place where you live. What are some of the sights, sounds, and smells that tell you a new season has arrived? Do you have a favorite season? What do you like about it? Would you ever want to live in a place where the seasons are different?
Biophilia
- Looking Through Other Eyes -

We cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well - for we will not fight to save what we do not love.

- Steven Jay Gould -
Goal:
Students learn to recognize other species that share their place, investigating their lives and imagining the world from their unique perspectives. They feel empathetic toward other living things and understand that their own lives are enriched by biodiversity.

I saw a bird on a branch. The bird looked cold. ~ Richie, Grade 6
I thought about what it would be like to be an animal and have your home be gone when people throw trash and wrappers on the ground.
~ Ashley, Grade 6
I chose to be an owl and wrote about what the owl thinks as he hunts.
~ Grade 6 Student
I was a bush. I wrote a letter to me from my bush explaining what it can see, smell, hear and other interesting things.
~ Grade 4 Student
16. Rock Pass

Background
Empathy is the ability to imagine life from another’s perspective and identify with that other being’s feelings. This activity helps students practice this skill in the context of a sensory game.

Preparation
Find a place outdoors where students can hunt for their rocks, or collect enough rocks yourself for each student to have one.

Procedure
1. Have students hunt for a special rock, or let them select one that appeals to them from your collection. Gather students into a circle. If your group is larger than ten or twelve, two smaller circles will work better.
2. Ask students to explore their rock very carefully. What is it shaped like? What does it feel like when they roll it between their hands? Rub it on their cheek? How heavy is it? Does it have its own smell?
3. Once they know their rocks well, collect the rocks and put them into a bag or box. Ask students if they think they can identify their own rocks without using their eyes. Pass out blindfolds or have students close their eyes. Begin passing rocks around the circle one by one.
4. Tell students that they should carefully feel each rock. If they think it is their own, they can put it in their lap. If not, they should continue passing it to their right. Walk around the circle and keep an eye out for any rocks that may get dropped along the way. When passing stops and everyone has a rock, give the eyes-open signal. Give them a chance to swap if they didn’t end up with their own, or play another round.
5. Now ask students to imagine what their rock might have thought of the adventure it just had. Did it enjoy being passed around? Was it worried that it wouldn’t be claimed? How did it feel when you found it again? After they have had time to write down their rock’s feelings in a story, give them a chance to share their stories with one another.

Alternatives and Extensions
- Combine this activity with a study of the geologic history of your region. Encourage students to consider the whole of the rock’s life history, and include in their story the many other adventures it has had.
17. New Perspectives

Preparation
Do this activity yourself before you introduce it to students. You can then share your entry with them. Modeling will help them understand the idea of perspective, which can be challenging.

Procedure
1. Read Byrd Baylor’s *The Other Way to Listen* or another book that describes life from a different perspective. Ask students if they ever wondered what the birds were whistling about, or what that chattering squirrel was trying to tell them, or if even the wind might have something important to say.

2. Outdoors, have students spend some time investigating the things that are part of their environment. They should choose some other being (a plant, an animal, or some other part of the environment like a rock, a stream, or a cloud) whose story they’d like to tell.

3. Have them imagine seeing the world through the ‘eyes’ of that being. Encourage them to see what the world looks like from that vantage point – get down on their bellies with their noses on the ground if they’re writing as an ant or worm, lie down on their backs and look up at the sky if they’re a bird.

4. In order to take on the identity of the being they chose, they will need to make a leap of imagination. Challenge them to imagine what it would really be like to experience the world as this other being. How do you feel? What does a day involve? Who do you interact with? How do you experience the passing of time (slow or fast)? What makes you happy or sad or worried or excited? What is your job? (That is, your role in nature?) What would happen if you missed work for a day?

5. Encourage them to create a distinctive voice for their character and write with that voice. Their accounts could take a variety of forms – for example, a first-person narrative, letters, a picture book, or a conversation between two beings.

