

Welcome.

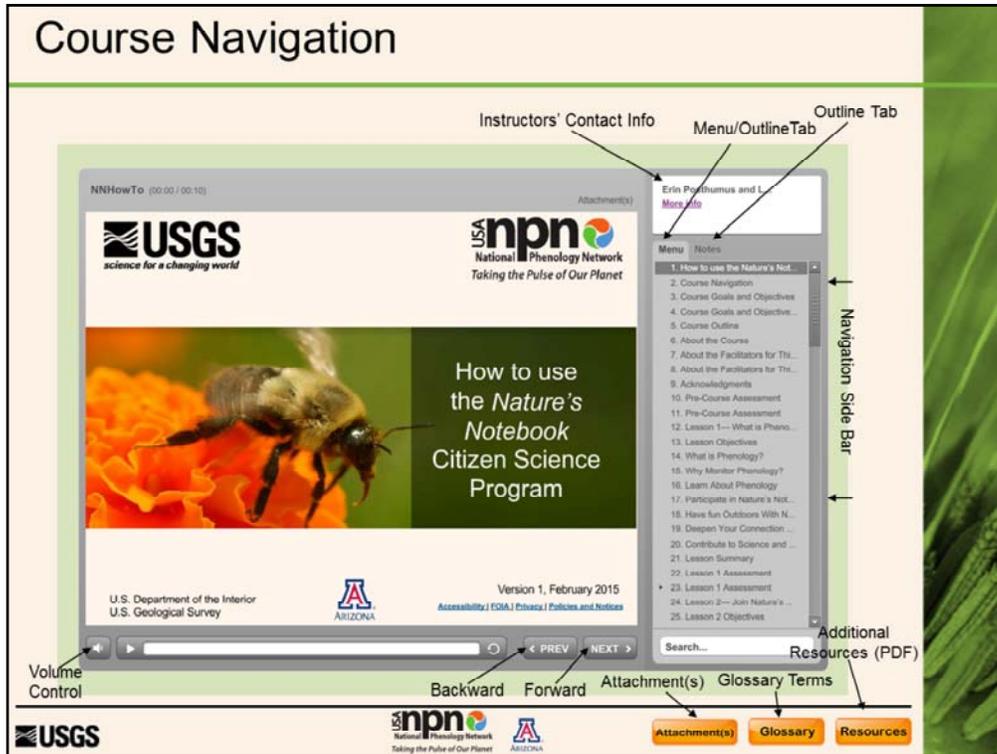
This short, online course, “How to use the *Nature's Notebook* Citizen Science Program,” was a joint effort between the U.S. Geological Survey, the USA National Phenology Network, and the University of Arizona.

This course will provide you with step-by-step instructions for getting started with tracking plant and/or animal phenology using *Nature's Notebook*. You will learn a standardized approach to observing phenology; these methods have been broadly vetted, published in the peer-reviewed literature, and can be adapted to a variety of questions, sampling designs and ecosystems.

Other photos used in this course are from Shutterstock.com and Pixabay.com.

Students Please Note:

- Slide notes for this presentation are attached as a PDF file that you can download. Select the Attachments button to open.
- This presentation is not narrated, however, there are short video clips that will require that your sound/speakers be turned on.
- If you require text-equivalent versions of the videos used in this presentation, for accessibility purposes, please contact Tj Lane (e-mail: tjlane@usgs.gov).



Course Navigation

- A Navigation Side Bar appears at the right of the presentation window. There are two panes to this window.
- The Outline pane lists all the slides in the course. You can use this pane to go to any slide.
- The Notes pane is for viewing the slide notes for each slide.
- The Search pane, at the bottom of the Navigation Slide Bar, allows you to search for any word in the course and will display links to all slides containing that word.
- The navigation bar at the bottom of the presentation window contains the:
 - Volume control. Although the course is not narrated, there are short video clips in the presentation that will require sound.
 - “Previous” and “Next” buttons.
- Links to the instructor’s email address and phone number appear at the top of the navigation bar.
- Orange buttons include:
 - Button for downloading attachment(s).
 - Glossary button will open NPN's glossary pages.
 - Resources button to open a PDF of additional Resources.

Performance Objectives

At the conclusion of this course, you will be able to:

- 
 Navigate through the *Nature's Notebook* program.
- 
 Recognize relationships between plant and animal seasonal life cycle events (phenology) and environmental variation including climate change.
- 
 Design and implement a phenology monitoring program in a variety of settings to enhance existing science, management and outreach/education goals.
- 
 Recognize the value of phenology to research, natural resource management, and decision-making.




[Attachment\(s\)](#)
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Course Outline

1. What is phenology, and why monitor it?
2. Join *Nature's Notebook* – setting up your account
3. Choosing a site to monitor
4. Choose your plant and animal species
5. Setting up your sites and species online
6. Getting organized to go outside
7. Recording plant observations
8. Recording animal observations
9. Submitting observations online
10. More opportunities for learning, engaging, and connecting with others



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Taking the Pulse of Our Planet 

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Course Outline

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About the Course



This course will take approximately 45 minutes to complete.

Short post-lesson assessments follow each lesson and are designed to reinforce your understanding of the concepts covered in each lesson, and to provide valuable feedback to the course facilitators for lesson improvement. You will have two chances to score an 80% or above for each assessment.

The course contains a pre-course assessment so that you can focus your learning throughout the presentation.

   [Attachment\(s\)](#) [Glossary](#) [Resources](#)

About the Course

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About the Facilitators for This Course



LoriAnne Barnett

- **Title:** Education Coordinator
- **Office:** USA National Phenology Network
- M.A. Environmental Science and Environmental Education
- **E-mail:**
lorianne@usanpn.org
- **Phone:** 520-621-1803
- **On-Line Schedule:**
9:00 am – 4:00 pm, M-F, MST, Arizona



Attachment(s)

Glossary

Resources

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LoriAnne Barnett

Title: Education Coordinator

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About the Facilitators for This Course (Cont.)



Erin Posthumus

- **Title:** Outreach Coordinator and USA-NPN Liaison to the US Fish & Wildlife Service
- **Office:** USA National Phenology Network's National Coordinating Office, Tucson, Arizona
- **E-mail:** erin@usanpn.org
- **Phone:** 520-621-1670
- **On-Line Schedule:**
8:00 am – 4:00 pm M-F, MST, Arizona



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Acknowledgments

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- Thank you to Patricia Guertin and Sara Schaffer (USA National Phenology Network), and *Nature's Notebook* observers Hilary Cox, Susan Peters, Joe Stemmy, and Kathleen Stetz for providing invaluable feedback on an earlier draft of this course.
- We gratefully acknowledge the support of the USGS Office of Organizational and Employee Development. Invaluable Instructional Systems Design expertise and support was provided by Tj Lane, Chief of the USGS Technology Enable Learning (TEL) Program.

[Attachment\(s\)](#)[Glossary](#)[Resources](#)

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Pre-Course Assessment

This pre-course assessment is for your use in determining what you may already know about the subject. It may help you to see where you may need to concentrate your learning as you go through this presentation.

- There are four questions in this assessment: two multiple choice and two True/False.
- The assessment is not timed.
- You will have three chances to get the multiple-choice questions correct, and once chance to get the True/False questions correct.
- You can retake the assessment twice to get an 80% or higher score.
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Go to the next slide to get started!



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1. Select the correct answer. What is Phonology?

- The study of the measurement of a subject area
- The study of the meaning of the words in a text
- The study of the organization of words before and within sentences
- The study of the sound

Pre-Course Assessment

Quiz - 4 questions

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Pre-Course Assessment (Cont.)

 Lesson 1—
What is *Phenology*,
and Why Monitor It?

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Lesson 1—What is Phenology and Why Monitor it?

Lesson 1 Objectives

By the end of this lesson, you will be able to:



Define the word "phenology."



Re-state the definition of phenology used by the USA National Phenology Network.



Explain how your observations contribute directly to science, scientific research, and resource management.



[Attachment\(s\)](#)

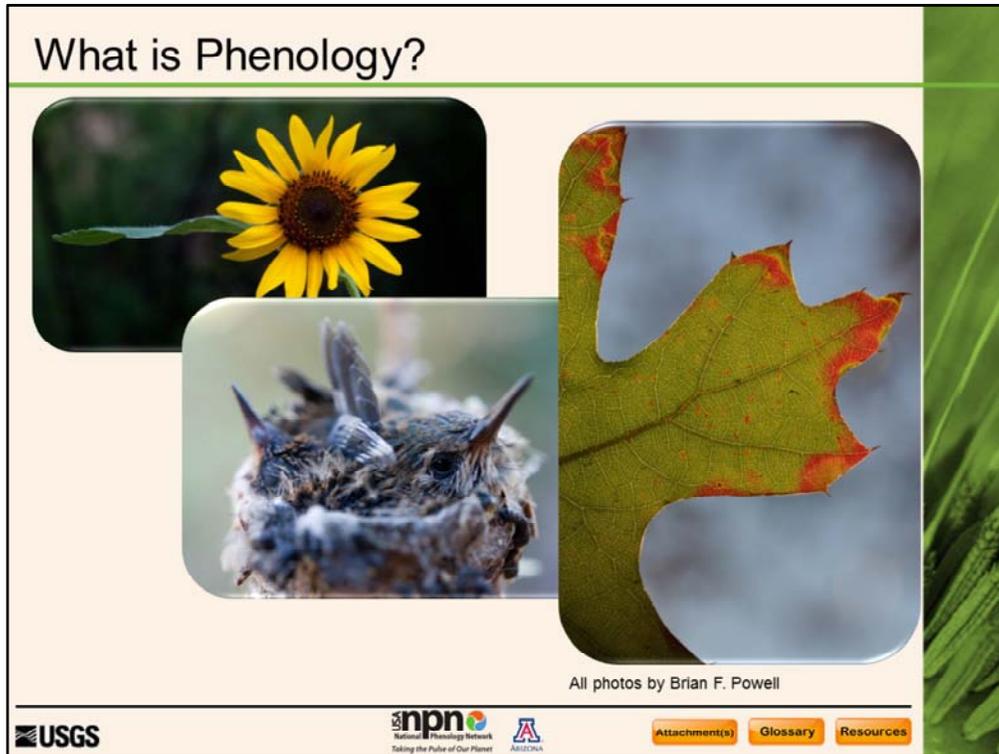
[Glossary](#)

[Resources](#)

Lesson 1 Objectives

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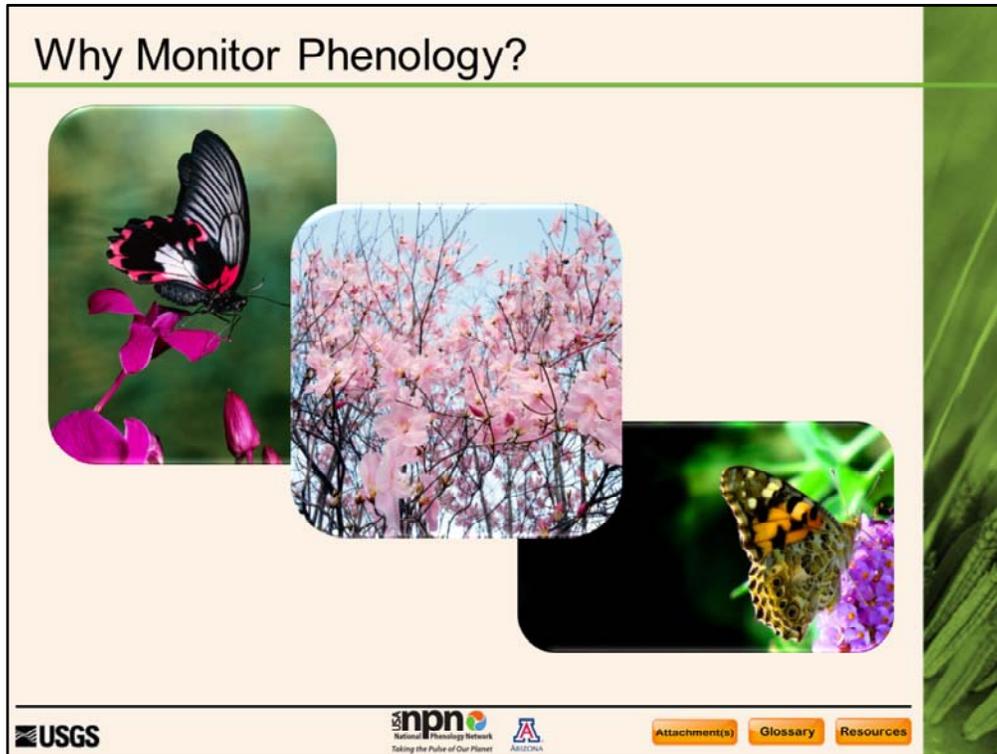
- Define the word "phenology."
- Re-state the definition of phenology used by the USA National Phenology Network.
- Explain how your observations contribute directly to science, scientific research, and resource management.



