Objectives for the Plant Life Cycle Unit: Students will

• Find evidence that seeds are important to animals such as birds
• Investigate and record information about seeds in their own back yards
• Identify, discuss, and record information about the steps of a plant life cycle
• Understand that plants are living things, and that they have basic needs in order to survive
• Develop a simple model of a seed to explain how it works
• Develop their own questions about plants that can be explored

NGSS Performance Expectations for the Plant Life Cycle Unit:
2-LS2-1., 2-LS2-2., 2-LS4-1., K-2-ETS1-2., 3-LS1-1., 3-LS3-1., 3-LS3-2., 3-LS4-2., 3-LS4-3., 4-LS1-1., 3-5-ETS1-3.
Our collection of at-home science units are designed to:

- Include a variety of topics:
  - Bird ecology
  - Plant life cycles
  - Weather and climate; Changing Earth
  - Ecosystems and Adaptations
- Be fun with lots of questioning and investigating
- Embrace reading, writing, and math
- Align to NGSS, grades 3-6
- Be broken into manageable 20 min. sections for children
- Encourage them to enjoy learning about nature at home!
- Encourages learning in nature
Science units:
• Are Phenomenon-based
• Provide hyperlinks to web sites and videos via google searches and QR codes
• Embrace the 8 practices of science and engineering
  Asking questions and defining problems
  Developing and using models
  Planning and carrying out investigations
  Analyzing and interpreting data
  Using math and computational thinking
  Constructing an explanation and designing a solution
  Engaging in an argument stemming from evidence
  Obtaining, evaluating, and communicating information
• Encourage citizen science
• Suggest “follow-up” activities such as simple engineering projects, etc.
Sample of Lesson #5

Making the connection between birds and seeds

Outdoor challenge:
Work with an adult in your household to find some maple seeds from last fall.
Look carefully along paths, sidewalks, and cracks in the pavement.
Gently pull on the tough seed “coat” to lift the seed up from the ground.
You will likely discover that something amazing has happened!
See examples ➤

To wonder:
Many seeds are hard for birds to crack. What causes that?
Sample of Lesson #7
Continuing plant observations & studying seed growth

Plants are living things! Let’s review:
Continue to observe and record changes in your plant buds! Reminder...
your data table should look like this:

<table>
<thead>
<tr>
<th>Date</th>
<th>Temperature: ___ °F</th>
<th>Date</th>
<th>Temperature: ___ °F</th>
<th>Date</th>
<th>Temperature: ___ °F</th>
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</thead>
<tbody>
<tr>
<td>Sketch of my twig:</td>
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<td>Sketch of my twig:</td>
<td></td>
</tr>
</tbody>
</table>

Study the photograph on the right. ➔
What happens in the spring to cause a plant’s leaf buds and flower buds to develop? What makes this change occur?
Write your ideas down on paper.

Scan this QR code to watch a short video about buds.
Notice: All the leaves turn green!

Parents: If you cannot scan the code, Google search “time lapse spring awakening” or type in this URL: https://bit.ly/2KClGQv
Lesson #6
In your journal, or on a piece of paper, write about something you have now observed and learned about plants. What do you think this means about plants?

I observed:

__________________________________
__________________________________

I learned that:

__________________________________
__________________________________

I think this means:

__________________________________
__________________________________

Example:

I observed a maple seed from last autumn. The baby plant had begun to grow.
I learned that the root came out of the seed first.
I think this means that a plant needs water right away.
Plants are living things: Connections

Scan this QR code to watch a short “Dr. Binocs” cartoon about plant parts.

Google search: “dr binocs plant video” or visit: https://bit.ly/3bGdieE

Check off ✓ each plant part as soon as you hear about it in the video:

___ leaf
___ bud
___ flower
___ stem
___ fruit
___ root

I think the most awesome plant part is the ____________________
because________________________
________________________
________________________

Plants and “Nature’s Calendar”

To watch this important video about plant “phenology” scan the QR code, or visit this web address: https://bit.ly/2RTbXcO

After you set up a plant buds “phenology” investigation, what data or evidence will you be collecting?

___________________________________
___________________________________
___________________________________
___________________________________

___________________________________
___________________________________
___________________________________
___________________________________
Shadow Puppet Edu:
Free app for developing presentations grades 2-12
Fun with Phenology
(pronounced fen-ol-a-gee)
Three-week Phenology Investigation Challenge:

1. With an adult’s help, find a shrub or tree in your yard that you can watch over time.
2. Select one that still has very small (not puffy) buds.
3. Tie a small string or ribbon on the branch you have selected.
4. Draw a simple sketch of the buds on your twig. If you think it will be helpful, take a photo of your twig. Add labels and measure length and width if possible.
5. Record the date, and label plant parts such as the buds and stem.
6. Copy the chart on the next page to keep track of your buds over time.
breakfast with the birds
Lesson # 6: Becoming Plant Scientists

Conserving Connecticut’s environment through science-based education and advocacy

Three-week (Or Three-day indoor) Phenology Investigation Challenge

In your science journal, or on a separate sheet of paper, describe the plan for your investigation:

• List the steps of your plan.
• Draw a simple sketch to help you explain how you will do it.
• Describe how and what you will measure
• Make a prediction of what you think will happen to the buds.

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For more information about our distance-learning curriculum, contact:

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