6. Have students share their accounts with the group. Discuss the different perspectives they chose. How does perspective affect the way we see the world? Is anyone’s version more “true” than anyone else’s? Did anyone find a connection between themselves and the thing they wrote about?

Alternatives and Extensions
- Have students revise their stories into a polished version and type or write them neatly. Then have them draw a picture of the “author” of the story and display their final products.
18. Animal Detectives

Preparation
Familiarize yourself with common animal tracks and signs (see the bibliography for resources). Do a preliminary search for animal signs in the area. You can use your finds to help guide students to make their own discoveries.

Procedure
1. Discuss with students the kinds of signs that tell us about where animals have been and what they have been doing: tracks and trails, fur or feathers, scents, sounds, scat, chewed leaves or bark, holes or nests. Have students noticed any clues left by the animals who call their neighborhood home?

2. Discuss how detectives discover clues. They have to look very close, and they often focus on patterns or things that are out of the ordinary. Even the smallest detail may be significant. They also need to be quiet and sneaky. In order to find animal signs, students will use these same skills.

3. Outdoors, pass out hand lenses and establish boundaries. Emphasize that they must keep track of their findings in their journals. Give examples of careful observations: what did you see, precisely where did you see it, and what else was nearby? Encourage them to illustrate their writing with sketches and use field guides to help with identification.

4. Send students out as detectives on the trail of animal signs. Remind them not to step on tracks so that others can see them. Be sure they look for other signs too. Encourage them to consider what the animal was doing, how long ago, and why.

5. After 15-20 minutes, regroup and have students share their observations. What kinds of signs did they find? What do they think the animals were doing? If anyone found something especially interesting, invite them to show the group.

6. On a large sheet of paper or whiteboard, make a map of the area students just explored. Using their notes, students can add the tracks and other signs they found in the appropriate locations. Then take a look at the big picture. Do you see any patterns? What conclusions can you draw about what kinds of animals live here and how they spend their days? Record the group’s conclusions and speculations, and make further observations in the days to come to see if these are verified.

Alternatives and Extensions
- Divide the area into sections, and have groups of students work together to map each section, then combine the maps.
19. Snail Trails

Preparation
Do a preliminary search for small creatures in the area. You can use your finds to help guide students to make their own discoveries.

Procedure
1. Discuss animal homes with students. All animals (including humans) have the same basic needs: food, water, shelter, and space. These constitute habitat. How do our homes and neighborhoods provide these things for us? How do other animals meet these needs?

2. Ask students what kinds of animals might use the nearby area for habitat. They have likely seen squirrels, rabbits, and birds, perhaps even raccoons or deer or foxes. But even if we don’t see any animals outside, there are many other, much smaller, creatures here all the time – insects, spiders, snails, slugs, and worms, for example. Their homes are much smaller too, although they still provide all the same basic needs.

3. Explain to students that they will be visiting one of these small creatures in its home. Of course, as a guest, they will be on their best behavior and will treat their host’s home with care. Distribute hand lenses and establish boundaries and expectations. Students should observe, but not disturb, the animals they find. Be aware that on sunny days hand lenses can be used to cause burns or start fires. Let students know that if they choose not to use the hand lens respectfully, they will lose the privilege.

4. Send them out with their journals to search for a very small animal. A good guideline for size is no bigger than their thumb. If they are having trouble finding one, suggest that they gently turn over rocks and logs or look under woodchips or between the cracks of the sidewalk.

5. Once they find a creature, they should spend 10 to 15 minutes quietly observing its movements and drawing a map of its path. Have them include in their map any obstacles or other creatures it encounters in its travels. Encourage them to note their own feelings as they watch it, and also note what they think the creature might feel about being watched.

6. After 15 minutes, have students return any rocks or logs they have moved. Regroup and let them share their observations and the maps they made. Discuss the kinds of animals they found and how many they were. How do their homes provide their basic needs? What is their role and importance in the natural world?
More Ideas for Finding a Connection with Living Things

Species Lists. Have students start a list in their journals of all the different species of plants and animals they encounter. Look up unfamiliar ones in field guides, or ask teachers, neighbors, or parents who are interested in the outdoors to help you identify them. If you cannot find out what they are, describe them and make up your own names for them.

