



# Season Seeking

## PHENOMENAL PHENOLOGY

Observing plants and animals often involves noticing and recording seasonal changes over time. Every species moves through a series of life cycle stages that are related to environmental cues. The study of these life cycle stages is called phenology and the observable stages are called phenophases. Examples of phenophases include the breaking leaf buds on a plant; pollinator interaction with flowers; bird nest building; mammal hibernation; or butterfly emergence from a cocoon.

### SMART START:

- ★ For resources about leaves, flowers, and fruits, use the Nature's Notebook phenophase definition sheets ([usanpn.org/nn/species\\_search](http://usanpn.org/nn/species_search)), Botany and Phenophase Primers, local field guides, or someone knowledgeable about the natural history of your area.
- ★ Find a spot that is accessible, whether it's a schoolyard, local botanical garden, arboretum, nature center, park, or wildlife refuge. Observations can start short (10 mins.) and can be made during a walk, hike, or while just sitting, looking, and listening.

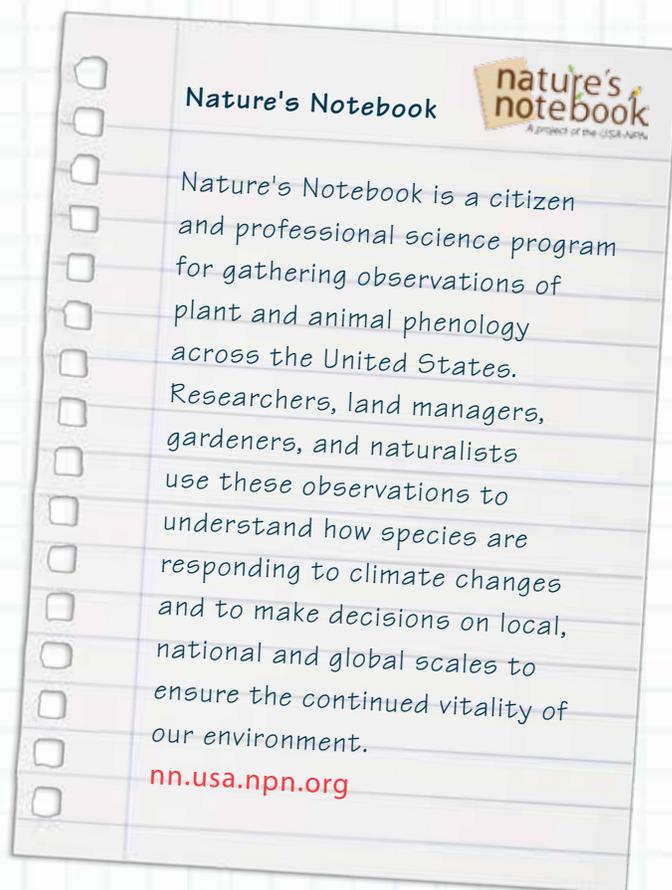
### Here's how:

**1. Introduce phenology.** Discuss phenophases and phenology. Have the girls brainstorm different phenophases and what time of year they appear. Is there a connection between when a phenophase occurs and what's happening in the environment?<sup>6</sup>

## You'll Need:



- ◆ pencil
- ◆ markers or colored pencils
- ◆ journals, sketch pads, or drawing paper
- ◆ optional: SciGirls Nature Nurture journal
- ◆ optional: magnifying glasses, binoculars, plant and animal field guides



# Season Seeking continued



Watch SciGirls learn about phenophases on the *SciGirls Participate* DVD. (Select **Flower Power: Data Collection**.)

## 2. Observe.

Introduce the **SciGirls Challenge**: Identify and describe as many phenophases as you can find. (Girls should look for green leaves, a plant in bloom, a plant bearing fruit, a bird and its behaviors, a mammal and its behaviors, and an insect and its behaviors.)

**3. Plan.** Divide the girls into small groups<sup>1</sup> and have them discuss what information they should record when making scientific observations in nature. Ask each group to share one item until you have a group list. Make sure it includes these things:

- ★ date
- ★ time spent observing
- ★ weather conditions (precipitation, temperature)
- ★ drawings and/or photos
- ★ location of the plant or animal
- ★ name of the plant or animal (can be looked up)

**POINTER:** Remember, it's also important to record when you don't see a phenophase!

**4. Collect data.** Time to make observations! Travel to your selected site and begin looking, making sure to carefully record all observations.

**5. Share.** Have each group share one of its most interesting finds. If time allows they can do more research and create a fun presentation to share.<sup>4</sup>

**6. Continue exploring.** Return to the same location multiple times over the course of the year to look for changes in the plants and animals.

Watch Lauren and the SciGirls look for signs of spring on the *SciGirls Participate* DVD. (Select **Flower Power: Mentor Moment**.)



## Mentor Moment

Lauren Borer is a naturalist in Minnesota who shares her love of the outdoors and the natural world with kids and adults. Born a city kid who longed to be in the woods, she was interested in how plants, animals, and humans interact with each other. In one year she worked as a naturalist in four different states, including living in a lighthouse in Door County, Wisconsin and teaching in Yellowstone National Park. Her dog, named Lucy, also likes to hike and watch birds.