What is Phenology?

Phenology is the study of the timing of life cycle events in plants and animals, their recurrence, and relationship to the environment. The word comes from the Greek root word *phaino*, which means to show or appear.

Phenology is nature's calendar—when cherry trees bloom, when a robin builds its nest and when leaves turn color in the fall. Phenology is pollinators visiting open flowers to aid in reproduction, elk making mating calls in the spring, and a tadpole turning into a frog.



Why Monitor Phenology?

Phenology is a key component of life on earth. Many birds time their nesting so that eggs hatch when insects are available to feed nestlings. In turn, insect emergence is often synchronized with leafing out in their host plants.

For many people, allergy season starts when particular flowers bloom—earlier flowering means earlier allergies.

Farmers and gardeners need to know when to plant to avoid frosts, and they need to know the schedule of plant and insect development to decide when to apply fertilizers and pesticides.

Many interactions in nature depend on timing. In fact, phenology affects nearly all aspects of the environment, including the abundance, distribution, and diversity of organisms, ecosystem services, food webs, and the global cycles of water and carbon.

Learn About Phenology

You can intimately connect with plants or animals that you see all the time in a brand new way.



Photo by Brian F. Powell



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Learn About Phenology

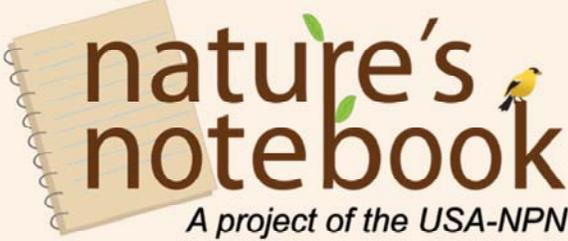
You can intimately connect with plants or animals that you see all the time in a brand new way.

As an observer, you'll notice things you never saw before. The slightest blush on a maple leaf that foreshadows the coming fall. The new, more vibrant feathers warblers put on days before mating. The swelling of a Palo Verde bean pod as it grows.

You can develop a more nuanced appreciation of our natural world when you participate in *Nature's Notebook*.

Participate in *Nature's Notebook*

Nature's Notebook, a citizen and professional science program sponsored by the USGS and USA National Phenology Network, offers a platform for you to make phenology observations and contribute them to our National Phenology Database.



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Participate in *Nature's Notebook*

Nature's Notebook, a citizen and professional science program sponsored by the USGS and USA National Phenology Network, offers a platform for you to make phenology observations and contribute them to our National Phenology Database.

The observations you contribute to *Nature's Notebook* become critical data that scientists, land managers, and educators use to understand how species' are responding to seasonal and climatic changes through time. Every entry you make is important!

Have Fun Outdoors with *Nature's Notebook*

Where you observe is up to you.

Participating is an exciting way to experience your favorite trail, neighborhood park or even your own backyard.

You can make observations by yourself, with a friend, or in a group.



Photo by Brian F. Powell



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Deepen Your Connection With Nature

Going outside to look at plants or animals up-close will expand your knowledge of nature and open up new ways you experience the great outdoors.



Photo by Brian F. Powell



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Contribute to Science and Decision-Making

Your data are a big deal! They help us:

- Predict threats to people and their environment (like wildfires, drought, or flooding).
- Anticipate harvest time in food production.
- Predict allergy season.



Photo by Brian F. Powell



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[Resources](#)

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- Predict threats to people and their environment (like wildfires, drought, or flooding).
- Anticipate harvest time in food production, when to plant to avoid frosts, and the schedule of plant and insect development to decide when to apply fertilizers and pesticides.
- Predict allergy season.

Lesson 1 Summary

- Phenology is the study of the recurring life cycle events of plants and animals and their relationship to the environment.
- Observations you contribute to the *Nature's Notebook* citizen and professional science program help land managers, agriculturists, gardeners, scientists, educators, and YOU understand how species are responding to their local environment through time.
- Observations become data in the National Phenology Database that anyone can use for research, land-management, or decision-making.



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- There are two questions in this assessment: both Multiple Choice.
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- You will have three chances to get each question correct.
- You can retake the assessment twice to score an 80% or higher.
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Go to the next slide to get started.



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Go to the next slide to get started.

Good luck!

1. Select the correct answer. My observations contribute directly to science and decision making through:

- Asking or testing their questions.
- Modeling thinking and reasoning (even if incorrect) and justifying.
- Arguing to one another over ideas and answers.
- All of the above.

Lesson 1 Assessment

Quiz - 2 questions

Last Modified: Apr 13, 2015 at 03:07 PM

PROPERTIES

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Lesson 1 Assessment (Cont.)



Lesson 2—
Join Nature's Notebook

U.S. Department of the Interior
U.S. Geological Survey



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Lesson 2—Join *Nature's Notebook*

Lesson 2 Objectives

By the end of this lesson, you will be able to:



Create your *Nature's Notebook* account.



Log in to *Nature's Notebook* and visit your Observation Deck.



Recognize the different parts of your Observation Deck.



[Attachment\(s\)](#)

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Lesson 2 Objectives

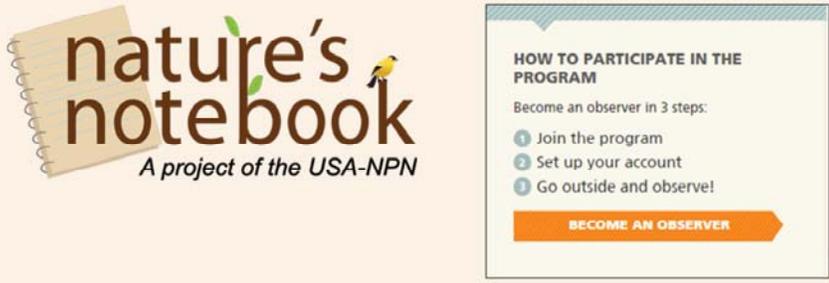
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- Create your *Nature's Notebook* account.
- Log in to *Nature's Notebook* and visit your Observation Deck.
- Recognize the different parts of your Observation Deck.

Join *Nature's Notebook*

Your first step is to create a *Nature's Notebook* account, using a unique user name and password.

Visit the main *Nature's Notebook* webpage to get started, www.nn.usanpn.org, select on the **BECOME AN OBSERVER** link and follow the instructions on the screen.



The screenshot shows the 'nature's notebook' logo with a bird and the text 'A project of the USA-NPN'. To the right, a box titled 'HOW TO PARTICIPATE IN THE PROGRAM' lists three steps: 1. Join the program, 2. Set up your account, 3. Go outside and observe! Below the list is an orange arrow button labeled 'BECOME AN OBSERVER'. The footer includes logos for USGS, npn (National Phenology Network), and the American Ornithologists Union, along with links for 'Attachment(s)', 'Glossary', and 'Resources'.

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Join Nature's Notebook (Cont.)

Select the right arrow, within the image below, to watch a video (00:02:39), in a separate window, on how to register with *Nature's Notebook*. The script for the video is in the slide notes.



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Join Nature's Notebook (Cont.)

Select the right arrow, within the image below, to watch a video, in a separate window, on how to register with *Nature's Notebook* (00:02:39). The script for the video is in the slide notes.

Video is at URL:

<https://www.youtube.com/watch?v=ratFMFPD1UA&feature=youtu.be&list=PLInHLGw8kUFY0KWtU0cA7I-HXgZC7gIfS>

[Script]

To register for a *Nature's Notebook* account, begin on the *Nature's Notebook* homepage (www.nn.usanpn.org). Click the link to **Become an Observer**, then click **Become an Observer now**.

Fill in your contact details, including your username, email, and password. If you are going to be observing with a Partner group, select your **Partner group** from the list. If you will be observing as an individual observer, you can skip this section. Check the box to agree with the Terms of use, then answer the validation question.

NNuser, NNuser@gmail.com, nco123

Create a **New Account**.

In Step 2, you will set up a site. You can create a personal site, in a location such as your backyard, by selecting a name for your site, and either moving the pin on the Google map or entering your address into the address box.

Click **Create Site**. Alternatively, you can add yourself to an existing Public site and skip the step of adding a personal site.

For now, we will skip the steps of selecting plants and animals and proceed to step 3. Here you will find links to our observation guidelines, how to print paper data sheets, or how to download our smartphone application for Android and iPhone.

Next you will go to your Observation Deck. There you will see the site that you added, or any Public Sites that you joined.

Login and Visit Your Observation Deck

- See a [Larger View](#) of image.

Login and Visit Your Observation Deck

This is the page you will return to for all activity. From this page, you can register a site, register individual plants, create an animal checklist, and enter your observation data.

These key functions in *Nature's Notebook* are found underneath the Sites, My Plants & Animals, Details for this Organism, and Enter Observations boxes.

The links that you can select will always appear in ORANGE.

Returning to your Observation Deck is easy. The link is accessible on each page in *Nature's Notebook* by selecting on the **OBSERVE** drop down menu and then **My Observation Deck** .

Lesson 2 Summary

- Join *Nature's Notebook* on the **Become an Observer** page.



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Lesson 2 Summary

- Join *Nature's Notebook* on the **Become an Observer** page.
- After your account has been created, you will log in to *Nature's Notebook* in the upper right-hand corner of the main *Nature's Notebook* website by selecting on the gray **LOG IN** link.
- Your Observation Deck is the main way you will interact with *Nature's Notebook*. It contains your sites, your plants and animals you observe, and a link to enter your observations online. You must enter your observations online for them to be useful!

Lesson 2 Assessment

- There are two questions in this assessment: one True/False, and one Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have one chance to get the True/False question correct and three chances to get the Multiple-choice question correct.
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Photo by Brian F Powell

Go to the next slide to get started.



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Go to the next slide to get started.

Good luck!

1. True or False: There are 3 easy steps involved in creating your Nature's Notebook Account.

Lesson 2 Assessment

Quiz - 2 questions

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Lesson 2 Assessment (Cont.)



Lesson 3—
Choose a Site to Monitor

U.S. Department of the Interior
U.S. Geological Survey



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Lesson 3—Choose a Site to Monitor

Lesson 3 Objectives

By the end of this lesson, you will be able to:

-  Describe why you should consider convenience when choosing a site.
-  Define a “representative location.”
-  Choose and create sites with uniform habitat and explain why that is important.
-  Describe what an appropriate size is for a site, and what influences the appropriate size.
-  Explain what “proper permission” is and why you need it before you start observing on lands that don’t belong to you.




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Lesson 3 Objectives

By the end of this lesson, you will be able to:

- Describe why you should consider convenience when choosing a site.
- Define a “representative location.”
- Choose and create sites with uniform habitat and explain why that is important.
- Describe what an appropriate size is for a site, and what influences the appropriate size.
- Explain what “proper permission” is and why you need it before you start observing on lands that don’t belong to you.

Choose a Site—Convenience

You will be visiting your site(s) regularly, so it should be convenient and easily accessible.

Consider your yard or another area that you visit frequently and is easy to travel to.

The easier it is to get to your site, the more likely it is that you will visit it.

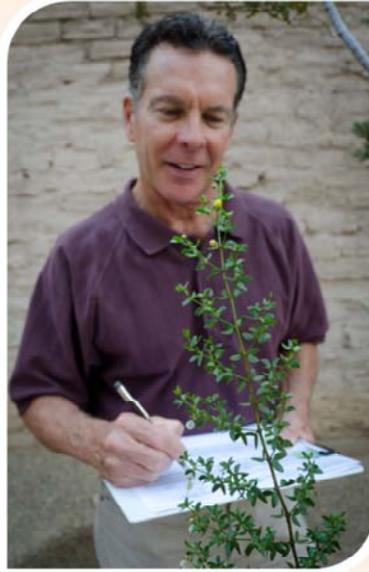


Photo by Brian F. Powell



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Choose a Site—Representative Location

As much as is practical, the selected site(s) should be representative of the environmental conditions for your area.