Feathered Friends. Put up a bird feeder outside the classroom and observe the birds who visit. Start a class journal page where you keep track of your observations about what the different species look like, how they move around, whether they seem calm or nervous, if they come alone or in flocks, and how often and at what time of day they come. Often the same birds will come back again and again. Can you distinguish any individuals? Once you start to recognize them, give them names to help you keep track of them.

Graffiti Wall. Cover a wall with newsprint. Give students markers and crayons and let them cover it with writing and drawing – but all in the voices of other-than-human species who share your place (or other things like rocks, lakes, rivers, soil, and sky). What kinds of messages do students think they might they want to leave for us?

Live Performance. Have students write a monologue in the voice of another animal or plant, or a conversation between two characters (see New Perspectives on page 68). Make masks, costumes, or puppets to represent the animals. Then give a performance where students do dramatic readings, act out their pieces in a play, or present a puppet show.

Writing Prompts.

重返 You could talk to any wild animal or plant and you knew it would understand you, what would you choose to talk to? What would you say? What questions would you ask? Is there anything you think it might want to ask you?

What are your favorite and least favorite animals? Is it our job as humans to try to prevent other animals from becoming extinct? Are all animals important, whether we like them or not? Are there any animals that you think the planet would be better off without? What might happen if we removed them?
Reflections
- Looking Within -

October Celebrations

- October 5 -
The first snow! We race out to celebrate, and soon find ourselves careening down the trail, our feet light with the exhilaration of this annual magic.

- October 12 -
Slept out under the full moon. A warm, misty night, the forest bathed in bright moonlight.

- October 28 -
An incredible show of Northern Lights. Shimmering green curtains dance across the northern sky, with bright stars behind and an awed hush draped over the crowd outside the West Dorm.

The act of recording a life...is also the act of creating a life.

- Hannah Hinchman -

A Trail Through Leaves
Reflections
- Looking Within -

Goal:
Students engage in a personal dialogue in which they consider and clarify their own thoughts and feelings about their place in the natural world. They develop strong critical and creative thinking skills, a deeper awareness of their personal values, and a personal voice in which to express their views.

It felt very relaxing outside. I wish we could have stayed longer before we came back in. ~ Caitlin, Grade 8

I felt alone and quiet and at peace with nature. ~ Aaron, Grade 8

I felt the air, wind, grass and trees. I thought about would we be able to live here without any of this? ~ Katie, Grade 7

I thought how much effort God must have put into making a world so beautiful. ~ Jim, Grade 4
20. Symbolic Objects

**Preparation**
Collect an assortment of natural objects, photographs of scenes of the natural world, and poetry or excerpts of writing about nature. Place them on desks around the classroom or in a circle outside or on the floor.

**Procedure**
1. When students enter, ask them to walk around and pick up the objects, look at the images, and read the words. After everyone has had a chance to circulate throughout the room, ask them to sit down beside something that speaks to them.
2. Give them a few minutes to write about what they chose, and why it is significant to them. More than one student can choose the same object, but they should do their writing individually, without talking.
3. Then go around the circle and invite students to share the reasons for their choices with the class. What does the object represent? Is it like them in some way, or does it remind them of something that is important to them?
4. Discuss how each one of us carries a different set of experiences and interests and ideas with us everywhere we go. They have just gotten a glimpse of what is below the surface of each member of the class. Explain to students that nature journaling is an opportunity to explore their own interests and ideas in greater depth, and to use their own unique outlook to communicate what they see and how they feel about it. It is also a chance to find out more about the interests, abilities, and ideas of their classmates, if they choose to share them with each other.

