



Phenology Fun!

Overview: Students will participate in a hike around their local nature space/place and make observations about what is happening in that natural place. They will try to answer questions like, 'What is new?' 'What is different?' 'What has changed?'

Subject Areas: Science

Grade Levels: PreK-2

Topics: Water, Plants, Animals, Biology, Weather

Great Lakes Literacy Principles:

2. Natural forces formed the Great Lakes; the lakes continue to shape the features of their watershed.
3. The Great Lakes influence local and regional weather and climate.
5. The Great Lakes support a broad diversity of life and ecosystems.
7. Much remains to be learned about the Great Lakes.

Materials:

Magnifiers
Binoculars
Phenology Journals

Phenology Calendar
List of Yearly Phenology Topics

Suggested Minnesota Pre-K Standards:

- S8.8 Shows concern, respect, care, and appreciation for others and the environment
- AL1.10 Scans environment and notices new objects, materials and activities right away. Asks about them
- AL2.4 Verbally expresses interest when encountering novel objects or events
- AL2.5 Independently seeks out new experiences, objects, or materials for own enjoyment
- AL12.6 Predicts and hypothesizes what will happen next
- AL12.8 Draws conclusions and can explain their thinking
- AL12.7 Forms theories about why things happen
- L3.10 Uses short sentences to shares information about experiences, people, places, and things
- M13.1 Participates in simple data collection discussed by an adult or other child
- ST1.5 Notices differences or similarities among materials, objects and phenomena
- ST1.7 Verbally identifies obvious differences and similarities

SS6.4 Begins to use geographical language to identify features of familiar environments (hills, rivers, etc.)

Procedure:

1. This lesson is best done over the course of the school year at whatever time interval makes the most sense for your class (e.g. weekly, bi-weekly, monthly, bi-monthly, etc.) Weekly is recommended given the amount of change that can take place over a week. There should be enough changes to keep students excited and engaged with what is happening around them.
2. For the initial run of this lesson, you will want to set it up appropriately. Let the students know that this is going to be a recurring activity that will take place multiple times over the course of the school year.
3. If they haven't been already, introduce the students to their natural space and allow some free exploration. After exploring, ask them what they saw, what they heard, what they smelled, etc. Using their observations as a starting point, begin marking down what was observed on your Phenology Calendar and/or, if you are using them, in their phenology journals. At this point, it might be useful, though not absolutely necessary, to have each student find their own special spot in the natural space. This will be the spot they make their observations from for the rest of the year (though, if they become restless with their spot over time, you can have them pick new spots each quarter or semester, etc.).
4. Now that you have set the stage for observing their natural space for the year, at each subsequent run of the lesson you will want to introduce the phenology topic for the time period during which you are going out (see attached list). Ask students to use all 5 senses to find changes and new things happening in their natural space. Take the students outside, have them find their spots, if that is how you are running it, and make observations using all 5 senses.
5. The other option in running this lesson is to take the kids on a hike and make observations as a class with one person recording those observations. This may be easier with a younger group.
6. As your students are making their observations, you'll want to prompt them with questions to keep them focused on the task, such as, "Do you see something this time that you didn't see last time?"; "Is there something missing that was here last time?"; "What was the weather like last time?"; "What is the weather like now?"

Teacher Reflection:

Please find "comments" section on the curriculum page.

PHENOLOGY TOPICS THROUGHOUT THE SCHOOL YEAR

1. Mushrooms and Other Fungi Early September (The Cooling Month)
2. Raptors Mid September
3. Fall Wild Flowers Late September
4. Deciduous Trees Early October (The Leaf-Drop Month)
5. Insects and Spiders Mid October
6. Pond in Fall Late October
7. Small Mammals Early November (Cloudy Freeze-Up Month)
8. Animal Signs Mid November
9. Large Mammals Late November
10. Animal Tracks in Snow Early December (The Dark Month)
11. Winter Birds Mid December
12. Pond in Winter Early-Mid January (The Cold Month)
13. Winter Plants Late Jan.-Early February (The Dry Month)
14. Fishes Early March (The Crusty Snow Month)
15. Sap and Other Early Spring Things Mid-Late March
16. Water Birds Mid April (The Thawing Month)
17. Amphibians and Reptiles Late April
18. Pond in Spring Early May (The Greening Month)
19. Spring Wild Flowers Mid May
20. Spring and Summer Songbirds Late May

Taken from: Larry Weber's *Phenology in the Classroom: A guide to taking students outside all year long*