Forest Field Notes

Observing the Forest Community

Overview of Activity

Students will practice taking field notes of observations over time. Students will select a site to observe at various times and record their observations in their forest field notebooks. The length of time students observe their site is determined by you or in conversations with parents. This is a wonderful activity to describe the change of seasons, bird migrations, and observe the natural environment.

Standards Addressed

Environmental Education Content Standards:

A. Questioning and Analysis: A.4.1, A.4.2, and A.4.4.
B. Knowledge of Environmental Processes and Systems: B.4.5.

Science Content Standards:

A. Science Connections: A.4.1 and A.4.2.
B. Science Inquiry: C.4.1, C.4.7 C.4.8 (optional).
E. Earth and Space Science: E.4.5 and E.4.6.
F. Life and Environmental Science: F.4.1, F.4.2, F.4.3, F.4.4.

English Language Arts Content Standards:

B. Writing: B.4.1.
D. Language: D.4.2.

Key Concepts/ Content

- To identify unifying themes in a forest community such as interaction, constancy, change, evolution, energy, and form and function through observation.
- To observe seasonal changes that occur in temperate deciduous and coniferous forests found in Wisconsin.
- To use observation skills.
- To recognize changes over time.
- To make connections between classroom learning and the outside world.

Teacher Background

Phe-nol-o-gy is the study of periodic changes in plants and animals as they respond to weather, climate, and the seasons. Recording observations is an interesting way to familiarize yourself with your surroundings and to make the world around you and your students more personal. People use phenology to help plan when to plant in their gardens, or to figure out when the best time is to avoid certain bugs at their favorite location. Phenology can also help define cause and effect relationships in nature. For example, owls nest in winter so that their young will hatch just as melting snow reveals a food supply of young mice born over the winter. Such observations also foster understanding of patterns of interdependency.

Getting Ready

Prepare a forest field notebook for each student. Copy student book pages back to back, including enough pages for each required week. Also include student directions, a page to draw a map of observation site, and a grading rubric. Bind books securely with card stock covers and send the parent letter home.

Materials Needed

- Parent Letter (see sample)
- Student forest field notebooks that have been developed for this activity

Procedures

1. Introduce the project to students. Sharing an example or two of prior student work can help clarify the project and provide a model. (A few examples of student forest field note entries are included with this activity.)

2. Share the grading process with students. Use the provided rubric, adapt it to your needs, or create your own with students' input. Students can practice grading samples of prior student work to get used to the rubric.

3. Take students outside with a piece of paper and a clipboard for a practice observation. Students should spread out to avoid distracting each other.

4. Pass out student books and assign first observation and map.

5. Collect student field notebooks regularly and assess student books using the predetermined rubric.

6. Consider prompting students if they need help focusing on their forest field notes. For example: The first insect you see on a flower, the first tree to change color in the fall, the first tree to lose its leaves, the first tree to open its buds, lengths of the days. For additional focus ideas, see *Backyard Almanac* by Larry Weber.

References/ Resources

📖 School Nature Area Project
http://www.stolaf.edu/other/snap/ (homepage)
http://www.stolaf.edu/other/snap/cyberseasons.html (Cyberseasons)
CyberSeasons is a project of the School Nature Project (SNAP) of St. Olaf College. SNAP works as a partner with Minnesota schools and communities, using local nature areas to further environmental education and benefit the environment through grants, training, and resource support. CyberSeasons and SNAP's website are open to all those interested in environmental education and in using their schoolyards as a meaningful part of the school experience.

- You can collect and submit data from your class, as well as access data from other schools all school year with Following Fall, Snow, and Did Spring Snap? There are also resources, activity ideas, and galleries of student work.

📖 EEK! Wisconsin Department of Natural Resources site for Kids
http://www.dnr.state.wi.us/eek/
Under Nature Notes is the current month's phenology of Wisconsin plants and animals.

📖 Missouri Botanical Gardens *What's it Like Where You Live?*
http://www.mobot.org/MBGnet/
Written at a 4-6 grade level, this website includes graphs, maps, and charts to research and compare biomes. Each biome page also has relevant links to other websites. Includes temperate deciduous forests, tundra, taiga, grasslands, rainforests, deserts, oceans, and freshwater environments.

