

Phenology Wheels: Earth Observation Where You Live

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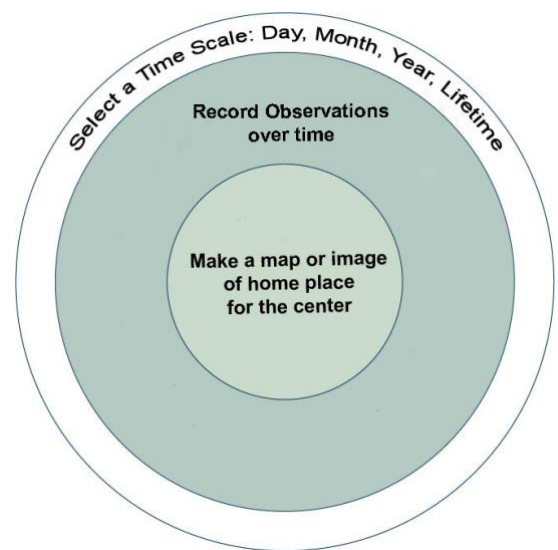
Making a habit of Earth observation where you live is a fun and fundamental way to practice Earth stewardship. It is often our own observations close to home that keep us inspired to learn more and allow us to remain steady advocates for solutions to today's daunting problems. Earth observation done whole-heartedly becomes skilled Earth awareness that leads to profound relationships with the plants, animals, and seasonal cycles surrounding us in real time, whether we live in the city, suburbs, or countryside.

One way to track Earth observations is an activity called Phenology Wheels, suitable for individuals, families, classrooms, youth programs, and workshops for people of all ages. Phenology is a term that refers to the observation of the life cycles and habits of plants and animals as they respond to the seasons, weather, and climate. A Phenology Wheel is a circular journal or calendar that encourages a routine of Earth observation where you live. Single observations of what is happening in the lives of plants and animals made over time begin to tell a compelling story – your story – about the place on our living planet that you call home.

Why a circle? We usually think of the passing of time as linear, with one event following another in sequence by day, by month, by year. Placing the same events in a circular journal, or wheel shape, helps us discover new patterns (or rediscover known ones). We can use the Phenology Wheel to communicate about what is really important or interesting to us.

Here's the General Idea

A Phenology Wheel is made up of three rings in a circle, like a target. To become a Wheel-keeper, you select a home place, such as a garden, a "sit spot," schoolyard, watershed, or landscape that will be represented by a map or image in the center ring, the bull's eye. Next, you mark units of time – such as the months and seasons of a year, hours of a day, or phases of a lunar month – around the outside ring, like the numbers on the face of a clock. Then, as you make specific observations of what is going on in the lives of plants and animals and the flow of seasons, you record them within the middle ring using words, phrases, images, or a combination.



Here's How To Get Started

Because the wheel is round, you can begin a Phenology Wheel for Earth observation at any time of year.

Although you can pick among different time scales for the outer ring, let's begin here with a year of seasons and months.

1. Draw a set of nested circles on a large piece of paper. You can do this by tracing around large plates or pizza pans, by using an artist's compass or by making your own compass out of a pencil, pin, and string. You may also [download a set of digital Wheels](#).
2. If you are making your own Wheel, write the names of the seasons and months on the outer rings.
3. Select an image for the center to represent the place or theme you have selected and to anchor your practice of observation in time and space.



Maps for the Center: If you choose a map, will it be geographically accurate or symbolic? Will it be traced or cut and pasted from an existing map, or will it be a map of your own creation?

Tip: Use a web-based mapping system such as Google Maps to print a map and use it to trace selected features as a base map for your Wheel.

A Centering Image: If you choose an image other than a map, will you create your own image or use one that you find already in print material? Will you use a photo, make a collage, or choose a found object, like a leaf or feather?

Tip: Children often enjoy a picture of themselves at their “sit spot” or other place they have chosen to track their observations.

4. Establish a Routine: Observe → Investigate and Reflect → Record

OBSERVE *What do I notice in this moment? What is extraordinary about seemingly ordinary things? What surprises me as unexpected or dramatic?*

then

INVESTIGATE *What more do I want to know about what I observe? What questions will I seek to answer through my own continued observation? What information will I search for in books or from mentors or websites?*

and

REFLECT *What does my observation mean to me? How is it changing me? How does it help me explore my values and beliefs?*

then

RECORD *A routine of frequent observation provides the raw material to transform your blank Wheel into a circular journal as you record images, symbols, or words as you observe the passing of the seasons in your home place.*

5. Share and Celebrate

Use your Wheel to report or tell stories about what you learn from and value about Earth observation in your home place.

