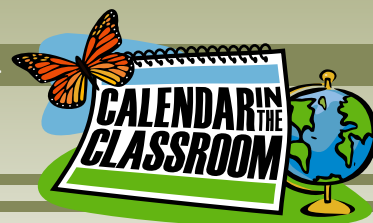




# Finding Nature's Alphabet



## Overview

Let's find letters of the alphabet in the outdoor areas around the school! Students review letter names and sounds, arm themselves with sharp eyes and digital cameras/tablets and journals and head outdoors to record their discoveries which will, over the course of the year, be compiled into their own class book. Later chapters in their "book" can focus on numbers, shapes and patterns.

## Background

Phenology is the branch of science dealing with the relationship between climate and periodic seasonal occurrences in nature, such as the blooming of flowers, changing leaf color, bird migration, ice-out on lakes. Students will become aware of these events as they have seasonal outings in search of their alphabet shapes.

## The Activity

### Warm Up

1. Read aloud from the *Minnesota Weatherguide Environment™ Calendar*, Jim Gilbert's Phenology Nature Notes for the month. This will prepare your students for what they might see when they go outdoors.
2. Review/chant the alphabet chart noting both the sounds of the letters and also their shapes; noticing triangles, squares, and any other visual shapes and patterns.

### Day 1

1. Read aloud *Minnesota's Hidden Alphabet* by Joe Rossi and/or provide pictures from the calendar that show natural conditions illustrating the visual patterns of our alphabet. Let these serve as models for what the students will photograph or draw.
  2. Do a guided discovery, modeling how to use a digital camera/tablet and discussing your expectations of proper camera/tablet use. If you do not have cameras/tablets available suggest the students draw the letters they see in their journals.
  3. Explain to the kids that real photographs of nature were taken to make the *Minnesota Weatherguide Environment™ Calendar* and the book *Minnesota's Hidden Alphabet*. Tell them they are going outdoors to see if they can find alphabet images in the natural areas by the school. They will be the artists, illustrators, photographers and creative writers for the "book" written by all the children in the class.
  4. Show an example of something like a small stem and branch that makes a letter like a V or a Y and the photograph or drawing you prepared ahead.
  5. Model how to take a close-up picture that fills the frame to capture the alphabet shape.
- Explain that when they go outside they may not see every letter but as a

## Time:

Day1: 45-60 min.  
Day 2+: 30-45 min.

## Skills:

Critical thinking  
Observing  
Recording  
Writing creatively  
Team building  
Interpreting

## Vocabulary:

phenology  
digital camera  
observation  
record  
caption  
close-up

## Materials Needed:

- *Minnesota Weatherguide Environment™ Calendar*
- Journals
- Digital cameras, tablets, 1/student or team
- Art supplies
- Alphabet chart
- Sample twig showing the letter 'V', 'Y', etc.

class you will try to cover the entire alphabet. Review expectations for proper behavior in the outdoors.

6. Because the students may only see a few letters of the alphabet, spend time outside noticing the small things in nature, photographing as many letters and other interesting items as possible. If “letters” are scarce focus on shapes: circles, ovals, lines, angles, stars, or numbers. (Perhaps create chapters: Numbers, Shapes and Letters of the Alphabet and Patterns.)

### Day 2+

1. Prior to the student's work time print out a photograph of any of the 26 letters of the alphabet. Have them add the caption and description to the photo. Have students write a creative word that begins with the letter. Then, write a sentence using that word. Begin assembling a class book and have each student share his or her page. Challenge students to make this an ongoing activity so that, by the end of the school year the book will be filled with student pictures and captions. Some letters will be easy to find, like the letter “O” or “I”, “Y” and “V”. This will be helpful in ensuring that every child is successful at finding something to print. Upper and lower case letters add variety.

2. In each season of doing this project; compare and contrast the changes in nature; noting the seasonal and weather changes. Add a single photo to their science notebooks each season and have the students record their observations of the season and weather. Have the students observe, record, and predict similarities and what the next season's changes will bring.

## Wrap Up & Assessment

Read aloud your students' published book. Highlight the fact that elementary students can be published authors! This project is of extended duration. Did every child discover a letter – even if there were repeats of the easy letters such as “Y” or “V”?

## Questions

- Which letters were easy to find? Which letters haven't been found – yet?
- Are there other patterns in nature besides the alphabet shapes? Yes, for example we might find numbers, geometric shapes, and patterns such as spirals, alternate and opposite branching.

## Extensions

Finding Nature's Numbers - Create chapters in the book for numbers, shapes and patterns.

## Resources

Rossi, J.: *Minnesota's Hidden Alphabet*

Castella, Kristina and Brian Boyl: *Discovering Nature's Alphabet*

[http://www.pbse.com/emcnally/floral\\_alphabet](http://www.pbse.com/emcnally/floral_alphabet)

Minnesota Weatherguide Environment™ Calendar

online: <https://jeffersfoundation.org/programs/calendar-in-the-classroom/>

## Minnesota Academic Standards

### 3-D Science Standards

#### Science Practices:

3. Planning and Carrying Out Investigations (investigating through observation)
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:**

LS4: Biological Evolution: Unity and diversity

K: Observe plants and animals to compare the diversity of life in different habitats

PS1: Matter and its interactions

K: Sort objects in terms of color, size, texture, & communicate reasoning for sorting system

**ELA Standards and Benchmarks**

<b>Grade</b>	<b>Benchmark with Anchor Standard/Code</b>
K	Print many uppercase and lowercase letters. (W1: 0.2.1.0)  Demonstrate one-to-one letter-sound correspondence. (W1: 0.2.1.2)  Write routinely (may include a combination of drawing, dictating and writing), with support and guidance. (W2: 0.2.2.1)
1	Print all uppercase and lowercase letters. (W1: 1.2.1.0)  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)  Write routinely, including illustration, for a range of tasks, purposes and audiences (e.g. personal interest, enjoyment, academic tasks). (W2: 2.2.2.1)