PHENOMENAL PHENOLOGY

Print out the cover pages together and double-sided. The second page in the file is upside down, so it should work out! Try to print on a heavier cardstock if it is available. This is a journal that should last and stand up to the elements!

Print out as many copies of the inside pages as you'd like. These are double-sided as well.

Fold these all in half an bind in a way that will keep it all together. One natural solution is to punch two holes in your book...one at the top and one towards the base. Then, hitch a rubber band to the top of a stick that measures roughly as long as the binding of your journal. Slide the band through the top hole and pull it through the front of the bottom hole. Take this base of the band and snap it around the base of the stick. Voila! A naturally(ish) bound journal!

WORKING WITH A BUDDING PHENOLOGIST:

When doing phenology with kids, it is fun to think about how you can make these changes and natural phenomena dynamic. Here are a few ideas:

~ Time lapse: Take a camera out at every visit and snap a picture. Save them in a folder on your computer. After a few months, pull them into an easy movie editor like iMovie and watch the frames evolve. There are number of free apps out there that will do this work for you!

~ Phenology Wheel: Look up this online...so many great ideas for incorporating art and materials.

FOR THE RECORD:

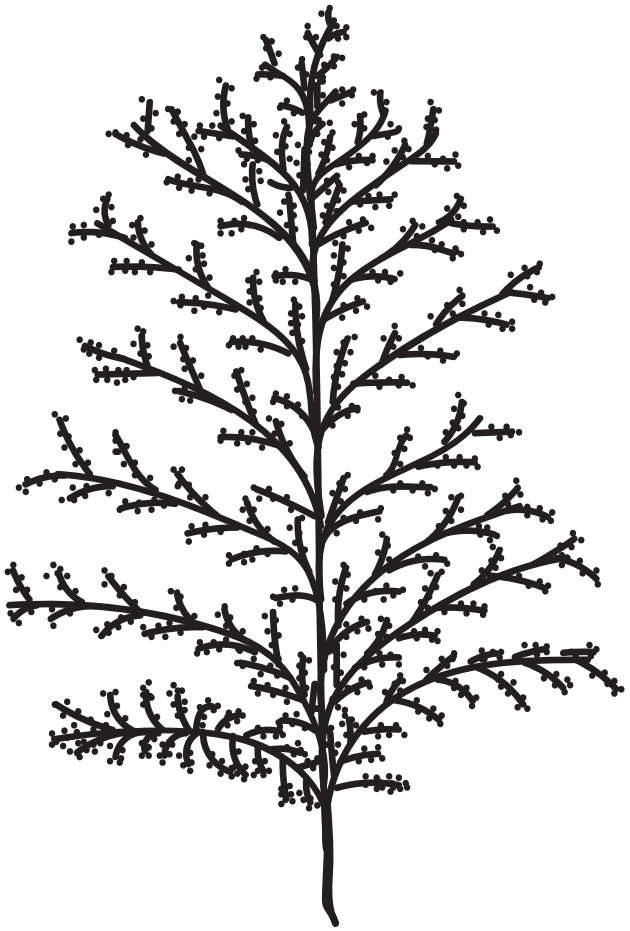
When recording be sure to get the vital things recorded at the top as the first thing you do. Date, time, temperature, spot name. Additionally, record a quick weather icon sketch, your own directional orientation on the compass rose, and and sounds you hear in the upper right portion of the entry.

As for sketching and writing...it really is up to you, what you see, and how you wish to record it!

Montana Natural History Center
Connecting People with Nature

Phenomenal

PHENOLOGY



naturalist at work

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WHO started phenology?

No one can really lay claim or credit to the invention of phenology. Cultures all over the world have observed and recorded the flowering of plants, the migration of certain birds, and the change of seasons for thousands of years. There have been various people who took it to the next level of dedication. Folks like botanist Carolus Linnaeus painstakingly recorded the opening of buds in multiple locations across his home country of Sweden for years (www.budburst.org). Authors like Henry David Thoreau also made many thorough (ha!) contributions to the field by recording changes in written form. Many Native American tribes, like the Salish, have also been taught the importance of seasonal rounds. The arts of observation, hunting, harvesting and storytelling have been passed down through the generations. It is safe to say that phenology is a favorite pastime of us humans!

WHAT is phenology?

Phenology is the study of when things in the natural world repeat. When an apple tree blooms, when osprey migrate, when mason bees emerge. All these wonders are examples of what a phenologist might study.

WHEN should I phenology?

There is no right or wrong way to watch and observe. Perhaps there is a BEST way. The most important thing to remember is that change is sometimes slow. Some changes are not noticed until multiple visits. Patience! Try to make an attempt to return to this special place at the same time each visit. If you begin your phenology journal at the swollen bud of a plum tree at 9:00 AM...try to return to that same bud at the same time tomorrow or next week or next month. How does the light change over the visits? How do you think this affects what you are watching?

WHERE do I phenology?

Try to choose a special area that you would like to return to each week or each month. A good study spot is a place that has many living (biotic) species and abiotic (non-living) things. A proper phenologist understands that living things have an impact on their environment and that the environment (rocks, weather, temperature changes, light) have an effect on the species that call it home. A practically perfect phenologist records these relationships in a journal!

WHY is it phenomenal?

Scientists use phenology to look at big patterns. If an ornithologist (bird scientist) looks at the migration patterns and times from a phenology journal from 200 years ago and notices a big change from their own records, they might have something worth investigating. Many scientists today are looking at how climate has changed and how it is affecting migration, blooms and other processes. As a budding phenologist, you can even submit your data to www.budburst.org to be a part of a BIGGER pool of patterns!

THE PLEDGE OF PERSISTANCE

I have read the above statements and agree to uphold the honors and benefits within them. I pledge to stand in rain, trudge through snow, and have the hot sun beat down on me. In the name of science. In the name of phenology.

_____

(your signature) (date)

Date:_____

Time: _____

Location name:

_____

Temperature:_____

Weather:

Orientation:

Sounds:

_____

change

same

Sketch

_____

_____

_____

Date:_____

Time: _____

Location name:

_____

Temperature:_____

Weather:

Orientation:

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Date:_____

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Date:_____

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Sketch