- http://www.mobot.org/MBGnet/store.htm (Online ordering of supplemental *What's it Like Where You Live?* curriculum. The curriculum includes excellent videos, a multimedia animal reference CD, teacher's guide, and reproducibles.)

📖 *Global Schoolhouse*
http://www.gsh.org/
Collection of projects and resources for teachers and students. Teachers can participate in ongoing projects or initiate their own.

📖 *ABC World Reference: Wide World of Animals*
(Online ordering information)
http://www.learningcompanyschool.com/school/products/abcwwa.htm

An excellent CD Rom to research animals in biomes. Go on detailed explorations of more than 700 species of animals. Students observe animals in their natural habitats, gather remarkable facts about animal characteristics, and discover threats to their survival. Featuring text, photos, sound clips, full-screen videos, interactive taxonomy trees, time-lapse exhibits of changes in the animal world, and more.

📖 *Backyard Almanac: A 365-day guide to the plants and critters that live in your backyard* by Larry Weber, Pfeifer-Hamilton Publishers: Duluth, MN 1996. ISBN 157025-071-5
A Minnesota science teacher wrote this book. It is filled with great daily notes to share with students about the natural events happening around all year long, perfect examples for students to emulate in their forest field notebooks.

Assessment: Sample Rubric

4	• Forest Field Notes were turned in on time. • Student made required number of complete entries. Student entries were done once each week. • Sentences are complete and well written. Entries are neatly done. • Entries show student used senses to observe details at his/her site, including details about wildlife (if possible), plant life, and insects. • Details focus on nature's wonder and changes that have occurred since previous observations. • Student describes what he/she sees and what is occurring. (Example: I see a male mallard duck feeding at the edge of the pond. He is eating tiny little plants that look like miniature lily pads.) • Student asks questions about observations and shows attempts to find answers to those questions. • Student made statements that reflect knowledge of the way nature works, relationships in the ecosystem being observed, and personal reactions. • Student displays a positive attitude. Student occasionally collects samples, draws sketches, or takes pictures.
3	• Forest Field Notes were turned in on time, or were only a day late. • Student made required number of complete entries. Student entries were done once each week. • Sentences are complete and are thoughtfully written. Entries are fairly neatly done. • Entries show student used senses to observe details at his/her site, including details about wildlife (if possible), plant life, and insects. • Details focus on nature's wonder and changes that have occurred since previous observations. • Student describes what he/she sees and what is occurring. • Student asks questions about observations and shows attempts to find answers to those questions. • Student made statements that reflect knowledge of the way nature works, relationships in the ecosystem being observed, and personal reactions.
2	• Forest Field Notes were turned in 2-3 days late. • Student made less than required number of complete entries. Student entries were not done once each week. • Sentences may not be complete. Entries may not be neatly done. • Entries show student used few senses to observe details at his/her site. Entries include few details about wildlife. • Entries focus on what student sees. • Statements in entries reflect little knowledge of the way nature works, relationships in the ecosystem being observed, and personal reactions.
1	• Forest Field Notes were turned in 4-5 days late. • Student made less than required number of complete entries. Student entries were not done once each week. • Few sentences are complete. Entries are not neatly done. • Entries show student used little effort to use senses to observe details at his/her site, or include details about wildlife. • Entries focus on what student sees. • Student makes no attempt in entries to reflect any knowledge of the way nature works, relationships in the ecosystem being observed, and personal reactions.
0	• Forest Field Notes were not turned in within 1 week of due date.

Comments:

Sample Directions for Student Book

1. Select a habitat/area to observe near your house that you can easily and safely get to. Do not trespass onto someone else's land without permission! Observe your area at least once a week for 15-20 minutes! Your forest field notebooks will be collected at the beginning of each month and will be a part of your science grade.

2. If you have them, take along field guide, binoculars (with permission), a magnifying glass, a ruler, and a sketchpad. to help you be a better observer.

3. Choose a certain spot to quietly observe your area. Don't destroy something to make the spot more comfortable. It is important that you remain quiet and relatively still so that you don't scare any animals or birds away. Don't just watch for animals and birds; there's a fascinating world under and in the grass. Look at big and little things and describe them.