Photo by Brian F. Powell

USGS npn National Phenology Network Taking the Pulse of Our Planet ARIZONA Attachment(s) Glossary Resources

Choose a Site—Representative Location

As much as is practical, the selected site(s) should be representative of the environmental conditions for your area.

We welcome all observations, even if your site is unusual for your area, but we encourage people to select sites that are representative of the local environment when possible. For example, if possible, we recommend that you select a site in a relatively flat or gently sloping area.

We also recommend that you avoid areas that are subject to drifting snow or funneled or channeled winds. The site should ideally be neither excessively dry nor wet for your area.

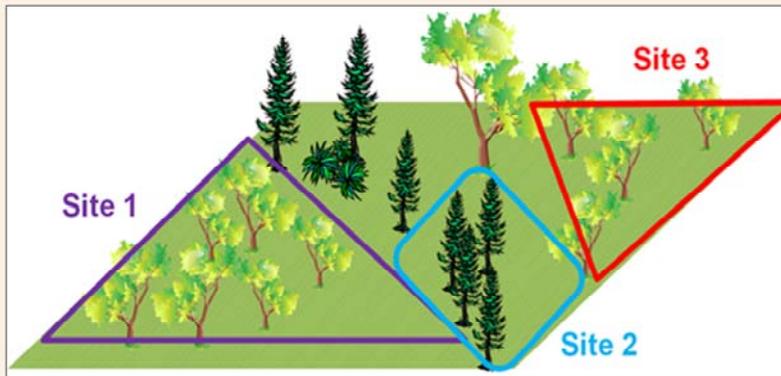
In forested areas, the site should be generally similar to the surrounding forest, reflecting the overall canopy composition and stature.

If you are observing wild plants, we suggest you avoid locations where plants are watered or fertilized.

If your site is unusual for your area, just record the unusual characteristics in the comments section of the *Nature's Notebook* [Add a New Site](#) form when you register your site.

Choose a Site—Uniform Habitat

The conditions of your selected site(s) should be relatively uniform across the site.



Examples of adjacent sites separated by forest type.



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Choose a Site—Uniform Habitat

The conditions of your selected site(s) should be relatively uniform across the site.

If you would like to observe two adjacent but distinct habitats, please document them as separate sites. For example, a wetland adjacent to or surrounded by a drier grassland or forest should be documented as a separate site from the grassland or forest. It will be easier to understand and analyze data from sites with uniform habitat.

Choose a Site—Appropriate Size

A site should be no larger than 15 acres (6 hectares or 250 x 250 meters, the size of a pixel from a land surface satellite image), a square with sides the length of 2 ½ football fields.

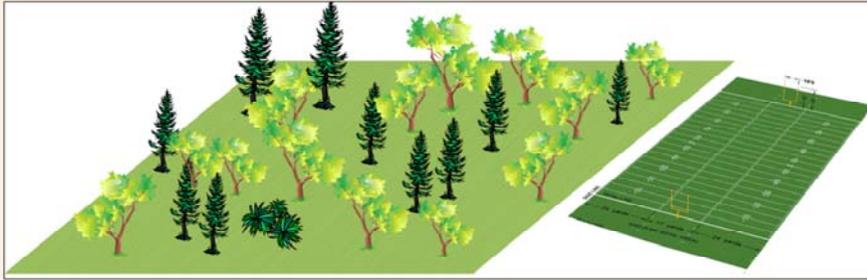


Illustration of an appropriate size for a site.



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Choose a Site --Appropriate Size

A site should be no larger than 15 acres (6 hectares or 250 x 250 meters, the size of a pixel from a land surface satellite image), a square with sides the length of 2 ½ football fields.

A site can certainly be smaller than this, and larger areas can be divided into multiple sites.

The best size for your site depends on the scale of your landscape and the distance over which you can easily see or walk. It also depends on whether you are observing animals or only plants. For plants, a site is the area that surrounds the individual plants you are observing. For animals, a site is the area where you look for the animals on your checklist.

Data from the National Phenology Database are sometimes paired with satellite data imagery for analysis and synthesis.

Choose a Site—Proper Permission

If you do not own the property where the site is located, you must get permission from the landowner before marking the site, the plants or reporting the site location information (such as latitude/longitude coordinates).

The land owner may be liable if any accidents or damage occur while you are observing.



Photo by Erin Posthumus

USGS npn National Phenology Network Taking the Pulse of Our Planet A ARIZONA Attachment(s) Glossary Resources

Choose a Site—Proper Permission

If you do not own the property where the site is located, you must get permission from the landowner before marking the site, the plants or reporting the site location information (such as latitude/longitude coordinates).

Without permission the land owner may be legally liable for your presence and/or any incidents that occur while you are observing. Obtaining permission ahead of time is due diligence.

Many public agencies encourage observations of this kind and would be glad to know that you are reporting your observations to *Nature's Notebook*. However, you should get permission to make observations from the appropriate department of the federal government, state, or municipality that has responsibility for the property. Land managers often issue written permits for land access, which will help ensure that you can mark your sites and plants and can regularly visit your site.

Lesson 3 Summary

- A site should be accessible and convenient to you because you will need to visit it frequently.
- A representative location is one that is reflective of the local surrounding habitat.
- A uniform habitat means that the site conditions are consistent across the site.
- An appropriate size is no more than 15 acres. This size was chosen by the USA-NPN because it is the size of satellite imagery pixels.



- Proper permission means the land owner has stated you are allowed to collect observations on their property.



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Lesson 3 Summary

- A site should be accessible and convenient to you because you will need to visit it frequently. If it is easy to get to, or you already visit it often, you will be more likely to collect data on a regular basis.
- A representative location is one that is reflective of the local surrounding habitat.
- A uniform habitat means that the site conditions are consistent across the site.
- An appropriate size is no more than 15 acres. This size was chosen by the USA-NPN because it is the size of satellite imagery pixels.
- Proper permission means the land owner has stated you are allowed to collect observations on their property. The land owner may be liable if any accidents or damage occur while you are observing.

Lesson 3 Assessment

- There are five questions in this assessment: two True/False and three Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get the Multiple-Choice questions correct and one chance to get each of the True/False questions correct.
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.



Go to the next slide to get started.



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Lesson 3 Assessment

- There are five questions in this assessment: two True/False and three Multiple Choice.
- The assessment is not timed.
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- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.

Go to the next slide to get started.

Good luck!

1. True or False. A representative location means that your site exhibits characteristics that are unique and different from the general area where you would like to observe.

True
False

Lesson 3 Assessment

Quiz - 5 questions

Last Modified: Apr 03, 2015 at 11:06 AM

PROPERTIES

On passing, 'Finish' button: [Goes to Next Slide](#)

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Show in menu as: [Single item](#)

 Edit in Quizmaker

 Edit Properties

Lesson 3 Assessment (Cont.)



Lesson 4—
Choose Plant and
Animal Species
to Monitor

U.S. Department of the Interior
U.S. Geological Survey



[Accessibility](#) | [FOIA](#) | [Privacy](#) | [Policies and Notices](#)

Lesson 4—Choose Plant and Animal Species to Monitor

Lesson 4 Objectives

By the end of this lesson, you will be able to:

-  Describe the difference between the process of plant and animal observations.
-  Recognize how to choose the plant and animal species on which you will observe.
-  Explain how to select individual plants.
-  Describe the different ways to mark your site.

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Lesson 4 Objectives

By the end of this lesson, you will be able to:

- Describe the difference between the process of plant and animal observations.
- Recognize how to choose the plant and animal species on which you will observe.
- Explain how to select individual plants.
- Describe the different ways to mark your site.

Difference Between the Process of Plant and Animal Observations

For plants: Observe the same individual plants each time you visit your site.

For animals: Create a checklist of animal species and look for all of them each time you visit your site.



Photo by Brian F. Powell



Photo by Brian F. Powell



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[Glossary](#)

[Resources](#)

Difference Between the Process of Plant and Animal Observations

For plants, you should observe the same individual plants each time you visit your site. For example, you should observe the same red maple in your back yard all through the year.

For animals, you should create a checklist of animal species and look for all of them each time you visit your site. For example, if your checklist has robins, wood frogs, and tent caterpillars on it, you should record whether or not you see or hear those species anywhere in your site each time you visit.

Choose Plant and Animal Species

Identify local plant or animal species, or select from one of our annual campaign species.



Photo by Brian F. Powell



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[Resources](#)

Choose Plant and Animal Species

Identify local plant or animal species on our *Nature's Notebook* list, or select from one of our annual campaign species found at nn.usanpn.org.

Select Individual Plants

Choose several individuals of selected species—not direct neighbors, but in a similar environment.

Consider how long you'd like to observe and decide if you'd like to observe annuals vs. biennials.

Try to select individuals that are not too close to buildings.

Some species, such as grasses, are monitored as a “patch.”



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[Glossary](#)

[Resources](#)

Select Individual Plants

Choose several individuals of selected species—not direct neighbors, but in a similar environment.

Consider how long you'd like to observe and decide if you'd like to observe annuals and/or biennials.

Try to select individuals that are not too close to buildings.

Some species, such as grasses, are monitored as a “patch.”

Depending on how much time you'd like to spend observing, you could select 5-10 species and 3-5 individuals of each. However, if you only want to observe one species and only have one individual, that is perfectly fine.

Mark Your Site

When you monitor plants, you will observe the same individual plants repeatedly. Marking your site helps you to remember where to return to each time you go out.



Photo by Ellen G. Denny



Photo by Ellen G. Denny



Photo by Theresa M. Crimmins



[Attachment\(s\)](#)

[Glossary](#)

[Resources](#)

Mark Your Site

When you monitor plants, you will observe the same individual plants repeatedly. Marking your site helps you to remember where to return to each time you go out.

There are many options, but the most important thing is that you mark your site so that you can find it again in the future. For most sites, it is probably easiest to mark the four corners with colorful flagging, scrap cloth, or something similar. You can also use natural or man-made landmarks, like the edge of a yard, big rocks, a bend in a trail, a road, or something similar, to define the boundaries. You will need to replace your markers periodically as they weather and become unreadable.

Also, remember that if you are observing a site on public land, you will need to get permission before marking the site.

Lesson 4 Summary

- Individual plants are observed on a recurring basis. Because animals are mobile, when you make your observations you will not necessarily be observing the same individual.
- Select plant and animal species that you are familiar with in your local area.
- Select several individuals of the same species at your site to account for any differences in individual plants or in the local environment.
- Determine how much time you have to observe each week and decide how many individuals you'd like to include.
- Mark your site and plants with stakes and flagging tape so you can easily find it each time you return.



Photo by Brian F Powell



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Lesson 4 Summary

- Individual plants are observed on a recurring basis. They are marked so you can return to the same one and observe it through time. Because animals are mobile, when you make your observations you will not necessarily be observing the same individual.
- Select plant and animal species that you are familiar with in your local area. You can also select from several of our local campaign species as a start.
- Select several individuals of the same species at your site to account for any differences in individual plants or in the local environment. Determine how much time you have to observe each week and decide how many individuals you'd like to include.
- Mark your site and plants with stakes and flagging tape so you can easily find it each time you return.

Lesson 4 Assessment

- There are four questions in this assessment: one True/False, three Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get each Multiple-Choice question correct and one chance to get the True/False question correct.
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.



Go to the next slide to get started.



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Lesson 4 Assessment

- There are four questions in this assessment: one True/False, three Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get each Multiple-Choice question correct and one chance to get the True/False question correct.
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.

Go to the next slide to get started.

Good luck!

1. Select the correct answer. The differences between making plant and animal observations include:

- The amount of time
- Having the same individuals each time you observe.
- The number of individuals.
- All of these.

Lesson 4 Assessment

Quiz - 4 questions

Last Modified: Apr 07, 2015 at 10:11 AM

PROPERTIES

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Show in menu as: [Single item](#)

 Edit in Quizmaker

 Edit Properties

Lesson 4 Assessment (Cont.)



Lesson 5—
Set up Your
Sites and Species
Online

Add Species to *Nature's
Notebook*

U.S. Department of the Interior
U.S. Geological Survey



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Lesson 5—Set up Your Sites and Species Online

Add Species to *Nature's Notebook*

Lesson 5 Objectives

By the end of this lesson, you will be able to:



Demonstrate how to add a new Site on your Observation Deck.



