Glossary

accurate (**a** kyə rət): Free from error.

adapt (ə **dapt**): To adjust to new conditions.

cue (**kyū**): A signal.

database (**dā** tə bās): A comprehensive collection of related data organized for convenient access, generally in a computer.

invasive species (in **vā** siv **spē** shēz): Any plant, animal, or organism that is not native to the ecosystem it is in and is likely to cause harm to the environment, the economy, or human health.

migrate (**mī** grāt): To move from one place to another.

protocol (**prō** tə käl): A plan for a scientific experiment.

reliable (ri **lī** ə bəl): Giving the same results in repeated attempts.

trend (**trend**): A behavior pattern occurring and developing over a period of time.

Accented syllables are in **bold**. Marks and definitions are from http://www.merriam-webster.com. Definitions are limited to the word's meaning in the article.

FACTivity

Time Needed

One class period

Materials

(for each student or group of students)

- Computer (optional)
- Pen/pencil
- *Nature's Notebook* Field Datasheets
- Field guides (optional)
- Binoculars/magnifying glass (optional)

Become a citizen scientist by collecting phenology data from your school, town, or home using *Nature's Notebook* (https://www.usanpn.org/natures_notebook). Follow the directions below to start observations or visit the *Nature's Notebook*.

Website to learn about starting observations for your citizen science project (https://www.usanpn.org/nn/guidelines).

Methods

1. As a class, brainstorm up to five plants or animals that you would like to observe. These can be plant or animal species from *Nature's Notebook* "Campaign Species," or species discussed in class. Make sure that the chosen species are those that you know live nearby.
2. Choose an easily accessible location where your class can conduct observations. You can choose your schoolyard, your backyard, or a local park. If plants are being observed, remember to flag the individual plants your class is observing. Plastic flagging,

yarn, or string can be used to identify the study plant.

3. Your teacher will create a *Nature's Notebook* profile on the website. You and your classmates can submit observations to this profile. Once a profile is created, the "My Observation Deck" link allows your teacher to create an observation location. Give your location a name, such as "Riverview Middle School."
4. Next, your teacher will add the plants and/or animals that your class will observe.
5. Together with your teacher, review the protocol that you will use while observing and recording. Each plant or animal observed will have a Field Datasheet that can be printed for your use (figure 4).
6. Conduct observations two or more times per week using the Field Datasheet for each species. The longer period over which you make observations and collect data, the more you will learn about the phenology of the species you chose.
7. How did your plant or animal change during your observations? Compare your observations to the observations of other citizen scientists that are collected for the same species on *Nature's Notebook*.

Trees and Shrubs *Deciduous*

nature's notebook

Directions: Fill in the date and time in the top rows and circle the appropriate letter in the column below.
y (phenophase is occurring); **n** (phenophase is not occurring); **?** (not certain if the phenophase is occurring).
Do not circle anything if you did not check for the phenophase. In the adjacent blank, write in the appropriate measure of intensity or abundance for this phenophase.

Species: Cornus florida
Common Name: flowering dogwood
Nickname: flowering dogwood-1
Site: Sandy Creek Nature Center
Year: 2016
Observer: null null

	Date:	Date:	Date:	Date:	Date:	Date:	Date:	Date:
Do you see...	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**	**Time:**
Breaking leaf buds	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Leaves	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Increasing leaf size	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Colored leaves	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Falling leaves	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Flowers or flower buds	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Open flowers	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Fruits	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Ripe fruits	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Recent fruit or seed drop	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____	y n ? ____
Check when data entered online:	☐	☐	☐	☐	☐	☐	☐	☐

Comments:

Figure 4. A Field Datasheet produced by *Nature's Notebook*, like this one for flowering dogwood trees, can be made for each plant or animal species your class observes. Photo courtsey of *Nature's Notebook*.