4. The best time to go to this area is when the most activity occurs. This is usually in the early morning or late evening. If your parent(s) will go with you, it might be fun to observe your area as the sun rises one morning or after the sun has set. (If your parents go with you, remind them that being quiet is extremely important.) Make sure you go at a time when you can observe for 15-20 minutes.

5. <u>Map the area in your forest field notebook on your first observation.</u> Make sure you include the following on your map: important or larger landmarks, a compass rose, and a legend. If things in your site change a lot, draw a new map and put it inside your forest field notebooks.

6. Each time you observe the area, record data and observations in your forest field notebook. Add any sketches you make. Try to notice changes that occur over time. Notice changes in the kinds of animals, birds, plants, and bugs that you see at your site. (Example: The grass is nearly 3 inches taller than the last time I was here. I'll bet all the rain and warm weather is the reason for the change.)

7. Remember that observation means using your senses! For your own safety, do not use your sense of taste.

8. Your observations should include both what you see and what is occurring. (Example: Robins are building a nest in a nearby tree. They are carrying small twigs and what looks like fur…)

9. You should write neatly and in complete sentences. Do your best work!

Sample Parent Letter

Dear Parents/Guardians,

Our natural world is filled with beauty, intrigue, wonder, mystery, and excitement. Opportunities to study nature for adventure, relaxation, and enjoyment are all around us. Throughout the seasons your child will be asked to participate in an exercise that will provide the opportunity to bring to life the wonders that are a part of nature, an appreciation and concern for our natural world, and possibly spark a lifelong interest.

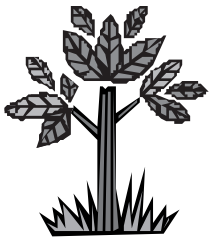
In addition, the forest field notebooks will help develop your child's observation, note taking, and writing skills; skills important in all academic areas. Your child's observations will be collected each month and be graded according to the rubric at the back of the book. More detailed instructions are located in the front of your child's forest field notebook. Students must be accompanied by a staff member, parent, or guardian during observations.

Thank you for your continued support and partnership in your child's education!

Forest Field Notes Map

Legend

Weekly Observation Pages

Date:_____ **Time:**_____

Weather:_____

Field Notes:

Sample Fourth Grade Student Entries

1. Some of the ground is bare and sandy. There are many red ants on it. I see 23 millimeter long black beetle. Some of the leaves are beginning to fall. There is green moss on the tree. It looks like the rain made dents in the sand. There are many red glasslike pebbles in the sand.

2. There are chips of wood around the tree. The tree's bark is rough. Most of the branches are long and not very sturdy and have fern like leaves on them. There are some ants crawling up the bark of the tree! There are also tons of little bugs crawling around in the wood chips. There are dried up fern like leaves around the tree. The grass around the tree is soft and squishy and there are dandelion weeds and some other kinds of weeds too. There was tons of garbage around the tree that is including ABC gum.

3. I see a yellow butterfly flying around and a bee flying around collecting pollen from flowers. There are ants crawling on grass and weeds. There is dark yellow moss on tree. There is some more moss and it's the color of a light blue sky. The tree feels very rough. It looks like a big seed that was crushed. There are a few small dried yellowish leaves on the ground.

4. The grass is a tan-green color. I suppose that means it is dying. Have you ever realized how active ants are? They climb over anything and everything in their way. The soil looks damp, but feels dry. A breeze sends the leaves on the trees dancing. An ant is carrying another ant on its back. I think it is dead. Ants can crawl up steep things. An ant looks like a pebble of sand as it walks away. The grass underneath dead grass is damp.

5. I spent my time close to the water. All of the duckweed was gone. The water was very cold and clear. I saw a maple leaf floating down the creek. It took 3 minutes to float out of site. This purple spot was made from a berry. There was a bird's nest in a tree, but no birds in sight. The woodpecker made several holes in a dying tree. He must have been looking for bugs. I noticed as I was leaving that next year's buds can be seen.

6. The Black River is frozen, although I wouldn't trust it all the way across. The ice is starting to adjust to the cooling night air with sounds like a "phaser" going off. There is no wildlife today, or signs of it, except for 2 fish frozen in the ice. The ice inside the docks is great for ice skating, hockey, and other sports. I even taught myself to do a tight figure 8!