

Eyewitness Accounts

Method

By reconnecting with the natural rhythms of the seasons, students will become aware of the invasive plants that are out-of-step.

Getting Ready

1. Locate a nearby wooded area that is readily accessible.

Introducing the Activity

Plants and animals change with the seasons. As the earth warms in spring, plants and animals respond in predictable ways. In fall, the days grow cooler and shorter. Again, plants and animals respond. The study of seasonal changes of plants and animals is called phenology.

Doing the Activity

For students in kindergarten – 4.

Your goal is to help students be more aware of the things happening around them. This can be as simple as setting aside time each morning to discuss what students noticed on the way to school. Take several walks around the neighborhood throughout the year. Weekly walks would be best, but any repeated walks in familiar areas will encourage students to notice what has changed as the seasons progress.

In fall

Ask questions:

- “Has the tree outside the school changed color yet?”
- “Could you see your breath on the way to school?”
- “Did ladybugs invade your home this weekend?”

Encourage observations:

- “Watch for Canada geese to migrate this week.”
- “Let’s keep track of leaves falling. Tomorrow I want you to bring in one leaf that you saw fall to the ground.”

Take a walk during the peak of fall colors. Ask the students to look for trees and shrubs that have not started to change colors. Collect a small twig from each kind. Use plant identification books to identify them. How many of these trees and shrubs are non-native? Were they planted as landscape trees? Are they invading wild areas? Press the leaves and save for reference.



Objectives

- Observe the progression of seasonal changes known as phenology.
- Recognize that invasive plants are out-of-step with native plants.

Grades

K – adult

Group Size

Individuals

Activity Time

Ongoing

Setting

Outdoors and indoors

Materials

- Calendar
- Plant identification books (See list on page 139.)

Connections

See next page.

Academic Standards

Grades K – 4

- English Language Arts: B.4.1
- Environmental Education: A.4.2
- Science: E.4.5, E.4.6, F.4.2, F.4.3

Grades 5 – 8

- English Language Arts: B.8.1
- Environmental Education: C.8.2
- Science: A.8.6, B.8.4, E.8.8, F.8.9

Grades 9 – 12

- English Language Arts: B.12.1
- Science: F.12.8

Scout Connections

- Junior Girl Scouts: Earth Connections, Wildlife

In winter:

Ask questions:

- “Have you seen any mammal or bird tracks around your home?”
- “What happens to trees and shrubs during the winter?”

Encourage observations:

- “Try to find a shrub in your neighborhood that still has berries on it.”
- “Ask a parent to help you cut a small twig from a shrub or tree in your yard. Take it inside and put it in a vase.”

Take a walk when the ground is not covered with snow. Look for plants that stay green all winter. While there are some native evergreen groundcovers, most of the green plants that you find in a winter woods are invasive species. Collect leaves; press and identify the plants.

In spring:

Ask questions:

- “Have you seen any earthworms on the sidewalks yet?”
- “Are the tulips blooming in your yard?”

Encourage observations:

- “Listen for bird songs on your way to school tomorrow.”
- “Watch for tree flowers. Don’t expect big beautiful flowers! Look for small greenish flowers.”

Take a walk in very early spring. Watch for the first plants to green up. Trees, shrubs, and plants on the forest floor that green up in March or early April are more likely to be invasive. Keep an eye out for buckthorn, honeysuckle, and garlic mustard. Collect leaves or place flags by these plants so that you can identify them when they flower.

For students in grades 5 – adult.

Encourage the same kinds of observations listed above. In addition you can:

- Keep track of daily weather.
- Trace the movement of the sun through the sky, the changing angle of sunlight, and the variations in day length.
- Encourage students to keep phenology journals. They can record seasonal events they observe related to plants, wildlife, and people.
- Record select events that you can compare from year to year. For example, record the day that the sugar maple tree in the school yard flowers or the first trillium blooms.

Use your observations of greening up and greening down to locate and identify invasive species. Remember, invasives often

have longer growing seasons because they are on different biological clocks. Discuss why greening up early gives invasive plants an advantage over natives. (Spring wildflowers depend on a short window of time to complete their growing and blooming cycle. They can't begin to grow until there is sufficient daylight and warmth, and they must finish most of their growing before the trees leaf out. Invasive plants green up early and shade out native spring wildflowers.)

Assessing the Learning

Ask students to keep simple phenology journals. Decide how often they should make journal entries and how often you will check them. Encourage students to include some of the following: date, location, weather, sketches, photos, pressed leaves, and notes.

Extending the Learning

Nip 'em in the Bud. In 2004, the Wisconsin DNR introduced the Wisconsin Invasive Plants Reporting and Prevention Project. Early detection of invasive plants is crucial. If a new infestation is discovered before the plants go to seed, we can stop the plant from becoming established. But new infestations are difficult to locate. Informed volunteers who can locate and report these infestations can make a huge difference in stopping the spread of invasive weeds. <www.dnr.wi.gov/invasives/futureplants/index.htm>

Track the colors of spring. An easy way for younger students to track the approach of spring is to watch for colors. Make a color tally chart with colors across the top and the weeks of spring along the side. Each week ask students to record the colors they see outside. They can watch as the browns and blacks change to greens and other colors! See "What Color is Spring?" in **Hug a Tree** by Robert E. Rockwell, Elizabeth A. Sherwood, and Robert A. Williams. 1985.

View Wisconsin from space. Your students can watch the changes of the seasons as seen from satellite. Images that show snow melt, spring greening, and fall color changes can all be viewed daily from the MODIS sensor on NASA's Terra satellite. <www.wisconsinview.org>

Keep a phenology calendar. Post a calendar in the classroom and invite students to record natural events on the calendar.

Finding Out More!

EEK! Environmental Education for Kids! Wisconsin Department of Natural Resources. 2005. Visit this Web site to find out what's happening each month in Wisconsin. Use the suggestions to decide what events you might track in your classroom. <www.dnr.wi.gov/eeek/nature/season/pheno.asp>

Journey North. Annenberg Media. 2005. This Internet-based program engages students in investigations of wildlife migration and seasonal change. <www.learner.org/jnorth/index.html>

Wisconsin NatureMapping. Beaver Creek Reserve, Wisconsin Department of Natural Resources, and the Aquatic and Terrestrial Resources Inventory. 2005. This online program provides an opportunity for students and volunteers to perform field studies that contribute to the state's biological databases. <www.wisnatmap.org/index.htm>

"By putting students in touch with nature on a daily basis, by familiarizing them with local flora and fauna, and by teaching and reinforcing the skills of observation, we can help them build the foundation of a lifelong appreciation of the richness of the natural world around them. Only then can we expect young people to care enough about the environment to make the effort that will be needed to save it from the demise that may now appear inevitable." Larry Weber, science teacher and author of **Backyard Almanac: A 365-day guide to the plants and critters that live in your backyard.**

