WEEK 5 Lesson 1

Science and Engineering: Life Sciences

Ecosystems: Observing and Dissecting Flowers

Big Idea	The parts of an organism have specific functions.
Guiding Question	Why are the particular parts of an organism important?
Content Objective	I can use my five senses to observe a flower and to better understand its structures and their functions. (2-LS2-3(MA), Practice 6)
Language Objective	I can name important parts of a flower. (L.6.2.a)
Vocabulary	**anther**: the part of the stamen that contains the pollen **dissect**: to open something up in order to study its inside parts **nectar**: the juice of a plant that attracts pollinators **petal**: the colored pieces of the flower that surround the stamen and stigma **pistil**: female part of the flower; made up of style, stigma, ovary **pollen**: powder in the middle of most flowers **sepal**: the part of the flower that encloses the petals before they bloom **stamen**: male part of the plant that makes pollen **stigma**: top part of the pistil that receives the pollen
Materials and Preparation	Children will work in small groups to share resources and discuss their observations and ideas. For each group, gather: ● a selection of real flowers, such as lilies, tulips, and daffodils—flowers that are good for observation and in season (optional, recommended) Each child will draw and collaboratively dissect two different flowers. If real flowers are not available, use the flower images from the Week 1 Building Studio. ● small trays or plates, 2

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Science and Engineering packets
writing and drawing tools, including pencils, colored pencils, and erasers
magnifiers
Parts of a Flower poster copy, two for each small group
From Seed to Plant, Gail Gibbons, two copies, for reference
If possible, borrow another copy or two from a K2 colleague so each group can reference one.

In addition, have at hand:

Parts of a Flower poster
images of flowers, from Building Studio Week 1, for reference
chart paper
Prepare the following chart.

<table>
<tr><td colspan="2">About Flowers</td></tr>
<tr><td>We Think We Know</td><td>We Want to Know</td></tr>
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Note: Some children may be allergic to pollen. The anther of many flowers can be removed to reduce the amount of pollen a child is exposed to. Children can also wear gloves, safety goggles, and face coverings to prevent ingestion of pollen.
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<td>Opening
5 minutes</td>
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Some of you have predicted that our plants will soon begin to produce flowers. This week we will look closely at flowers to understand their different structures and the function of each part.

Let’s start by writing down what you think you know about flowers.
Think, Pair, Share with two questions:
What do you think you know about flowers?
What is the function, or job, of the flower in the life of a plant?
Record children’s ideas on the chart, address misconceptions or reframe them as questions, and record other questions children pose.

Today you will observe at least two different, real flowers with magnifiers. It is exciting to see a flower up close! After looking very
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	*carefully at each flower, you will choose two to draw and label. Then, you'll look inside the flowers by **dissecting** them, or taking them apart. Very gently, pull your flowers apart and see all the parts on the inside. Make a detailed drawing of your flower and label the parts you find. To do this, you might refer to the Parts of a Flower poster, the book* From Seed to Plant*, or any other resources in the classroom.* *You'll also write some notes about the differences and similarities you notice.* Show the corresponding page in a Science and Engineering packet.
Investigation 18 minutes	Distribute flowers, trays, Science and Engineering packets, and writing and drawing tools as children disperse to work. Have them arrange themselves in small groups to share resources. As children work, notice how they use the magnifiers and their strategies for recording details. Remind children to use their senses of touch and smell as well as sight to observe the flowers. Talk with them about common structures of the flowers as well as differences between them. Encourage children to count the number of stamens and petals, to notice shapes and variations of color. Support careful dissection, and talk with children about what they notice. Model use of precise vocabulary and note the vocabulary children use to name each part of the flowers and how they discuss each part's function. As children finish working, make sure they save the flowers on their trays. Label the trays to signify each group so that the same flowers can be used again in the next lesson. If possible, refrigerate the flowers in plastic bags to best preserve them.
Discussion 6 minutes	Bring the whole group back together. Ask children to share a detail they find particularly important, interesting, or surprising. Refer to the Parts of a Flower poster to help children identify and name the parts and to reinforce their functions. Make comparisons across types of flowers. Questions to guide the conversation include: *Why does a flower need each of these structures?* *The pollen goes from the anther to the stigma; how does it get there?* *What happens next?* *Why do you think flowers are important for the plant?*

	From what we already know and what we observe, what can we say about how pollinators and plants are interdependent? *What makes a certain plant and a certain pollinator a good match?* Review ideas and questions about flowers recorded on the About Flowers chart at the beginning of the lesson. Help children to revise any misconceptions they find there, based on their experience. If any of the class plants—particularly beans and/or arugula—have produced flowers, look at them as a group. Talk about children's earlier predictions and current observations.
Closing 1 minute	*Over the past few weeks we have been talking about and observing seeds, plants, and now flowers. We've investigated the conditions plants need to best grow and develop: water, nutrients, air, and light. We are learning to look very closely and ask questions about plants to understand how they grow and how plants and pollinators are interdependent.*
Standards and Practices	**L.6.2.a** Use words and phrases acquired through conversations, reading, and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy, that makes me happy). **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	This lesson provides a good formative assessment opportunity, as children have already been learning about flowers in the previous weeks. Identify their understandings, misconceptions, and gaps. Notice the vocabulary children use. Use this information to guide upcoming lessons.

Notes