**Alternatives and Extensions**
- Instead of bringing in objects and pictures yourself, ask students to bring something from home that represents them.
- Do this activity outdoors, and have students search for an object or a process in nature that can serve as a metaphor for something important in their own lives.
21. Circle Poems

Background
Interdependence is an important concept in ecology. Plants, animals, water, air, and earth are all connected to each other in some way. The water and air that sustain us, the food that nourishes us, and the materials we use for shelter and clothing all are linked in complex cycles. Each link reinforces our dependence on and relation to other things. This activity encourages students to find ways to explore and express their connection to other parts of the world.

Procedure
1. Discuss the ecological concept that all things are connected, and that these connections form circles and cycles of interdependence and interrelation. Ask students to brainstorm a list of all the different parts of our environment (specific animals and plants, air, water, soil, rocks), and then draw lines linking things that depend on one another. Both literally and figuratively, we are all formed from pieces of everything else that has come before us.

2. Read the excerpt from N. Scott Momaday’s poem “The Delight Song of Tsosie-Talee” on page 77. Ask students for their reactions. What images were especially vivid?

3. Ask students, “What makes you who you are? To what animals, plants, elements, images, and sounds are you connected? You might be connected because you need them to survive, or they need you. But you could also be connected because you find them beautiful or inspiring, or they enrich your life in some way.

4. Go outside and have students spend some time walking around or sitting in one place gathering ideas for their own poems.

5. Read the Momaday poem again, paying particular attention to the repetition and rhythm, and to the way he brings the poem to a close. Then have students write a circle poem of their own. As in Momaday’s poem, they could begin each line with “I am…” Alternatively, you could let them choose their own structure. Some students may wish to write the poem in the shape of a circle to show the connections more clearly.

Alternatives and Extensions
- Have students make a drawing, painting, or collage to illustrate their poems.

- Have students read their poems aloud. After listening to a poem, invite the class to discuss the pictures it made in their minds.
From “The Delight Song of Tsoai-Talee”

I am a feather on the bright sky
I am the blue horse that runs in the plain
I am the fish that rolls, shining, in the water
I am the shadow that follows a child
I am the evening light, the luster of meadows
I am an eagle playing with the wind
I am a cluster of bright beads
I am the farthest star
I am the cold of the dawn
I am the glitter on the crust of the snow
I am the long track of the moon in a lake
I am a deer standing in the dusk
I am an angle of geese in the winter sky
I am the hunger of a young wolf
I am the whole dream of these things

You see, I am alive, I am alive
I stand in good relation to the earth
I stand in good relation to the gods
I stand in good relation to all that is beautiful
I stand in good relation to the daughter of Tsen-tainte
You see, I am alive, I am alive.

- N. Scott Momaday -
22. Celebrations

Background
*I'm in Charge of Celebrations* by Byrd Baylor is the story of a child who keeps track of important events and adventures in the natural world "besides the ones they close school for" and records them in a notebook. The idea that each of us is in charge of our own celebrations can serve as inspiration for nature journaling. A journal is a perfect place to record your celebrations...and in it, they will be preserved so you can revisit them years later.

Preparation
Read through the book. Then reflect on some times in your own life that you would claim as personal celebrations, in preparation for sharing these examples with your students.

Procedure
1. Read Byrd Baylor's picture book *I'm in Charge of Celebrations* with students. After reading the story, ask them if it reminded them of a time in their own lives when they saw something beautiful or amazing, something that most people missed because they were indoors.
2. Ask students to think of an experience they have had that they would like to claim as a celebration of their own. Share with students some of your own personal celebrations as a model. Like the child in the story, they can give the celebration a name and write down the date (if they remember) and a few lines to describe the celebration. Then they can draw a picture to go along with the description.
3. Gather the group in a circle and have a celebration-sharing. Give each student a chance to describe one of his or her own celebrations and the picture that goes with it.

