

WEEK 1 Lesson 3

Science and Engineering: Exploring Plants
 Children plant a bean seed in a paper towel within a ziplock bag.

S & E Big Ideas	Inside each seed is a baby plant and food to help the baby plant grow.
S & E Guiding Question	What are the different parts of a seed?
Content Objective	I can gather information about how seeds grow. (Practice 8, R1.1.2)
Language Objective	Using this article, I can ask and answer questions about seeds. (SL.1.2)
Vocabulary	<p>DNA: The special code that tells a plant how to grow</p> <p>embryo: The baby plant inside a seed</p> <p>seed: Part of a plant that can grow a new plant</p> <p>seed coat: The hard cover that protects the seed</p>
Materials and Preparation	<ul style="list-style-type: none"> ● Seed Germination Lab, one per child ● Seed Observation Journal, one per child <p>Assemble the journals by copying the pages and stapling the pages together.</p> <ul style="list-style-type: none"> ● 6 Inch Ruler, one per child or small group ● bean seeds, one per child or 2-3 per group ● plastic Ziploc bag, one per child or 2-3 per group ● paper towel, one per bag ● water <p>Decide whether children will plant their own seeds individually, or work in small groups. If necessary, pre-assign these small groups ahead of time.</p>
Opening	<i>What have we already learned about seeds through our Science</i>

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5 minutes	<p style="text-align: center;"><i>and Engineering Investigations?</i></p> <p>Connect to prior knowledge by reviewing discussions from the previous seed activities. Review the seed parts and discuss what is inside of each seed.</p>
<p>Investigation and Discussion 20 minutes</p>	<p>Distribute the Seed Germination Lab sheets. Ask children to determine the meaning of germination. <i>What happens to the parts of the seed during germination?</i> Explain that water softens the seed coat, the roots push through the seed coat and grow down into the soil, and the shoot (which will turn into the plant’s leaves/stem) grows up toward the air and sun. Support children with writing the definition of germination in their own words at the top of the sheet.</p> <p>Introduce the question children will be investigating: <i>How long will it take each seed to germinate?</i> Read the first paragraph together.</p> <p>Model each step:</p> <ol style="list-style-type: none"> 1. Dampen a paper towel and place it inside the baggie so that it stretches most of the way across the bottom. The towel should be pretty damp, but not so much that it drips and forms a puddle in the bag. 2. Place the seeds between the paper towel and the baggie. 3. In the Seed Observation Journals, write the date and draw an accurate picture of the baggie and the seeds on the recording sheet. 4. Think carefully about each seed’s properties. Complete the last sentence on the recording sheet by predicting which seed will germinate first. Make sure to give a reason for your prediction. 5. Tape the baggie in a sunny window. <p>Provide time for children to complete the steps, either individually, in partnerships, or small groups.</p>
<p>Closing 5 minutes</p>	<p>In the whole group, review germination <i>Turn and talk about hat the word germination means.</i> Ask children to predict what they might see once their seeds start to germinate (e.g., a root and/or shoot will start to grow out of the seed coat).</p>
<p>Standards</p>	<p>1-LS1-1. Use evidence to explain that (a) different animals use their body parts and senses in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air, and (b) plants have roots, stems, leaves, flowers, and</p>

	<p>fruits that are used to take in water, air, and other nutrients, and produce food for the plant.</p> <p>Practice 8. Obtaining, Evaluating and Communicating Information</p> <p>RI.1.2. Identify the main topic and retell key details of a text.</p> <p>RI.1.5. Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.</p> <p>SL.1.2. Ask and answer questions about key details in a text read aloud or information presented orally or through other media.</p> <p>L.1.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content, choosing flexibly from an array of strategies.</p>
<p>Ongoing assessment</p>	<p>What do children understand about how seeds grow?</p> <p>What do children understand about using a glossary to define new words?</p>

Notes



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