Practice adding new plants to your Site.



Practice adding an animal checklist to your Site.



Sort your plant and animal list.



Demonstrate how to delete plants and animals from your list.



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[Resources](#)

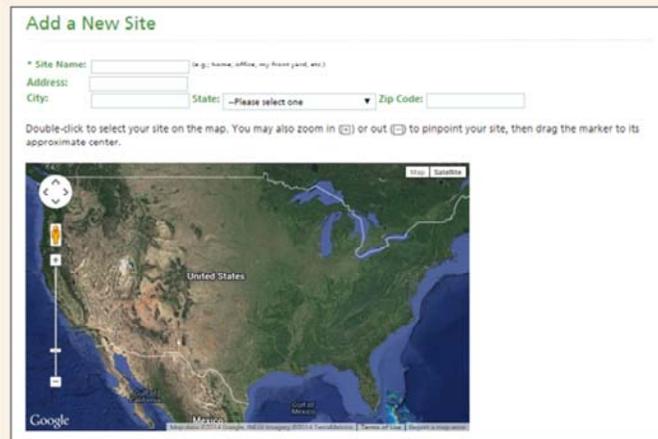
Lesson 5 Objectives

By the end of this lesson, you will be able to:

- Demonstrate how to add a new Site on your Observation Deck.
- Practice adding new plants to your Site.
- Practice adding an animal checklist to your Site.
- Sort your plant and animal list.
- Demonstrate how to delete plants and animals from your list.

Add a New Site

Within the My Sites box on the left side of your Observation Deck, select on the link to **Add a New Personal Site** and use the map interface to locate your site.



Add a New Site

* Site Name: (e.g., home, office, my house plant, etc.)

Address:

City: State: --Please select one Zip Code:

Double-click to select your site on the map. You may also zoom in or out to pinpoint your site, then drag the marker to its approximate center.

Google



[Attachment\(s\)](#)

[Glossary](#)

[Resources](#)

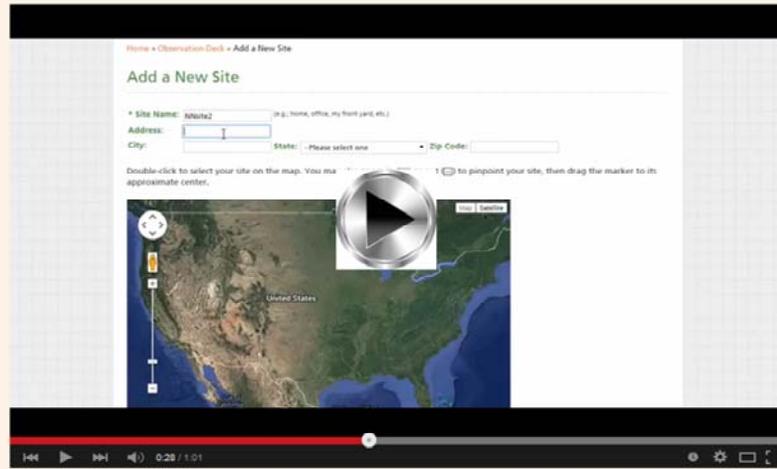
Add a New Site

Within the My Sites box on the left side of your Observation Deck, select on the link to **Add a New Personal Site** and use the map interface to locate your site.

You can locate your site using an address, which will be automatically geo-located on the map, by selecting your site on the interactive map, or by typing the latitude and longitude into the boxes below the map. Additional information on this page about your site is optional.

Add a New Site (Cont.)

Select the right arrow, within the image below, to watch a short video (00:01:01) on how to set up a site. The script for the video is in the slide notes.



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Add a New Site (Cont.)

Select the right arrow, within the image below, to watch a video, in a separate window, on how to register with *Nature's Notebook* (00:01:01). The script for the video is in the slide notes.

Video is at URL: <https://youtu.be/bxOJkh0Wbbk>

[Script]

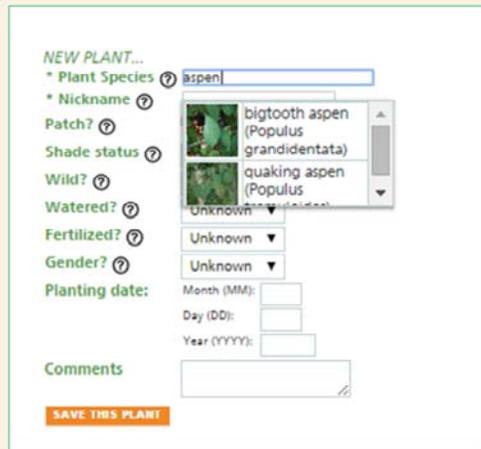
To create a new site, begin in your Observation Deck. Click on the link to **Add a Personal Site**. To create your site, choose a name for your site, and move the pin on the Google map to the correct location. You can then answer the series of questions about the conditions at your site.

NNsite, Tucson

Once you Create your site, you will be taken back to your Observation Deck. There you can view the site that you added.

Add a New Plant

Within the My Plants and Animals box on your Observation Deck, select the **Add or Edit Plants** link. Select **Add New Plant** and begin to type the name of your species in the Plant Species box.



The screenshot shows a web form titled "NEW PLANT...". The form includes several fields with question mark icons for help: "Plant Species" (containing "aspen"), "Nickname", "Patch?", "Shade status?", "Wild?", "Watered?", "Fertilized?", and "Gender?". A dropdown menu is open for "Plant Species", showing two options: "bigtooth aspen (Populus grandidentata)" and "quaking aspen (Populus tremuloides)". Below the dropdown are fields for "Planting date" (Month (MM), Day (DD), Year (YYYY)) and a "Comments" text area. A "SAVE THIS PLANT!" button is at the bottom.

Add a New Plant

Within the My Plants and Animals box on your Observation Deck, click the **Add or Edit Plants** link.

Select **Add New Plant** and begin to type the name of your species in the Plant Species box.

Select on one of the suggestions that drops down and then fill in the answers to the remaining questions.



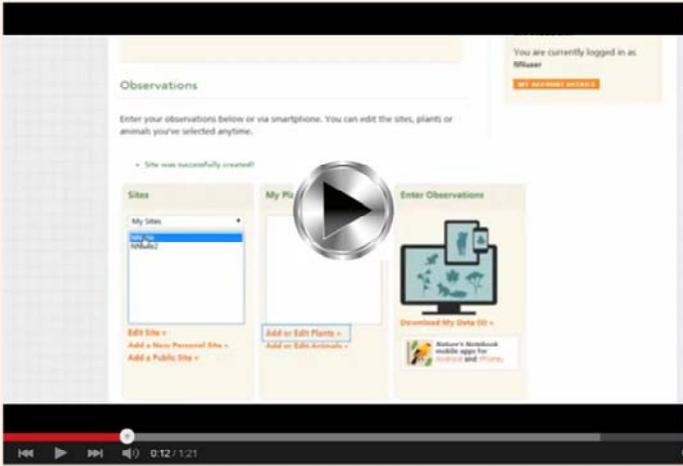
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Add a New Plant (Cont.)

Select the right arrow, within the image below, to watch a short video (00:01:21) on how to add a plant. The script for the video is in the slide notes.



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Add a New Plant (Cont.)

Select the right arrow, within the image below, to watch a video, in a separate window, on how to add a plant (00:01:21). The script for the video is in the slide notes.

Video is at URL: https://youtu.be/NhDjeieq_Fc

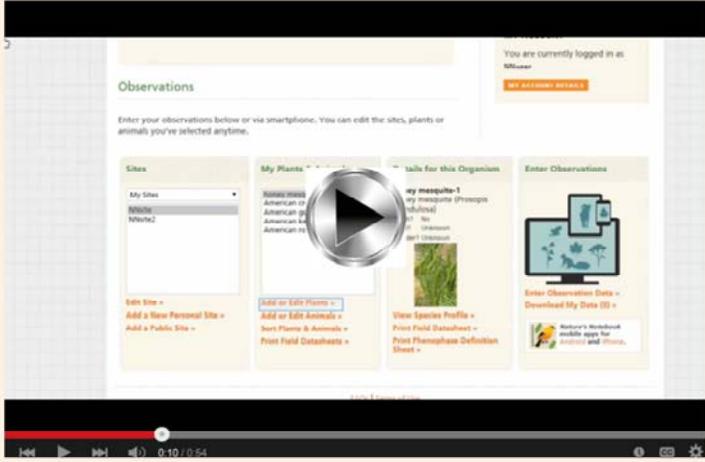
[Script]

Once you have set up a site, you can add plants and or animals to that site. Start in your Observation Deck. Click on the site, then click the link to **Add or Edit Plants**. Start typing into the text box either the common or scientific name of the species you would like to add from the drop-down box. If you wish to view the list of species on the *Nature's Notebook* list, you may use our **Species Search** page, available in the Observe menu via this link to **The Plants and Animals**.

For plants, you will give each individual plant that you wish to observe a unique nickname. Answer the questions that you are able to from the list, then click **Save This Plant**. You can add multiple plants to your sites, and multiple individuals of the same species.

Edit a Plant

Select the right arrow, within the image below, to watch a short video (00:00:54) on how to edit a plant. The script for the video is in the slide notes.



The screenshot shows the NPN website interface. At the top, it says 'You are currently logged in as [username]'. Below that is the 'Observations' section with instructions: 'Enter your observations below or via smartphone. You can edit the sites, plants or animals you've selected anytime.' The main content area is divided into four columns: 'My Sites', 'My Plants', 'Talk for this Organism', and 'Enter Observations'. A large play button is overlaid on the 'My Plants' column. At the bottom of the screenshot, there is a video player control bar showing '0:10 / 0:54'. The footer contains the USGS logo, the NPN logo (National Phenology Network), and buttons for 'Attachment(s)', 'Glossary', and 'Resources'.

Edit a Plant

Select the right arrow, within the image below, to watch a video (00:00:54), in a separate window, on how to edit a plant. The script for the video is in the slide notes.

The video is at URL: <https://youtu.be/p7OLKllbsu8>

[Script]

To edit your plants or animals, start in your Observation Deck. Use the links underneath My Plants & Animals. For plants, click the **Add or Edit Plants** link. Choose the plant you wish to edit. You can then change the nickname for the plant, details about the plant, and even mark that the plant has died, or you or no longer observing it. To save the changes you made, click **Save This Plant** at the bottom of the page. You can also add more individual plants to your list by clicking the **Add New Plant** link.

Create an Animal Checklist

Within the My Plants and Animals box on your Observation Deck, select the **Add or Edit Animals** link. Then, select **Animal Species** from the Species Available window on the left.

Filters

State: All
Species group: All
Partner: All

Species Available			My Checklist		
Common Name	Scientific Name	Species Type	Common Name	Scientific Name	Species Type
Asian flycatcher	Empidonax vireosens	Bird			
Acorn woodpecker	Melanerpes formicivorus	Bird			
American alligator	Alligator mississippiensis	Reptile			
American black duck	Anas rubripes	Bird			
American bullfrog	Lithobates catesbeianus	Amphibian			
American brook	Corvus brachyrhynchos	Bird			
American eel	Anguilla rostrata	Fish			
American goldfinch	Carduelis tristis	Bird			
American kestrel	Falco sparverius	Bird			
American osprey	Haliaeetus piliatus	Bird			
American redstart	Setophaga ruticilla	Bird			
American robin	Turdus migratorius	Bird			
American shad	Alosa sapidissima	Fish			
American water-turtle	Emydoidea blandingii	Bird			

Click Here to Reorder Plants & Animals List

SAVE CHECKLIST

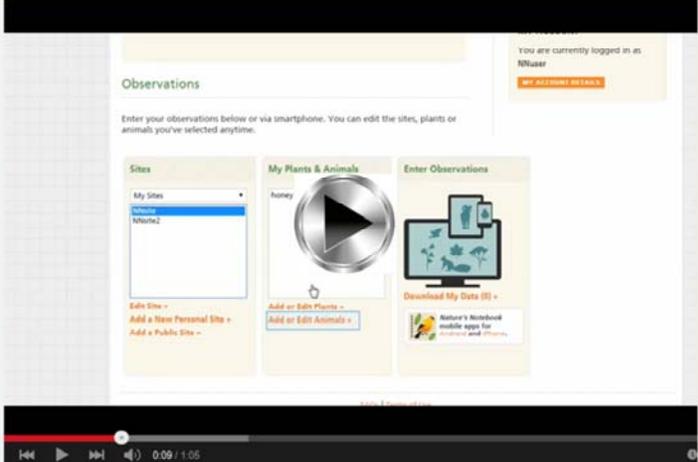
Create an Animal Checklist

Within the My Plants and Animals box on your Observation Deck, select the **Add or Edit Animals** link. Then, select **Animal Species** from the Species Available window on the left.

