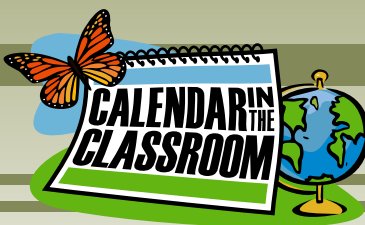




# Weather Spies



## Overview

In this activity students practice using their observation skills to describe weather and phenological changes, and in doing so, will begin to understand seasonal occurrences as they relate to weather.

The students will observe seasonal occurrences in nature as well as in pictures. They will use their senses to describe those occurrences. The students will also record their findings in their journals.

## Background

Phenology is the study of seasonal changes. Seasonal changes may include such things as animal and insect migrations, bloom time, freeze-up and ice-out dates, and more. Many of the seasonal changes that phenology tracks are influenced by the weather. For example, when spring temperatures rise early, some flowers bloom earlier than normal. Other phenological events are determined by day length, independent of weather.

Changes in weather occur all year-round, but often become more pronounced as the seasons begin to change. For example, days are markedly cooler and shorter (due to fewer hours of sunlight) as autumn turns to winter. Often there will be more weather-related changes, too, such as more frequent rainy or windy days. Some weather conditions, such as snow, are associated only with particular seasons.

## The Activity

### Warm Up:

Begin a discussion about weather. What are some types of weather? Changes in weather happen all year and we can learn much about the specific seasons through observing the weather.

What are some ways we can use our senses to make observations about the weather? Review the 5 senses with the group, if necessary. Examples may include: *See* the rain falling, *feel* it dropping on our skin, *hear* the drops striking our raincoats, *smelling* the moisture in the air and the damp concrete of the sidewalk.

How can weather affect growing and living things? Weather can make it easier or more difficult for living things to find food, and it can affect the rate at which flowers and trees bloom, etc.

### Day 1

Tell the children “You will be weather spies. Look in all directions! Up, down, and all around—don't forget to check the ground! Sniff, feel and listen. Remember to use more than just your eyes!” Go over as a group the variety of different ways that you can observe weather using all of the senses.

Note: For the purposes of this activity, using the sense of taste to observe would not be appropriate.

Go outside and observe the weather for several minutes. Remind group again to use their senses.

## Time:

Day 1: 30 Minutes or more

Day 2: 30 Minutes or more

Day 3: 30 minutes or more

## Skills:

Observing  
Describing  
Recording  
Data Collection  
Drawing  
Writing

## Vocabulary:

- Phenology
- Weather
- Seasons

## Materials Needed:

- Jeffers Journals
- colored pencils
- Minnesota Weatherguide Environment™ Calendar
- thermometers

After the students have had several minutes to make observations, choose an area to sit and record the observations in their journals. They may wish to draw their observations, write them or draw a picture of themselves using their senses to explore. Encourage them to identify and list which senses they have used to make observations.

On a large piece of chart paper/whiteboard/Outside Observations sheet, teacher records the group's observations, marking the prominent sense used to make the observations. (For example, FEELing the warm sunshine on your face, SMELLing the lilacs blooming at the edge of the schoolyard, etc) This will help ensure that all senses (except for taste) are accounted for.

Discussion questions: Two big ideas:

1.) Which observations pertain to the weather? Examples:

Did you feel or hear the wind?

What did you notice about the temperature—did it feel warm, cold, etc?

2.) Which observations pertain to the effects of the weather?

Did you see any flowers blooming?

Did you hear any birds calling?

Did you hear insects?

## Day 2

Take out the *Minnesota Weatherguide Environment™ Calendar*. Turn to the appropriate month for the date of the observation. Show the picture from that month to the group. Invite comments and observations about the picture. Ask the group to make observations about the weather by looking at the picture.

What similarities exist between the weather depicted in the picture and what was observed outdoors? What is different?

Show the small pictures from the phenology page of the calendar. Note any weather clues in those pictures. Read a few of the phenology facts. Ask the children if the phenology facts match what they have observed.

Day 3 Read over the group's list of observations and allow the students more time to work in their own journals.

Repeat lessons again weekly, monthly, seasonally.

## Questions for Discussion:

- Discuss the difference between making observations from a picture and making observations by going outdoors. Which did the children enjoy more? Why?
- How do your senses tell you about the weather? How do they tell you what season it is?
- What sense was the most difficult for you to use for making observations?
- Is there any other place in the calendar that we might get clues about the seasons and the weather? Is there any other place in the school or school grounds where we might find clues about the seasons and the weather.

## Extensions

Create your own classroom weatherguide picture book. Use drawings the children have made to depict the seasons.

Look at weather pictures from other sources and discuss what season they might depict.

Note seasonal details in picture books and discuss the season in which the story takes place.

Create your own daily phenology calendar by recording children's observations and using children's drawings. (This extension can be accomplished by using the Phenology-themed lesson titled "What's Happening".)

## Resources

*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
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:

ESS2: Earth's systems

K: Make daily and seasonal observations of local weather conditions, describe patterns