Alternatives and Extensions
- Keep a class "Celebrations" notebook where you record special events throughout the year.
- Suggest to students that they keep their own "Celebrations" pages in their journals. Each time something extraordinary happens, some encounter with the natural world that they don't want to forget, they can write it in their journal to help them remember it and share it with others in the future.
Can I Quote You? Gather quotes from the writing of naturalists, scientists, artists, and others that you think will be of interest to your students. (Take a look at the quotes throughout this guide to get started.) Alternatively, students could seek out their own. Then invite them to copy the quote into their journal and write a response to it. What do the words mean to them? Do they agree or disagree with any opinions shared? Did specific words call up feelings or memories from their own lives?

My Stars. Invite students to step outside on a clear starry night, either at home or on a field trip. The sky is full of pictures and stories that people have seen for centuries. Many of the stories describe people or animals who did something helpful or brave and were rewarded by being placed in the sky. All the established constellations and the tales that go with them were dreamed up by someone, somewhere—and that means we can still create new ones! Have students pick out a star pattern as their own personal constellation, and make up a story about how it what it is and what it means. Encourage them to choose something inspiring to them, so that every time they see their stars in the sky they will be reminded of a goal or aspiration they have, or a time or place they want to remember. Black paper, star stickers, and silver pens make recording their constellation and its story very appealing.

Freewriting. When students are comfortable with their journals and have past experiences and ideas to draw upon as subjects, give them an opportunity for unstructured reflection. This is a chance to write and/or draw whatever they choose as they sit outdoors. Encourage them to use rich sensory descriptions and close observation, to ask questions, to look at things from a variety of perspectives, and to make connections to their own thoughts and feelings...but let them choose their own strategy and style.

Writing Prompts
- Think about your daily life. How do the things you do impact the place where you live and the animals and plants around you? Is there anything you could do differently to make your effect a positive one?
- In your house, are there certain rules that everyone has to follow? Why? What happens if someone doesn’t follow them? The Earth is a home for us all. Do you think there should be rules that people have to follow in our bigger house, the Earth? What rules would you make? What would be the consequences for not following them?
- According to a Native American saying, “We did not inherit the Earth from our parents, we are only borrowing it from our children.” What do you think this means? Do you agree? If you could write a letter to someone in the past or the future about the Earth where we all live, what would you say?
Bibliography

General Background on Journals and Writing

Nature Journaling

Teaching Nature Writing

Nature and Art
Sense of Place & Naturalist Intelligence

Activity Guides

Children’s Books

- 82 -
**Nature Writing Anthologies**

**Biographies of Historical Naturalists**

**Natural History Information**

**Environmental Organizations and Magazines**
The Orion Society publishes a bimonthly magazine, *Orion*, of exceptional writing, poetry, photography and art on environmental themes. [http://www.orionsociety.org](http://www.orionsociety.org)
River of Words conducts an annual poetry and art contest for students on watershed themes. [http://www.riverofwords.org](http://www.riverofwords.org)
The National Wildlife Federation publishes *Ranger Rick* (for younger children) and *National Wildlife*. Both are good sources of information about animals and natural history.

**Sources for Materials**
Most of the books listed above should be available through your local library or bookstore. For journal-making supplies, try contacting printing presses or duplicating services in your area. They often have paper odds and ends that they may donate for education.

**Butterfly and Nature Alphabet Posters** are available through Kjell Sandved’s website [www.butterflyalphabet.com](http://www.butterflyalphabet.com) or at 1-800-222-9464.

**Acorn Naturalists Catalog** carries many of the books listed above, as well a wealth of field guides and other natural history reference materials. They also sell hand lenses and magnifying glasses in quantity and other supplies for nature study. Highly recommended! [www.acornnaturalists.com](http://www.acornnaturalists.com) or 1-800-422-8886.
Appendix A. Activities by Subject Area

Many of the activities included in this guide support skills in one or more traditional academic subject areas. Use this chart to help you make connections with your curriculum.