You can filter the animals in this list using the State, Species group, and monitoring Partner dropdown menus. Click the **Add to Checklist** button in the middle to add the species to your list. Be sure to **Save** your checklist before you switch any filter choices. Once you are finished adding animals to your checklist, select the **Save checklist** button in the lower left corner of the screen.

Create an Animal Checklist (Cont.)

Select the right arrow, within the image below, to watch a short video (00:01:05) on how to add an animal. The script for the video is in the slide notes.



The screenshot shows a web interface for creating an animal checklist. The interface is divided into several sections: 'Observations' at the top, 'My Sites' on the left, 'My Plants & Animals' in the center, and 'Enter Observations' on the right. A video player is overlaid on the 'My Plants & Animals' section, showing a play button and a progress bar. The video player has a red progress bar and a play button. The interface also includes a 'Download My Data (0)' button and a 'Nature's Notebook mobile app' link. The bottom of the page features logos for USGS, npn (National Phenology Network), and ARIZONA, along with buttons for 'Attachment(s)', 'Glossary', and 'Resources'.

Create an Animal Checklist (Cont.)

Select the right arrow, within the image below, to watch a short video (00:01:05) on how to add an animal. The script for the video is in the slide notes.

The video is at URL: https://youtu.be/P_WaACUWf-g

[Script]

To add animals to your site, start in your Observation Deck. Choose your site, then click the link to **Add or Edit Animals**. Select the species you wish to add to your site checklist, then click **Add to Checklist**. You can add multiple animals at a time by holding down the **CTL key** and selecting **multiple species**, then clicking **Add to Checklist**. When you are finished, click **Save Checklist**.

You can also re-order the list of animals in your checklist by clicking on the link **Click Here to Reorder Plants and Animals List**.

Edit Your Animal Checklist

Select the right arrow, within the image below, to watch a short video (00:00:44) on how to edit animals. The script for the video is in the slide notes.



Edit Your Animal Checklist

Select the right arrow, within the image below, to watch a short video (00:00:44) on how to edit animals. The script for the video is in the slide notes.

The video is at URL: <https://youtu.be/RnSNect32is>

[Script]

To edit your animals, start in your Observation Deck. Select the Site and click the link to **Add or Edit Animals**. Here you can add or remove animals from the checklist, either one-by-one or by holding control and clicking **Remove from Checklist**. You can also add more animals to your checklist, or reorder the animals in the checklist. Be sure to click **Save Checklist** at the bottom of the page.

Sort Your Plants and Animals

Within the My Plants and Animals box on your Observation Deck, select the **Sort Plants and Animals** link. Move your plants and animals by selecting them and then using the **First, Up, Down** and **Last** buttons.

Species	Nickname	
Douglas-fir	Douglas-fir-1	<input type="button" value="FIRST"/>
Engelmann spruce	Engelmann spruce-1	<input type="button" value="UP"/>
ponderosa pine	ponderosa pine-1	<input type="button" value="DOWN"/>
quaking aspen	quaking aspen-1	<input type="button" value="LAST"/>



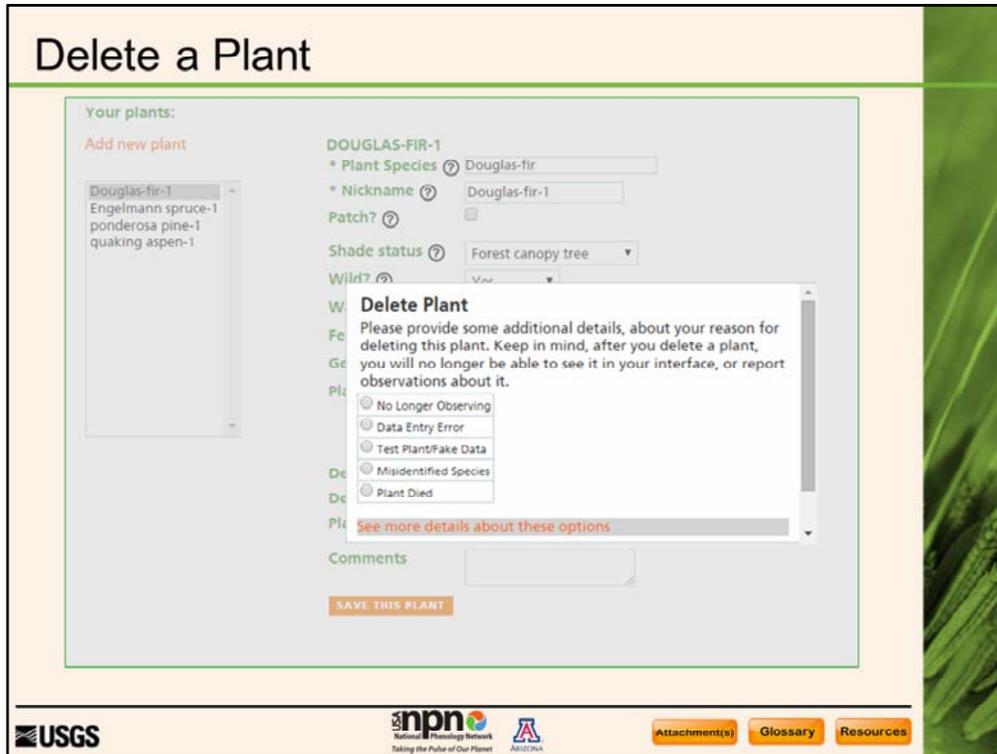
[Attachment\(s\)](#)

[Glossary](#)

[Resources](#)

Sort Your Plants and Animals

Within the My Plants and Animals box on your Observation Deck, select the **Sort Plants and Animals** link. Move your plants and animals by selecting them and then using the **First, Up, Down** and **Last** buttons.



Delete a Plant

If you are no longer observing a plant or animal, or if you added it accidentally, you can prevent it from appearing in your *Nature's Notebook* pages.

Go to the Add or Edit Plants page and **select the plant** in the Your plants window of the left. You should see the plant's information appear in the window on the right. Click the **box next to Delete?** and a popup window will appear, asking why you want to delete the plant. Make the appropriate choice and select **Delete**. If you have questions, you can click the link to **See more details about these options**.

If you are no longer observing the plant, all the observation data you entered for the plant will be preserved in the database, but it will no longer appear in your *Nature's Notebook* pages.

If you added the plant accidentally or as a test, the plant and all of its data will be deleted from the database. If you misidentified the plant species, you will be prompted to contact us for more information.

If your plant dies you can report that in the database when you make your observations. USA-NPN keeps the data on dead plants and makes it available, but marking it dead will remove it from your observation deck.

Lesson 5 Summary

- Add a new site by using the **Add a New Site** button on your Observation Deck.
- Plants can be added to your site by highlighting your site and selecting on the button to **Add or Edit Plants**. Follow the instructions on the Add or Edit Plants Page and save your work.
- Animals can be added to your site by highlighting your site and selecting on the button to **Add or Edit Animals**. Follow the instructions on the Add or Edit Animals Page and save your work.
- Change the order of your plants and animals by selecting on the link to **Sort Plants & Animals**.
- Delete plant species by selecting on the link for **Add or Edit Plants**. Select the check box for Delete? And **enter a reason** for deleting it.



Photo by Brian F Powell



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Lesson 5 Summary

- Add a new site by using the **Add a New Site** button on your Observation Deck.
- Plants can be added to your site by highlighting your site and selecting on the button to **Add or Edit Plants**. Follow the instructions on the Add or Edit Plants Page and save your work.
- Animals can be added to your site by highlighting your site and selecting on the button to **Add or Edit Animals**. Follow the instructions on the Add or Edit Animals Page and **save** your work.
- Change the order of your plants and animals by selecting on the link to **Sort Plants & Animals**.
- Delete plant species by selecting on the link for **Add or Edit Plants**. Select the check box for Delete? And **enter a reason** for deleting it.

Lesson 5 Assessment

- There are four questions in this assessment: one True/False and three Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get each Multiple-Choice question correct, and one chance to get the True/False question correct.
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.



Photo by Brian F Powell

Go to the next slide to get started.



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Lesson 5 Assessment

- There are four questions in this assessment: one True/False and three Multiple Choice.
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- You will be able to review the assessment to see the questions you answered incorrectly.

Go to the next slide to get started.

Good luck!

1. Select the correct answer. To add a new site to your Observation Deck, click on the link that reads:

- View site
- View Observation Deck
- My Account Details
- Help and Feedback

Lesson 5 Assessment

Quiz - 4 questions

Last Modified: Apr 07, 2015 at 10:14 AM

PROPERTIES

On passing, 'Finish' button: [Goes to Next Slide](#)

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Allow user to leave quiz: [At any time](#)

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 Edit Properties

Lesson 5 Assessment (Cont.)

USGS
science for a changing world

USA **nph**
National Phenology Network
Taking the Pulse of Our Planet



Lesson 6—
Get Organized
to Go Outside

U.S. Department of the Interior
U.S. Geological Survey



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Lesson 6—Get Organized to Go Outside

Lesson 6 Objectives

By the end of this lesson, you will be able to:



Use phenophase definitions and instructions.



Describe what you should take with you into the field.



Recognize the option for using our smartphones to collect observations.



Discuss how binoculars may be useful for animal and plant observations.



[Attachment\(s\)](#)

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Lesson 6 Objectives

By the end of this lesson, you will be able to:

- Use phenophase definitions and instructions.
- Describe what you should take with you into the field.
- Recognize the option for using our smartphones to collect observations.
- Discuss how binoculars may be useful for animal and plant observations.

Phenophase Definitions and Instructions

A *phenophase* is an observable stage or phase in the annual life cycle of a plant or animal that can be defined by a start and end point.

Within the Details for this organism box on your Observation Deck, select the **View species profile** link. Check the profile page for each of your selected plant and animal species to see the list of phenophases for those species and detailed, species-specific definitions.

LEAVES	Do you see...?
	Breaking leaf buds
	One or more breaking leaf buds are visible on the plant. A leaf bud is considered "breaking" once a green leaf tip is visible at the end of the bud, but before the first leaf from the bud has unfolded to expose the leaf stalk (petiole) or leaf base.
	How many buds are breaking?
	Less than 3;3 to 10;11 to 100;101 to 1,000;1,001 to 10,000;More than 10,000
	More...





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Phenophase Definitions and Instructions

A *phenophase* is an observable stage or phase in the annual life cycle of a plant or animal that can be defined by a start and end point.

Within the Details for this organism box on your Observation Deck, select the **View species profile** link. Check the profile page for each of your selected plant and animal species to see the list of phenophases for those species and detailed, species-specific definitions.

Datasheets, Clipboard, Pencil

You can download and print a datasheet for each plant or animal from the profile page for that species, or generate a personalized datasheet packet from your Observation Deck by selecting the link to **Print Field Datasheets** within the My Plants and Animals box.

Print Field Datasheets »
Use the checkboxes below to select which datasheets you would like to print, and then click "Create Datasheets".

Create All Datasheets:

Create Cover Sheet

Create Animal Checklist

Create Plant & Animal Phenophase Datasheets

Day by Day Preview

Species by Species Preview

Create Phenophase Definition Sheet

[Close]

Not sure what to print?



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Datasheets, Clipboard, Pencil

You can download and print a datasheet for each plant or animal from the profile page for that species, or generate a personalized datasheet packet from your Observation Deck by selecting the link to **Print Field Datasheets** within the My Plants and Animals box.

Printing Paper Datasheets

Select the right arrow, within the image below, to watch a short video (00:01:24) on how to print paper data sheets and phenophase definitions. The script for the video is in the slide notes.

The screenshot shows the NPN website interface. At the top, there's a header with the title 'Printing Paper Datasheets'. Below it, a text box explains that a video is available to show how to print paper data sheets and phenophase definitions. The video player shows a play button in the center of the website interface. The website interface includes sections for 'Observations', 'My Sites', 'My Plants & Animals', 'This Organism', and 'Enter Observations'. At the bottom of the website interface, there are logos for USGS, NPN, and AAS, along with buttons for 'Attachment(s)', 'Glossary', and 'Resources'.

