

Unit 4: The Power of Pollinators

WEEK 1 Lesson 2

Science and Engineering: Life Sciences

Ecosystems: Observing Seeds

Big Idea	Living things grow and change over time.
Guiding Question	Why is it important to understand how living things grow and change over time?
Content Objectives	I can identify characteristics of seeds using a hand lens. (Practice 3) I can record my observations using drawings and words. (W.1.2.a) I can draw and write about the seed I observed. (Practice 4, W.1.2.a)
Language Objective	I can exchange observations about bean seeds with a partner. (SL.1.2.b)
Vocabulary	enlarge: to make bigger marking: a pattern of marks or coloring on a plant or animal (* Week 3)
Materials and Preparation	<ul style="list-style-type: none">● About Plants chart, from Lesson 1● bean seeds, one for each pair of children● one large seed of another kind, for modeling● pencils and colored pencils● Unit 4 Science and Engineering packets● hand lenses or other magnifiers● chart paper Create the following chart (an enlarged model of the Science and Engineering packet page for Week 1, Lesson 2)

	<p>Observing Plants</p> <p>Question: _____</p> <p>_____</p> <p>_____</p> <p>Observations:</p> <div style="border: 1px solid black; width: 80%; margin: 10px auto; height: 150px;"></div> <p>_____</p> <p>_____</p> <p>_____</p>
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<p>Opening 5 minutes</p>	<p><i>Today you will practice recording observations with detail. Doing this—observing closely and recording details—will be a very important part of our work in this unit.</i></p> <p><i>We’ll concentrate on observing and drawing bean seeds. We will be recording careful observations throughout our study of plants and pollination. Each page will include your question, the date, a drawing, and some notes.</i></p> <p><i>During our last lesson, your group came up with a question to investigate. That will be the question you record at the top of your observation page. It might take some time to answer that question, so you’ll keep it in mind as we investigate.</i></p> <p>If helpful, review the questions recorded on the chart, naming the children who will follow each question (as determined in the Lesson 1 small groups, allowing for children to change their minds and instead choose a question posed by a different group, if more interesting to them).</p> <p>Use the extra seed (other than a bean seed) to model observational recording. Be methodical to set children up for future entries.</p>
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	<p><i>Today we are looking carefully at a seed.</i></p> <p>Choose a question from the chart or suggest a different, simple question as a title, such as What are the parts of a seed? or What does a seed look like?</p> <p>Collaboratively with a child, model noticing and talking through the observation.</p> <p><i>Let's look carefully. What do you notice?</i> <i>Yes, I see that, too. I also see...</i></p> <p>Model using a hand lens to get a better look at the seed. Talk about all the details of the seed: size, color, shape, texture, and any other noticeable markings.</p> <p>Model drawing, discussing scale.</p> <p><i>Make sure to draw every single thing you notice.</i> <i>This is tricky. A seed is quite small. We can include more details if we draw it bigger, or enlarge it. Scientists often do this, while also ensuring that they show the actual size. How could I do that?</i></p> <p>Invite children to make suggestions about how to indicate scale, and include this clearly on the page.</p> <p>Model writing observational notes.</p> <p><i>This detail is especially interesting to me, so I'll write about it in the observations section at the bottom. What words might I use to describe this?</i></p> <p><i>You can also use this space to write a new question.</i></p>
<p>Investigation 15 minutes</p>	<p>Distribute children's packets, seeds, and hand lenses.</p> <p>Guide children to write their question at the top of the page.</p> <p>As children look at the seeds and record their observations, listen to their conversations and take note of how they approach the drawing. Encourage children to look ever more closely and to include every detail they see. Support their conversations as they exchange observations and formulate questions.</p> <p><i>Tell me what you notice.</i> <i>How can you draw those details?</i> <i>Are you both showing that part of the seed in your drawings?</i> <i>How will you show what size the bean seed actually is?</i> <i>What are you wondering about the seed?</i></p> <p>Identify the work of one pair of children to share with the whole group using the Thinking and Feedback routine.</p>

	Talk with these children ahead of time to identify the strategy they used or any specific feedback they would like to solicit.
Discussion 10 minutes	Gather the children in the whole group, and facilitate the Thinking and Feedback routine. Finish by reviewing clear expectations for observational recording.
Closing	If any new ideas or questions have arisen, add them to the About Plants chart. <i>Tomorrow we will start growing the bean seeds you observed today. It will be interesting to see how they change over time.</i>
Standards and Practices	W.1.2.a Investigate questions by participating in shared research and writing projects. SL.1.2.b Build on others' talk in conversations by linking their comments to the remarks of others. 2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow. 2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
Ongoing assessment	Review children's packets. Notice how children represent their ideas in drawings and words. Add new questions to the class chart for ongoing research and informing successive lessons and conversations.

Notes