*Like a wheel on a cart, time turns around the hub of your home place;
the metaphor is a journey taken through a day, a month, a year,
or a lifetime of curiosity and appreciation.*

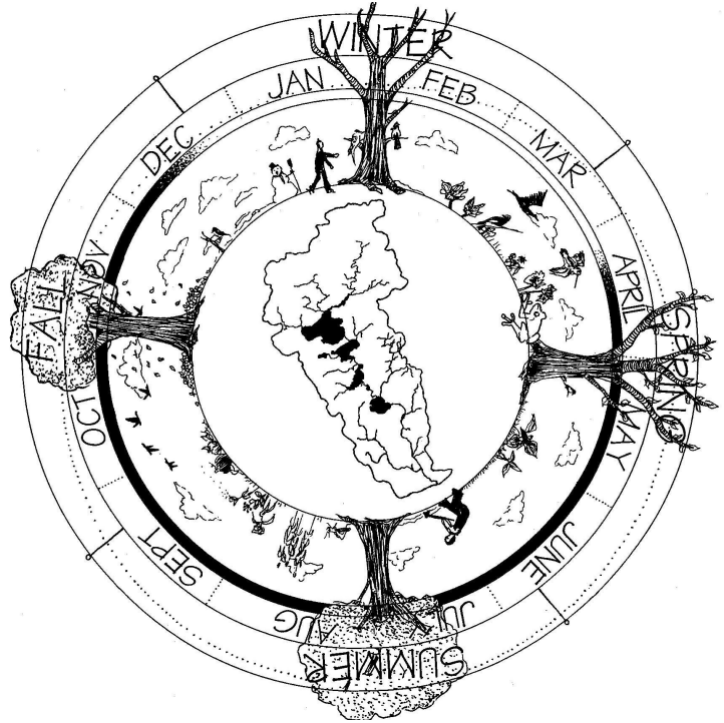
Of course, you don't have to keep a journal to explore and appreciate your home place on earth and the home place in your heart. What are the dimensions of your home place in this moment? What marks of time's passing do you observe? The more playful you are with these questions, the more you may feel a part of your home place and committed to co-creating its well-being with others in your community. Welcome home.

Example #1: The Yahara Watershed Wheel

About twelve years ago, a group of like-minded friends gathered by my fireside to reflect upon what it means to live in this place we call home in Dane County, Wisconsin, USA. We chose to think of the Yahara Watershed as our common home place, and the series of seasonal events that occur in a typical year as the time scale to track. We put a map of the watershed in the center of a large Wheel of the Year, with units of time going around the outside rim, much like a clock, but using seasons



and months instead of hours. We then went around our own circle, each speaking of the defining moments in the natural world and in the lives of people enjoying it throughout the months of a typical year. The artist among us sketched the images onto the Yahara Watershed Wheel that you see here. The detail in the enlarged image represents the unique happenings in March and April: pasque flowers in bloom, the return of redwing blackbirds and sandhill cranes, woodcock mating dances, first dandelions, and spring peepers in chorus.