Printing Paper Datasheets

Select the right arrow, within the image below, to watch a short video (00:01:24) on how to print paper data sheets and phenophase definitions. The script for the video is in the slide notes.

The video is at URL: <https://youtu.be/fAIHGM7EKPQ>

Check the profile page for each of your selected plant and animal species to see the list of phenophases for those species and instructions on how to recognize them.

[Script]

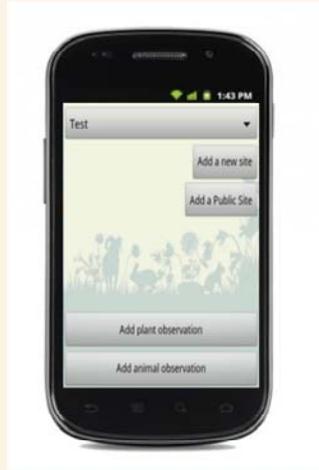
To print paper datasheets to take with you for your observations, start in your Observation Deck. Select the **site** at which you would like to make observations, then click the link to **Print Field Datasheets**.

A window will appear with several options. Check the box for each type of datasheet you would like to download and print.

- The Cover Sheet asks for details about the time and effort required for your observations as well as weather conditions.
- The Animal Checklist allows you to mark yes or no for each species on your list.
- The Day by Day Plant and Animal Phenophase datasheet will have one observation slot for each of the plants and animals on your list.
- The Species by Species will have many observation slots for each of the plants and animals on your list.
- To print Create phenophase definition sheet.

Mobile Applications

Download our *Nature's Notebook* application for [iPhone](#) or [Android](#) and make paperless observations.



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Mobile applications

Download our *Nature's Notebook* application:

for [iPhone](#) (<https://itunes.apple.com/us/app/natures-notebook/id508465801?ls=1&mt=8>) or

[Android](#) (<https://play.google.com/store/apps/details?id=org.usanpn.android.naturesnotebook>) and make paperless observations.

Binoculars

Binoculars are optional, but they are helpful for observing animals as well as phenophases at the top of tall trees.



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Binoculars

Binoculars are optional, but they are helpful for observing animals as well as phenophases at the top of tall trees.

Lesson 6 Summary

- Phenophase definitions and instructions can be found for each species via The Plants and Animals list by doing a search for the species you'd like to observe. Each online species page has the option to print out datasheets and definitions.
- You can also find the phenophase definition sheets on your Observation Deck by selecting on the link for **Print Field Datasheets** or **Print Phenophase Definition Sheets**.
- You should take datasheets, definition sheets and a clipboard OR a mobile app for recording data in the field.
- You may also wish to bring binoculars to see animal species or hard to observe phenophases in tree canopies.



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Lesson 6 Summary

- Phenophase definitions and instructions can be found for each species via The Plants and Animals list by doing a search for the species you'd like to observe. Each online species page has the option to print out datasheets and definitions.
- You can also find the phenophase definition sheets on your Observation Deck by selecting on the link for **Print Field Datasheets** or **Print Phenophase Definition Sheets**.
- You should take datasheets, definition sheets and a clipboard OR a mobile app for recording data in the field.
- You may also wish to bring binoculars to see animal species or hard to observe phenophases in tree canopies.

Lesson 6 Assessment

- There are three questions in this assessment: one True/False, and two Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get each Multiple-Choice questions correct and once chance to get the True/False question correct.
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.



Photo by Brian F Powell

Go to the next slide to get started.



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Lesson 6 Assessment

- There are three questions in this assessment: one True/False, and two Multiple Choice.
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- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.

Go to the next slide to get started.

Good luck!

1. Select the correct answer. The Phosphorus definitions and instructions tell you:

- What year did your first major report to the environmental agency about acid rain, with a detailed explanation, to decide whether the 1980s acid rain global treaty is working.
- The average number of hours, minutes, and seconds for your search.
- Other things in the environment that will be tested in your search.

Lesson 6 Assessment

Quiz - 3 questions

Last Modified: Apr 07, 2015 at 02:16 PM

PROPERTIES

On passing, 'Finish' button: [Goes to Next Slide](#)

On failing, 'Finish' button: [Goes to Next Slide](#)

Allow user to leave quiz: [At any time](#)

User may view slides after quiz: [At any time](#)

Show in menu as: [Single item](#)

 Edit in Quizmaker

 Edit Properties

Lesson 6 Assessment (Cont.)



Lesson 7—
Record Plant
Observations

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Lesson 7—Record Plant Observations

Lesson 7 Objectives

By the end of this lesson, you will be able to:



Recognize how often you should visit your site.



Explain why it is important to answer NO if a phenophase is not occurring.



Interpret intensity phenophases for plants.



Name the optional phenophases.



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Lesson 7 Objectives

By the end of this lesson, you will be able to:

- Recognize how often you should visit your site.
- Explain why it is important to answer NO if a phenophase is not occurring.
- Interpret intensity phenophases for plants.
- Name the optional phenophases.

Visit Your Site Regularly

Visit each of your individual plants or patches and check their phenophases.

For each visit when you make an observation, record the date and time on your plant phenophase datasheet (or [mobile app](#)), and for each phenophase, circle one of the definition choices (and intensity choices if you are comfortable using those).



Photo by Brian F Powell

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Visit your Site Regularly

Visit each of your individual plants or patches and check their phenophases.

For each visit when you make an observation, record the date and time on your plant phenophase datasheet (or [mobile app](#), <https://www.usanpn.org/mobile-apps>), and for each phenophase, circle one of the definition choices (and intensity choices if you are comfortable using those).

One to two times a week is good, but several times a week or even once a day is even better during times of the year when things are changing quickly (for example, spring and fall).

Do not circle anything if you did not check for the phenophase. It is very important to record this information, even if nothing has changed since your last visit! Knowing when a plant is not in a given phenophase is just as important as knowing when one is.

Answer the Phenophase Questions

Each of the phenophase definitions asks you to describe:

- Yes (**y**)—if you saw that the phenophase is occurring
- No (**n**)—if you saw that the phenophase is not occurring
- Uncertain (**?**)—if you were not certain whether the phenophase was occurring



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Answer the Phenophase Questions

Each of the phenophase definitions asks you to describe:

- Yes (**y**) – if you saw that the phenophase is occurring
- No (**n**) – if you saw that the phenophase is not occurring
- Uncertain (**?**) – if you were not certain whether the phenophase was occurring

Be sure to report something for each. It is ok to answer (?) if you are not sure. Researchers also want to know if a phenophase is NOT occurring so they can pinpoint the start, so if you do not see a phenophase occurring, be sure to mark it (**N**).

However, if you did not check for the phenophase, do not circle anything. It is very important to record this information, even if nothing has changed since your last visit! Knowing when a plant is not in a given phenophase is just as important as knowing when one is.

Report on Intensity of Phenophases

For most plant phenophases you can also report on the intensity (or abundance) that you observe, like the percentage of open flowers you see or how close to full size the new leaves have grown.

Phenophase intensity choices vary by species and can be found on the profile page for each species. You do not need to answer the intensity questions until you become quite familiar with your individual plants at your site. As you do so, it will become easier to understand the intensity.

Plant intensity:	Do you see leaves?	Y	N	?	What value? ▾
	Do you see increasing leaf size?	Y	N	?	What value? Less than 5% 5-24% 25-49% 50-74% 75-94% 95% or more
	Do you see colored leaves?	Y	N	?	




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Report on Intensity of Phenophases

For most plant phenophases you can also report on the intensity (or abundance) that you observe, like the percentage of open flowers you see or how close to full size the new leaves have grown.

Phenophase intensity choices vary by species and can be found on the profile page for each species. You do not need to answer the intensity questions until you become quite familiar with your individual plant or animals at your site. As you do so, it will become easier to understand the intensity.

What if I Miss Something?

If a phenophase, like leaf color change or flowering, begins and ends while you were not observing, you can make a note of it in the comments section.

If you are watching for a phenophase and it does not seem to be starting when you expect it would, continue to watch for it and record that it is not occurring.

Once a phenophase has ended you should continue to look for it and record whether or not it occurs again.



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What if I Miss Something?

If a phenophase, like mating or nest building, begins and ends while you were not observing, you can make a note of it in the comments section.

If you are watching for a phenophase and it does not seem to be starting when you expect it would, continue to watch for it and record that it is not occurring. This could mean the phenophase is occurring later or not at all in a given year, and this could be very valuable information.

Once a phenophase has ended you should continue to look for it and record whether or not it occurs again. Sometimes phenophases will occur a second or third (or more) time in a season, whether because of rain, pests, or changing climate.

You Don't Have to Report on Everything...

If there are phenophases and/or intensity measures on which you do not want to report for a species because you find them too difficult to observe, just ignore them.

Do you see...	Date:
	Time:
Breaking leaf buds	y n ? ___
Leaves	y n ? ___
Increasing leaf size	y n ? ___
Colored leaves	y n ? ___
Falling leaves	y n ? ___
Flowers or flower buds	y n ? ___
Open flowers	y n ? ___
Pollen release	y n ? ___
Fruits	y n ? ___
Ripe fruits	y n ? ___
Fallen fruit or seed drop	y n ? ___

Do you see...	Date:
	Time:
Leaves	y n ? ___
Colored leaves	y n ? ___
Falling leaves	y n ? ___
Flowers or flower buds	y n ? ___
Open flowers	y n ? ___



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You Don't Have to Report on Everything...

If there are phenophases and/or intensity measures on which you do not want to report for a species because you find them too difficult to observe, just ignore them. You can cross them out on your datasheets, and then not circle or enter anything for them when you enter your data online.

Lesson 7 Summary

- You should visit your site at least once a week to check for phenophases. If you can visit more frequently, please do.
- Answering No to a phenophase definition is equally as important as answering Yes. Data users can better understand when the phenophase began if there are a series of No's followed by a Yes. You should try to answer something for each phenophase, even if you don't know and have to select the (?).
- Specific intensity questions need not be answered until you are familiar with your site, plants, and animals. Descriptions for intensity appear on the phenophase definition pages.
- You can record the intensity or abundance for each of the plants you observe if you are comfortable making that assessment.



Photo by Brian F Powell



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Lesson 7 Summary

- You should visit your site at least once a week to check for phenophases. If you can visit more frequently, please do.
- Answering NO to a phenophase definition is equally as important as answering YES. Data users can better understand when the phenophase began if there are a series of NOs followed by a YES. You should try to answer something for each phenophase, even if you don't know and have to select the (?).
- Specific intensity questions need not be answered until you are familiar with your site, plants, and animals. Descriptions for intensity appear on the phenophase definition pages.
- Optional phenophases include anything that you are unfamiliar with and the intensity measures.

Lesson 7 Assessment

- There are four questions in this assessment: two True/False, and two Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get each Multiple-Choice question correct and one chance to get the True/False questions correct.
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.



Go to the next slide to get started.



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Lesson 7 Assessment

- There are four questions in this assessment: two True/False, and two Multiple Choice.
- The assessment is not timed.
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- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.

Go to the next slide to get started.

Good luck!

1. True or False: You should visit your site every day for at least two hours all year long.

True

False

Lesson 7 Assessment

Quiz - 4 questions

Last Modified: Apr 07, 2015 at 02:14 PM

PROPERTIES

On passing, 'Finish' button: [Goes to Next Slide](#)

On failing, 'Finish' button: [Goes to Next Slide](#)

Allow user to leave quiz: [At any time](#)

User may view slides after quiz: [At any time](#)

Show in menu as: [Single item](#)

 Edit in Quizmaker

 Edit Properties

Lesson 7 Assessment (Cont.)

 Lesson 8—
Record Animal
Observations

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Lesson 8—Record Animal Observations

Lesson 8 Objectives

By the end of this lesson, you will be able to:



Describe the different types of animal search methods.



Recognize abundance for phenophases in animals.



Describe how to edit your observations.



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Lesson 8 Objectives

By the end of this lesson, you will be able to:

- Describe the different types of animal search methods.
- Recognize abundance for phenophases in animals.
- Describe how to edit your observations.

