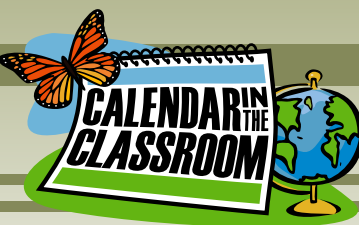




# Recording Seasonal Change



## Overview

The class works together to record seasonal changes over the course of the school year. In addition, each child selects a tree, other plant or section of the school grounds to observe and document changes over time in the student journal. At the conclusion of a season student writes a narrative summary.

## Background

If possible, begin this activity in September and continue collecting data throughout the school year.

Phenology is the branch of science involving the study of the relationship between climate and seasonal events in nature such as the migration of birds, the blooming of flowers, ripening of fruit, changing of leaf color. Data is recorded as scientists make note of the first or last date that an event occurs. For example: the first crocus blooms, the arrival of the first bluebird in spring, the first snowfall, the date the lake freezes, the date of ice out.

Students become phenologists as they observe and record natural events occurring in the community and the on the school grounds.

The *Minnesota Weatherguide Environment™ Calendar* offers a beautiful monthly photograph. In addition, on the back of each monthly calendar page there is a wealth of information including a week-by-week description of common phenological events you and the students may be able to observe.

Seasonal Phenology charts have been provided as a suggested series of observations, but you may want to have the students develop a very personalized list specific to your school grounds. For example: Your list might include the date that the last leaf falls from the maple tree on the schoolyard, or the day the first crocus bloom in your garden, the date the leaf buds open on the schoolyard tree, when the seeds form. This not only enhances the excitement of the observations but it also makes students aware of the life cycle changes occurring in the tree.

## The Activity

### Day 1

#### Warm Up

Introduce the term phenology and tell students they will be starting a year-long project as phenologists to notice changes in the environment that are related to the seasons. Ask students to think back and recall: How have things changed on the school grounds since the last day of school when you were here? (Discuss natural changes versus human made changes. Kindergarten teachers may share observations made the previous spring with their students in fall, including which flowers were in bloom, how the buds and leaves looked on the trees and shrubs, etc.)

1. Today the class will go outdoors to make some baseline observations.

## Time:

Day 1: 1 hr.  
Other Days: 5-10 min.  
(Repeat timeline and activities in different seasons throughout school year)

## Skills:

Observing  
Recording  
Comparing  
Questioning  
Sequencing  
Narrative writing  
Critical thinking

## Vocabulary:

phenology  
phenologist  
seasons

## Materials Needed:

- *Minnesota Weatherguide Environment™ Calendar*
- Student journals
- Phenology charts



- 4. Analyzing and Interpreting Data
- 8. Obtaining, Evaluating and Communicating Information

**Crosscutting Concepts:**

- 1. Patterns
- 2. Cause and Effect: Mechanism and explanation

**Disciplinary Core Ideas:**

LS1: From molecules to organisms: Structures and processes

3rd Grade: Predictions, patterns, life cycles

5th Grade: Requirements for plant growth

LS2: Ecosystems: Interactions, energy, and dynamics

3rd Grade: Animal adaptations

ESS2: Earth's Systems

K: Make daily and seasonal observations

2nd Grade: Describe typical weather conditions expected during a particular season

**ELA Standards and Benchmarks**

Grade	Benchmark with Anchor Standard/Code
K	Write routinely (may include a combination of drawing, dictating and writing), with support and guidance. (W2: 0.2.2.1)
1	Recognize the distinguishing features of a sentence (e.g., first word, capitalization, ending punctuation). (W1: 1.2.1.1)  Write routinely, through a combination of writing, drawing and speaking. (W2: 1.2.2.1)
2	Use correct punctuation (end punctuation), spelling (high frequency words), and capitalization (first word in sentence and proper nouns) authentically in writing. (W1: 2.2.1.1)  Use words that signal changes in situation in written narratives, poetry or other creative text (e.g., next, surprisingly). (W6: 2.2.6.2)  Write routinely, including illustration, for a range of tasks, purposes and audiences (e.g. personal interest, enjoyment, academic tasks). (W2: 2.2.2.1)
3	Write routinely for a range of tasks, purposes and audiences. (W2: 3.2.2.1)  Use dialogue and descriptive words, in written narratives, poetry or other creative text. (W6: 3.2.6.2)
4	Write routinely for a range of tasks, purposes and audiences. (W2: 4.2.2.1)  Describe sensory detail in written narratives, poetry or other creative text. (W6: 4.2.6.2)
5	Write routinely for a range of tasks, purposes and audiences. (W2: 5.2.2.1)  Use structure appropriate to chosen style and tone in written narratives, poetry or other creative text. (W6: 5.2.6.2)



Below is a list of things to watch for this fall. Check off things as you first see them and record the dates below.

Enjoy Fall!

Minnesota Phenology	Date Seen
<input type="checkbox"/> Trees starting to turn color	
<input type="checkbox"/> Leaves on trees no longer have green	
<input type="checkbox"/> All leaves off trees	
<input type="checkbox"/> First frost	
<input type="checkbox"/> Everyone wearing coats at recess	
<input type="checkbox"/> First snowfall	
<input type="checkbox"/> Farmers harvesting crops	
<input type="checkbox"/> Flocks of birds heading south	
<input type="checkbox"/> Ice forms on nearby lake	
<input type="checkbox"/> First ice house on lake	
<input type="checkbox"/> Air temperature below 0° F.	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	



Below is a list of things to watch for this winter. Check off things as you first see them and record the dates below.

Enjoy Winter!

Minnesota Phenology	Date Seen
<input type="checkbox"/> Trees starting to turn color	
<input type="checkbox"/> Leaves on trees no longer have green	
<input type="checkbox"/> All leaves off trees	
<input type="checkbox"/> First frost	
<input type="checkbox"/> Everyone wearing coats at recess	
<input type="checkbox"/> First snowfall	
<input type="checkbox"/> Farmers harvesting crops	
<input type="checkbox"/> Flocks of birds heading south	
<input type="checkbox"/> Ice forms on nearby lake	
<input type="checkbox"/> First ice house on lake	
<input type="checkbox"/> Air temperature below 0° F.	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	



Spring is on the way. Watch for the signs and record them on the chart.  
Enjoy Spring!

Minnesota Phenology	Date Seen
<input type="checkbox"/> The first robin on the schoolyard	
<input type="checkbox"/> Ice gone from lakes	
<input type="checkbox"/> Frogs singing	
<input type="checkbox"/> First dandelions bloom	
<input type="checkbox"/> Dandelions go to seed	
<input type="checkbox"/> Maple trees have small red flowers	
<input type="checkbox"/> Maple trees have tiny leaves	
<input type="checkbox"/> First no-coat day at recess	
<input type="checkbox"/> First mosquito bite	
<input type="checkbox"/> First maple seed	
<input type="checkbox"/> First thunderstorm	
<input type="checkbox"/> Green grass	
<input type="checkbox"/> First butterfly (What kind is it?)	
<input type="checkbox"/>	
<input type="checkbox"/>	