<table>
<thead>
<tr>
<th>Activity Title</th>
<th>Language Arts</th>
<th>Mathematics</th>
<th>Science</th>
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Appendix B. Activities by Multiple Intelligences

Multiple Intelligence Theory broadens the scope of intelligence by suggesting that each of us has a unique profile of strengths. Currently the framework includes eight intelligences encompassing linguistic, mathematical, spatial, kinesthetic, musical, inter- and intrapersonal abilities, and naturalist skills. Many children enjoy learning about and spending time in the outdoors; nature journaling is an excellent way to develop or reinforce elements of the naturalist intelligence. Those students who are linguistically or artistically inclined will probably enjoy “traditional” nature journaling activities with very little prompting. Students with other strengths may thrive with alternative choices. This chart will help you create bridges to connect students of all intelligence profiles with the natural world and journal-keeping.

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<th>Bodily-Kinesthetic</th>
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### Appendix C. Wisconsin Grade 4 Academic Standards

The extent to which a given activity addresses the Wisconsin Model Academic Standards will depend on how you choose to conduct the activity and whether or not you incorporate any of the optional extensions. Each activity below has the potential to help meet the standards indicated; consult the text of the standards to be sure you are covering them fully.

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## Appendix D. Wisconsin Grade 8 Academic Standards

The extent to which a given activity addresses the Wisconsin Model Academic Standards will depend on how you choose to conduct the activity and whether or not you incorporate any of the optional extensions. Each activity below has the potential to help meet the standards indicated; consult the text of the standards to be sure you are covering them fully.

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Appendix E. Assessing Nature Journals

The goals of each activity section provide you with general outcomes to help you assess students’ work in their nature journals. By including activities from each section over the course of a nature journaling unit, you will ensure that students have a broad range of experiences and develop skills in each area of focus. You will, of course, need to connect these general outcomes to your own curricular framework, the academic standards mandated in your state, and/or the mission of your organization or program.

Keep in mind that it is best to evaluate a journal holistically, rather than one activity at a time. This will give you a more complete picture of a student’s progress and accomplishments. Be sure students know how they will be assessed from the beginning, and try to create assessments that are genuine indications of progress and do not stifle creativity or prevent experimentation. An excellent way to incorporate more authentic and meaningful assessments is to have students evaluate their own progress. Students can use the following questions (modified from Hammond, 2002) to reflect on the personal outcomes of nature journaling.

### Nature Journaling Self-Assessment

1. Has nature journaling helped you become a better observer of objects and events around you? Give some examples.
2. Has your journal helped you think in new ways? How?
3. Has your journal helped you express what you see and feel more creatively? How?
4. Have you tried new techniques and tools in your journal? What do you feel is the biggest risk you took? How did it work?
5. Has your journal helped you learn more about the environment? What? How?
6. Has your journal helped you feel more connected to the environment around you? How?
7. What is the thing you like most about your journal? Least?
8. What advice would you give to someone who was about to start a nature journal?
"We lay and looked up at the sky and the millions of stars that blazed in darkness. I have never seen them more beautiful: the misty river of the Milky Way flowing across the sky, the patterns of the constellations standing out bright and clear, a blazing planet low on the horizon. Once or twice a meteor burned its way into the earth’s atmosphere.

It occurred to me that if this were a sight that could only be seen once in a century, this little headland would be thronged with spectators. But it can be seen many scores of nights in any year, and so the lights burned in the cottages and the inhabitants probably gave not a thought to the beauty overhead; and because they could see it almost any night perhaps they will never see it."

- Rachel Carson

The Sense of Wonder
A nature journal is a lens that helps you and your students open your eyes and see the world around you in new ways.

This guide shows you how to use nature journaling to explore and enhance:

Sensory Awareness ~ Curiosity and Wonder ~ Observation Skills ~
A Connection with Place ~ An Empathetic Relationship with Other Living Things ~ Self-Reflection and a Personal Voice

"My students loved it. A lot of them commented that now when they're outside they hear more things and pay more attention to what they see."
- Lynn, 6th grade teacher -

"It helped my students identify strengths they didn't know they had."
- Mary, 3rd/4th grade teacher -

"I felt very calm and peaceful....I thought it was a wonderful way to admire and see what we can see. And I think we should do it more often."
- Cora, 6th grade student -