Animal Search Methods

Look and listen for all of the species on your animal checklist. You can do this by one of four methods:

- Incidental (chance sighting while not specifically searching)
- Stationary (standing or sitting at a single point)
- Walking (a single pass or transect through your site)
- Area search (multiple passes through your site, possibly crossing the same point more than once)

Animal Checklist

Directions:
Please list below all the animal species from the animal checklist you created.
Fill in the date and time of your site visit in the top rows. In each row, circle the
y if you see or hear this species;
n if you do not see or hear this species;
? if you are not certain if you saw or heard this species
Do not circle anything if you did not check for this species

For each species you circled a y (present or uncertain), please also fill out a
for this species to report on the status of each of the photographs for that visit

For each species you circled a n (not present), you do not need to fill out a color
can simply click "Circle all No" (meaning you did not see or hear any photograph
either for that visit.

	Date:	Date:
Do you see or hear...?	Time:	Time:
American crow	y n ?	y n ?
American kestrel	y n ?	y n ?
American robin	y n ?	y n ?
barn swallow	y n ?	y n ?
bobolink	y n ?	y n ?
Canada goose	y n ?	y n ?
cliff swallow	y n ?	y n ?
Cooper's hawk	y n ?	y n ?
curve-billed thrasher	y n ?	y n ?
great blue heron	y n ?	y n ?
sandhill crane	y n ?	y n ?
Say's phoebe	y n ?	y n ?



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Animal Search Methods

To monitor animals, look and listen for all of the species on your animal checklist. You can do this by one of four methods:

- Incidental, which is a chance sighting while not specifically searching for animals on your checklist.
- Stationary, which is standing or sitting at a single point.
- Walking, which is a single pass or transect through your site.
- Area search, which is multiple passes through your site, possibly crossing the same point more than once.

If you are using one of the last three search methods, try to spend about the same amount of time looking for animals at each visit. We recommend three minutes as a standard, but you can spend as much or as little time as you like. You will probably not see most, or any, of the animals during each visit, which is ok.

Report Search Time and Method

For each visit, record:

- Your search method
- Your search time
- Whether or not you saw or heard each animal species on your animal checklist, and for each animal you did see or hear, complete the animal phenophase datasheet

For each phenophase, circle one of the following choices:

Do you see active individuals?

Y N ?







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Report Search Time and Method

When making observations on animals, select one of the 4 search methods, and report the time you spent observing. There is no need to report time for incidental observations.

Record whether or not you saw or heard each animal species on your animal checklist, and for each animal you did see or hear, you will need to fill out the animal phenophase datasheet. For each phenophase, circle one of the following choices:

Yes (**y**) – if you saw or heard that the phenophase is occurring

No (**n**) – if you saw or heard that the phenophase is not occurring

Uncertain (**?**) – if you were not certain whether you saw or heard that species or that phenophase

Do not circle anything if you did not check for the species or phenophase.

It is very important to record this information, even if you did not see a particular animal species! Knowing when an animal is not present, or when an animal is not in a given phenophase is just as important as knowing when it is.

Report on Abundance of Animals

For most animal phenophases you can also report on the intensity (or abundance) that you observe, like the number of individuals you see feeding or the degree of overlap in frog calls.

Animal abundance:

Do you see active individuals?	Y N ?	<input type="text" value="How many?"/>
Do you see feeding?	Y N ?	<input type="text" value="How many?"/>
Do you see fruit/seed consumption?	Y N ?	<input type="text" value="How many?"/>






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Report on Abundance of Animals

For most animal phenophases you can also report on the intensity (or abundance) that you observe, like the number of individuals you see feeding or the degree of overlap in frog calls. Phenophase intensity choices vary by species and can be found on the profile page for each species.

You Don't Have to Report on Everything...

If there are phenophases and/or intensity measures on which you do not want to report for a species because you find them too difficult to observe, just ignore them. You can cross them out on your datasheets, and then not circle or enter anything for them when you enter your data online.

	Date:
	Time:
Do you see/hear...	y n ? ____
Active individuals	y n ? ____
Feeding	y n ? ____
Fruit/seed consumption	y n ? ____
Insect consumption	y n ? ____
Calls or song	y n ? ____
Mating	y n ? ____
Nest building	y n ? ____
Dead individuals	y n ? ____
Individuals at a feeding station	y n ? ____
Check when data entered online:	<input type="checkbox"/>
Comments:	

	Date:
	Time:
Do you see/hear...	y n ? ____
Active individuals	y n ? ____
Feeding	y n ? ____
Fruit/seed consumption	y n ? ____
Insect consumption	y n ? ____
Calls or song	y n ? ____
Check when data entered online:	<input type="checkbox"/>
Comments:	



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You Don't Have to Report on Everything...

If there are phenophases and/or intensity measures on which you do not want to report for a species because you find them too difficult to observe, just ignore them. You can cross them out on your datasheets, and then not circle or enter anything for them when you enter your data online.

What if I Miss Something?

If a phenophase, like mating or nest building, begins and ends while you were not observing, you can make a note of it in the comments section.

If you are watching for a phenophase and it does not seem to be starting when you expect it would, continue to watch for it and record that it is not occurring.

Once a phenophase has ended you should continue to look for it and record whether or not it occurs again.



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What if I Miss Something?

If a phenophase, like mating or nest building, begins and ends while you were not observing, you can make a note of it in the comments section.

If you are watching for a phenophase and it does not seem to be starting when you expect it would, continue to watch for it and record that it is not occurring. This could mean the phenophase is occurring later or not at all in a given year, and this could be very valuable information.

Once a phenophase has ended you should continue to look for it and record whether or not it occurs again. Sometimes phenophases will occur a second or third (or more) time in a season, whether because of rain, pests, or changing climate.

Lesson 8 Summary

- There are four different methods for observing animals:
 - Incidental (observed while making plant observations, not specifically searching)
 - stationary (standing in one spot)
 - Walking (a single pass while walking through a transect on your site)
 - Area search (multiple passes through transects at your site)
- Record the amount of time you spent observing along with the method used for searching on your datasheet and in *Nature's Notebook*.
- You can record the intensity or abundance for each of the animals you observe if you are comfortable making that assessment.
- The optional phenophases include anything with which you are not familiar as well as the abundance and intensity.



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Lesson 8 Summary

- There are four different methods for observing animals:
 - Incidental (observed while making plant observations, not specifically searching)
 - Stationary (standing in one spot)
 - Walking (a single pass while walking through a transect on your site)
 - Area search (multiple passes through transects at your site)
- Record the amount of time you spent observing along with the method used for searching on your datasheet and in *Nature's Notebook*.
- The intensity or abundance of each of the animals you observe can be recorded on your datasheet if you are comfortable making that assessment
- The optional phenophases include anything with which you are not familiar as well as the abundance and intensity.

Lesson 8 Assessment

- There are two questions in this assessment: two Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get the Multiple-Choice questions .
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.



Go to the next slide to get started.



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Lesson 8 Assessment

- There are two questions in this assessment: two Multiple Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get each Multiple-Choice question correct and one chance to get the True/False question correct.
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.

Go to the next slide to get started.

Good luck!

1. Select the correct answer. An area search for animals is:

- a search engine
- a long-term recording in coding
- a high gate or barrier through your site
- a high gate through your site

Lesson 8 Assessment

Quiz - 1 question

Last Modified: Jul 13, 2016 at 08:51 AM

PROPERTIES

On passing, 'Finish' button: [Goes to Next Slide](#)

On failing, 'Finish' button: [Goes to Next Slide](#)

Allow user to leave quiz: [At any time](#)

User may view slides after quiz: [At any time](#)

Show in menu as: [Single item](#)

 Edit in Quizmaker

 Edit Properties

Lesson 8 Assessment (Cont.)



Lesson 9— Submit Observations Online

U.S. Department of the Interior
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Lesson 9—Submit Observations Online

Lesson 9 Objectives

By the end of this lesson, you will be able to:



Recognize the different parts of the Enter Observations page.



Explain how to enter site level observations.



Explain how to enter observations on plants and animals.



Explain how to enter intensity and abundance.



[Attachment\(s\)](#)

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Lesson 9 Objectives

By the end of this lesson, you will be able to:

- Recognize the different parts of the Enter Observations page.
- Explain how to enter site level observations.
- Explain how to enter observations on plants and animals.
- Explain how to enter intensity and abundance.

Entering Your Observations

The final step in observing is to submit your observations online via your *Nature's Notebook* account.

Select the link to **Enter Observations** on the right-hand side of your Observation Deck. Select the **correct site** from the list of sites. Each column below represents one visit's worth of observations at a site.

Select the site where your plant is located. Site: Silver Street

Review submitted observations: 3 columns 1 column 0

SUBMIT OBSERVATIONS **ENTER MORE DATA**

Date / Time: 04/05/2013

Report your contribution of time

Report your animal observation methods

Report on snow

Close All Open All

saguaro-1

04/05/2013	Circle all no Delete	Circle all no Delete	Circle all no Delete
Do you see flowers or flower buds?	Y N ? What value?	Y N ? What value?	Y N ? What value?
Do you see open flowers?	Y N ? What value?	Y N ? What value?	Y N ? What value?

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Entering Your Observations

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Select the link to **Enter Observations** on the right-hand side of your Observation Deck. Select **the correct site** from the list of sites. Each column below represents one visit's worth of observations at a site.

Entering Your Observations (Cont.)

Enter the **date and time** of your visit at the top of a column, as well as any additional information (e.g., snow on the ground) from your coversheet. Then for each of your plants and animals, select **y**, **n**, or **?** for each phenophase.

The screenshot shows a web interface for entering observations. At the top, there is a 'Date / Time' field with '04/05/2013' entered. Below this are three expandable sections: 'Report your contribution of time', 'Report your animal observation methods', and 'Report on snow'. A 'Close All Open All' link is visible. The main section is titled 'v saguaro-1'. It contains a table with three columns, each headed '04050913', 'Circle all no', and 'Delete'. The table has five rows of phenophase questions, each with 'Y', 'N', and '?' radio buttons and a 'What value?' dropdown menu. The first row is 'Do you see flowers or flower buds?' with 'Y' selected. The second row is 'Do you see open flowers?' with '?' selected. The third row is 'Do you see fruits?' with '?' selected. The fourth row is 'Do you see ripe fruits?' with '?' selected. The fifth row is 'Do you see recent fruit or seed drop?' with '?' selected. A 'Comments' field is at the bottom of the table.



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Entering Your Observations (Cont.)

Enter the **date and time** of your visit at the top of a column, as well as any additional information (e.g., snow on the ground) from your coversheet. Then for each of your plants and animals, select **y**, **n**, or **?** for each phenophase. If you did not check for a particular phenophase, do not click any of the choices.

Entering Your Observations (Cont.)

You can report intensity or abundance for any phenophase for which you selected y or ? by selecting a value from the **What value?** dropdown menu, or entering a number in the **How many?** box. When you are finished, select the **Submit observations** button in the lower or upper left corner of the screen.

The screenshot shows a web form for entering observations. At the top, there is a 'Date / Time' field set to '04/05/2013'. Below this are three expandable sections: 'Report your contribution of time', 'Report your animal observation methods', and 'Report on snow'. A 'Close All' and 'Open All' link is visible. The main section is titled 'v saguaro-1' and contains a table of observation questions for the date '04/05/2013'. Each question has a 'Y', 'N', or '?' radio button, a 'What value?' dropdown menu, and a 'Delete' link. The questions are: 'Do you see flowers or flower buds?', 'Do you see open flowers?', 'Do you see fruits?', 'Do you see ripe fruits?', and 'Do you see ripened fruit or seed drop?'. The 'What value?' dropdown for the first question is open, showing options: '11 to 100', 'Less than 3', '3 to 10', '11 to 100', and 'More than 1,000'. The 'Delete' link for the first question is circled in red. At the bottom of the table is a 'Comments' field.



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Entering Your Observations (Cont.)

You can report intensity or abundance for any phenophase for which you selected y or ? by selecting a value from the **What value?** dropdown menu, or entering a number in the **How many?** box. When you are finished, select the **Submit observations** button in the lower left corner of the screen.

Editing Your Observations

You can edit your observations by visiting your Observation Deck, selecting on **Enter Observations**, correcting your data and selecting **Submit Observations**.