Example #2: Poems of Place

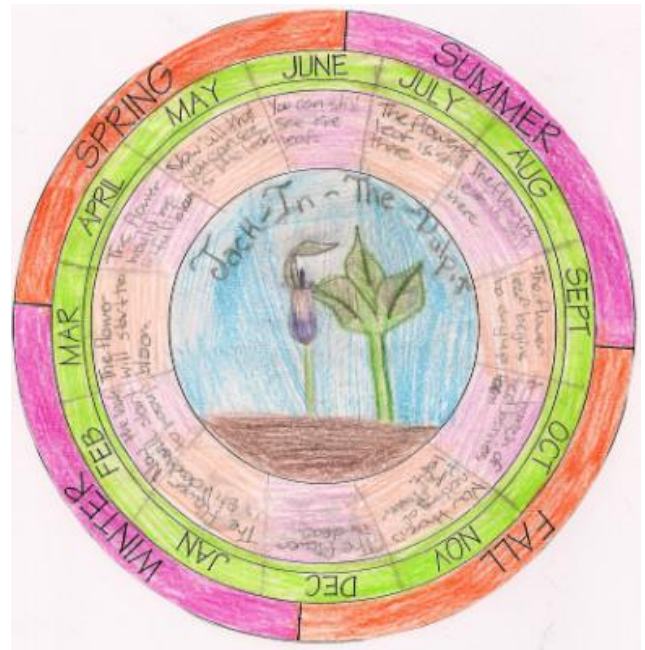
In reporting on this Wheel filled with seasonal poems by 4th and 5th graders about the large school woods, just outside an elementary school “backdoor” in Cambridge, Wisconsin, teacher Georgia Gomez-Ibanez reports, “Because the woods is so accessible, the children spend quite a lot of time there developing a deep sense of place, including keen observational skills and a heightened imagination, all enhanced by the affection they have gained by years of exploring, learning and stewardship.” This selection of student poems illustrates how Phenology Wheels can be used to enhance language arts as well as science curriculum.



Example #3: Local Biodiversity

In another example from Cambridge Elementary School in Wisconsin, teacher Georgia Gomez-Ibanez reports that a classroom studied the biodiversity of the area where they live. Each student picked a different animal or plant from their adjacent woods or prairie for the center of an 11-inch Wheel and then did research to tell the full story of the life cycle in words. The example here shows the work of one student who studied the Jack-in-the-Pulpit wildflower.

The next step would be for the students to combine their information for single species onto one large 32-inch Wheel and use it to explore the dynamics of the ecosystem that appear through food webs, habitat use, seed dispersal mechanisms, and so on.



Frequently Asked Questions

1. Where do I get more information?

If you are ready to start a Phenology Wheel for yourself, family, classroom or youth program, or any other interest group:

- Visit the [Wheels of Time and Place](#) website for more instructions, resources, and examples.
- Explore the K-12 [Phenology Wheel curriculum guides](#) created by the Earth Partnership for Schools at the University of Wisconsin-Madison to support the discovery of sense of place through art, writing, and photography.

2. Where do I order pre-made Wheels?

Download the blank Wheel templates and instruction booklet [here](#). Now out of print: the complete toolkit, *Wheels of Time and Place: Journals for the Cycles and Seasons of Life* including a set of print Wheels in 11-inch and 24-inch sizes, a code to download the PDF files, and an instruction booklet – all in a recycled chipboard carrying case.

3. What size should my Wheels be?

Some people prefer 11-inch Wheels because they are compact, portable, and can be easily duplicated in a copy machine on 11 x 17-inch paper. You can trim them down to 11-inch square if you would like.

When people share the 24-inch Wheels, their faces often light up with excitement. This size, or larger, works well if you have a large clip board or a place to keep it posted for frequent use or when people are working on one Wheel in a group.

Of course, if you make your Wheels by hand, you can make them any size you like. If you purchase the PDF files, you can enlarge them up to 32-36 inches at a copy or blueprint shop.

4. What if I'm already a journal-keeper?

Some people who already keep a written journal use the Wheels to review their journals periodically and pull out observations to further explore and put on a Wheel. It's amazing what patterns and stories can emerge.

5. Can the Wheels be created from databases?

[Geovisualizing Data with Ring Maps](#) Ring maps can help people understand complex data more easily than the same data presented in tables. Ring maps are particularly adept at visualizing the relationships between spatial and temporal data.

[Phenology Visualization Tool](#) from the National Phenology Network (USA-NPN). Explore the phenology data and maps made available by the USA-NPN. Seasonal stories guide you through several examples of ways you can visualize the data. The Data Explorer lets you dive deep into the observational plant and animal data as well as the USA-NPN's phenology maps.

Anne Forbes of [Partners in Place, LLC](#) is an ecologist who seeks to integrate her scientific and spiritual ways of knowing. For over 35 years, she worked on biodiversity policy as a natural resource manager and supported environmental and community collaborations as a facilitator and consultant. Her years of spiritual practice in varied traditions, most recently the Bon Buddhist tradition of Tibet, inspire her commitment to engaged action on behalf of present and future generations. She failed her first attempt at retirement and instead created the *Wheels of Time and Place: Journals for the Cycles and Seasons of Life*.