SUBMIT OBSERVATIONS **ENTER MORE DATA**

Date / Time: 12/02/2014

A Report your contribution of time

A Report your animal observation methods

A Report on snow Close All Open All

v yellow paloverde-1

12/02/2014	Circle all no Delete	Circle all no Delete	Circle all no Delete
Do you see young flowers?	<input checked="" type="radio"/> N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>
Do you see flowers?	<input checked="" type="radio"/> N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>
Do you see flowers w/ flower buds?	Y <input checked="" type="radio"/> N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>
Do you see open flowers?	Y <input checked="" type="radio"/> N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>
Do you see buds?	<input checked="" type="radio"/> N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>
Do you see pipe fruits?	Y <input checked="" type="radio"/> N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>
Do you see recent fruit or seed drops?	Y <input checked="" type="radio"/> N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>	Y N ? What value? <input type="text"/>
Comments			



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Editing Your Observations

You can edit your observations by visiting your Observation Deck, selecting on **Enter Observations**, correcting your data and selecting **Submit Observations**.

Entering Your Observations

Select the right arrow, within the image below, to watch a short video (00:04:42) on how to enter your observations. The script for the video is in the slide notes.

Entering Your Observations

Select the right arrow, in the image below, to watch a short video (00:04:42) on how to enter your observations. The script for the video is in the slide notes.

The video is at URL: <https://youtu.be/yq5aM-VYbyo>

[Script]

To enter data that you have recorded on paper datasheets, start in your Observation Deck. Select the site for which you will enter data, then click the link to **Enter Observation Data**.

For each observation date there is one column on the page. Enter the **date** on which you made the observation. Please note that you should enter the date on which the observation was made, not the date on which you are entering the observation unless they are the same date. You can also select the **time** that which you made the observation.

Three tabs at the top allow you to enter your contribution of time, your animal observation methods, and report on snow conditions at your site. For animal observations, it is very important to enter the time spent looking for animals and animal survey method, as the amount of effort you spend looking for animals and your method will greatly affect the number of animals you observe.

Each individual plant and animal species at your site will have an individual tab on the page. You can expand or collapse each individual plant or animal species by clicking on the **tab**. Transfer your observations from your datasheets, marking **Y** for yes, **N** for no, or a **?** if you were uncertain.

If you are entering the intensity questions for plants or abundance questions for animals, you may enter your answers either by choosing from the dropdown for plants, or for animals, entering a number into the field. Once you have entered all of your observations, make sure you click **Submit Observations** at either the top or bottom of the page.

Don't forget to enter your animals, search time and method at the top of the page.

To see previous observations that you entered, use the blue arrows to move back one or 3 columns. For additional columns, click the button to **Enter More Data**.

If you need to correct observations, you can go back to see your previously entered observations, change the observations you entered, then be sure to click Submit Observations to save your changes.

Please note that you cannot change the date for an observation once you have Submitted Observations. If you entered the incorrect date, you will need to enter your observations again with the correct date, then delete the observations with the incorrect date.

Lesson 9 Summary

- Observations can be entered online via your Observation Deck by selecting on the **Enter Observations** link on the right-hand side of the screen. The Enter Observations screen includes information similar to the Cover Sheet and the Datasheets, so it should be easy to find where you enter your observations. If you used the mobile app in the field, you will not need to enter observations via this screen—they've already been captured.
- Click on the **Yes, No, or ?** For each of the phenophases that you observed in the field.
- You can enter the intensity or abundance of each of the plants animals you observe if you are comfortable making that assessment.



Photo by Brian F Powell



Attachment(s)

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Resources

Lesson 9 Summary

- Observations can be entered online via your Observation Deck by selecting on the **Enter Observations** link on the right-hand side of the screen. The Enter Observations screen includes information similar to the Cover Sheet and the Datasheets, so it should be easy to find where you enter your observations. If you used the mobile app in the field, you will not need to enter observations via this screen—they've already been captured.
- Click on the **YES, NO, or ?** For each of the phenophases that you observed in the field.
- The abundance and intensity fields are drop down boxes that include the bins you selected from on the phenophase definition pages.

Lesson 9 Assessment

- There are two questions in this assessment: one Drag-and-Drop and one Multiple-Choice.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get each question correct.
- You can retake the assessment twice to score an 80% or higher.



Photo by Brian F Powell

Go to the next slide to get started.



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Go to the next slide to get started.

Good luck!

1. Click and drag the following steps for Entering Observations into the correct order.

- Click on each observation listed on your observation sheet.
- Drag the box (observation) to the correct position on the observation sheet.
- Click the box, text box, image box, and individual photograph box.
- Click on the observation sheet.

Lesson 9 Assessment

Quiz - 2 questions

Last Modified: Apr 07, 2015 at 08:17 AM

PROPERTIES

On passing, 'Finish' button: [Goes to Next Slide](#)

On failing, 'Finish' button: [Goes to Next Slide](#)

Allow user to leave quiz: [At any time](#)

User may view slides after quiz: [At any time](#)

Show in menu as: [Single item](#)

 Edit in Quizmaker

 Edit Properties

Assessment 9 (Cont.)

 Lesson 10—
More Opportunities
for Learning,
Engaging, and
Connecting
with Others

U.S. Department of the Interior
U.S. Geological Survey  [Accessibility](#) | [FOIA](#) | [Privacy](#) | [Policies and Notices](#)

Lesson 10—More Opportunities for Learning, Engaging, and Connecting with Others

Lesson 10 Objectives

By the end of this lesson, you will be able to:



Participate in a *Nature's Notebook* webinar.



Engage more deeply with phenology specific training resources (Botany Primer and the Phenophase Primer).



Read about current phenology research and how it relates to you.



Become a Local Phenology Leader and help others interested.



Establish a phenology walk or trail.



[Attachment\(s\)](#)

[Glossary](#)

[Resources](#)

Lesson 10 Objectives

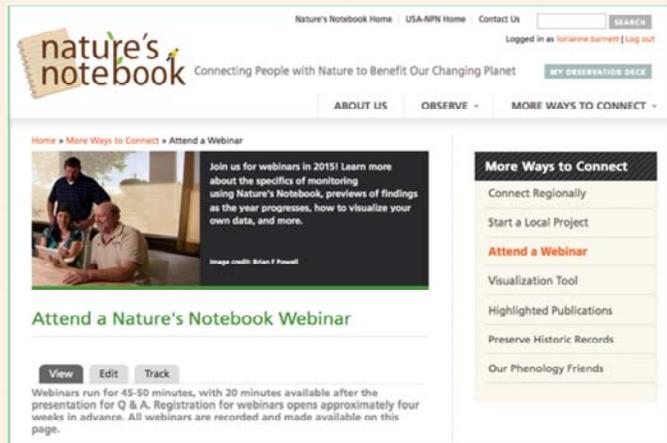
By the end of this lesson, you will be able to:

- Participate in a *Nature's Notebook* webinar.
- Engage more deeply with phenology specific training resources (Botany 101 and the Phenophase Primer).
- Read about current phenology research and how it relates to you.
- Become a PhenoChampion and help others interested.
- Establish a phenology walk or trail.

Participate in a *Nature's Notebook* Webinar

The National Coordinating Office in Arizona offers an annual webinar series.

Visit www.usanpn.org/nn/webinars for the schedule.



The screenshot shows the Nature's Notebook website interface. At the top, there is a navigation bar with links for "Nature's Notebook Home", "USA-NPN Home", and "Contact Us", along with a search box and a user login status "Logged in as torianne.barnett | Log out". Below the navigation bar is the "nature's notebook" logo and the tagline "Connecting People with Nature to Benefit Our Changing Planet". The main content area features a banner for "Attend a Webinar" with a photo of people in a meeting and text inviting users to learn about monitoring specifics, findings, and data visualization. A sidebar on the right titled "More Ways to Connect" lists options like "Connect Regionally", "Start a Local Project", "Attend a Webinar", "Visualization Tool", "Highlighted Publications", "Preserve Historic Records", and "Our Phenology Friends". At the bottom of the main content area, there are "View", "Edit", and "Track" buttons, and a paragraph explaining that webinars run for 45-50 minutes with 20 minutes for Q & A, and registration opens four weeks in advance.



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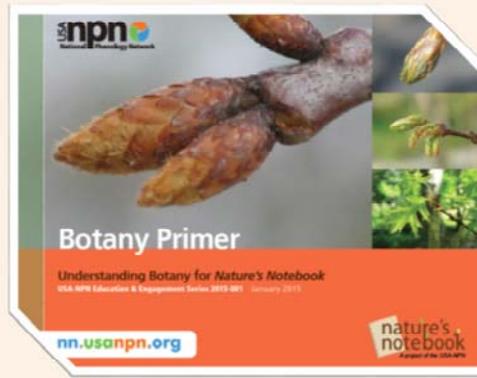
Participate in a *Nature's Notebook* Webinar

The National Coordinating Office (NCO) in Arizona offers an annual webinar series where you can learn more about the specifics of monitoring using *Nature's Notebook*, previews of findings as the year progresses, how to visualize your own data, and more.

Visit www.usanpn.org/nn/webinars for the schedule.

More Phenology Education Resources

The National Coordinating Office develops resources to further your understanding of botany in relation to phenology and general phenophase identification.



These resources may be found at www.usanpn.org/pubs/reports when they become available.



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More Phenology Education Resources

The NCO develops resources to further your understanding of botany in relation to phenology and general phenophase identification.

Upcoming resources for 2015 include a botany primer and a phenophase primer.

These resources may be found at www.usanpn.org/pubs/reports when they become available.

Phenology and Climate Research

Many partners and scientists use *Nature's Notebook* data to better understand how our planet's species are responding to climate change, and what that means for you.

Learn more at www.usanpn.org/nn/connect/highlighted_pubs.



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Be a Local Phenology Leader

Become a local phenology leader by participating in *Nature's Notebook* and sharing what you've seen with others.

Engage local schools (teachers and students), nature centers, wildlife refuges, and much more in phenology monitoring—be a volunteer!



Photo by LoriAnne Barnett



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[Glossary](#)

[Resources](#)

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Phenology Walks or Trails

Consider creating a phenology walk, with a series of plant and animal species tagged, at your favorite natural area.

If you participate with a group of people, you might choose to create a “shared site” where more than one person can observe the same species.

Partner with local natural resources education groups to incorporate phenology monitoring and citizen science into existing programming.

Develop a series of linked walks in a region, with shared outcomes and science questions to create a Phenology Trail.

Learn more at:

www.usanpn.org/partner/project



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Lesson 10 Summary

- You can learn more about using *Nature's Notebook*, the science of phenology, and how phenology is used to make management decisions by listening to our annual webinar series.
- The NCO provides a number of educational resources to help you get comfortable with making phenology observations.
- You will find select publication summaries on the *Nature's Notebook* website that help you better understand scientific research in the field of phenology and how it relates to you.
- You can become a PhenoChampion in your town by sharing what you know about phenology and creating phenology walks with local partners.



Attachment(s)

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Post-Course Assessment

- There are 14 questions in this assessment: a combination of True/False, Multiple Choice and Drag-and-Drop.
- The assessment is not timed.
- An 80% or higher is needed to pass the assessment.
- You will have three chances to get each question correct, except for True/False. You'll get one chance to get True/False questions correct.
- You can retake the assessment twice to score an 80% or higher.
- You will be able to review the assessment to see the questions you answered incorrectly.



Go to the next slide to get started.



Attachment(s)

Glossary

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Go to the next slide to get started.

Good luck!

1. Select the correct answer. There are many ways to engage with the phenology community via Nature's Notebook. These include:

- using a camera
- using an internet-enabled mobile device to visit the National Coordinating Office of the U.S. National Phenology Network
- observing at field stations
- both A and B

Post-Course Assessment

Quiz - 14 questions

Last Modified: Apr 13, 2015 at 02:18 PM

PROPERTIES

On passing, 'Finish' button: [Goes to Next Slide](#)

On failing, 'Finish' button: [Goes to Next Slide](#)

Allow user to leave quiz: [After user has completed quiz](#)

User may view slides after quiz: [After passing quiz](#)

Show in menu as: [Single item](#)

 Edit in Quizmaker

 Edit Properties

Post-Course Assessment (Cont.)



Congratulations!
You've completed
all the lessons in
this course and
passed the final
assessment!

*Please exit the browser
window to end the session.*

U.S. Department of the Interior
U.S. Geological Survey 

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Congratulations! You've completed all the lessons in this course and passed the final assessment!