

**Unit: Life Science: Biodiversity, Classification & Patterns; Biodiversity, Species, & Habitats; Biodiversity & Engineering**

**Duration: 6-12 wks.**

Desired Results		
<p><b>Performance Expectations:</b>  <b>2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow.</b></p> <p><b>2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.</b></p> <p><b>2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats.</b></p>	<p><i>Transfer</i></p>	
	<p><i>Meaning</i>  <b>ENDURING UNDERSTANDINGS: Crosscutting Concepts</b>  <i>Students will understand that...</i>                      Students explore how the structure of a seed helps it disperse (function).                      Students evaluate the effect minerals have on plant growth. Students consider how the structure of plants helps them get the water and minerals they need to survive (function).                      Students consider the effect sunlight has on plant growth. Students analyze the role of the leaves (structure) in helping the plant capture sunlight (function).                      Students consider the cause and effect relationship between a plant’s needs and the habitat it survives best in. Students consider how plants have structures that help them survive in their environment (function).                      Students consider the cause and effect relationship between a plant’s needs and the habitat it survives best in.</p>	
	<p><i>Meaning</i></p>	
	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><i>Acquisition</i>  <b>Disciplinary Core Ideas</b>  <i>Students will know...</i></p> <ul style="list-style-type: none"> <li>Many plants start as seeds! There are a lot of different types of seeds, all with unique shapes. In order for more plants to grow, seeds need to move away from the parent plant and grow into a new plant. Plants depend on wind, water, and animals to disperse</li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <p><b>Science and Engineering Practices</b>  <i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> <li>Students <b>model</b> seed dispersal by creating three different seed flyers. They investigate how each seed flyers’ structure helps the seed disperse.</li> <li>Students <b>conduct</b> an investigation using a root viewer to observe how roots grow. Students record what the</li> </ul> </td> </tr> </table>	<p><i>Acquisition</i>  <b>Disciplinary Core Ideas</b>  <i>Students will know...</i></p> <ul style="list-style-type: none"> <li>Many plants start as seeds! There are a lot of different types of seeds, all with unique shapes. In order for more plants to grow, seeds need to move away from the parent plant and grow into a new plant. Plants depend on wind, water, and animals to disperse</li> </ul>
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	<p>their seeds. DCIs: LS2.A</p> <ul style="list-style-type: none"> <li>● When a seed is in dirt, the first thing to grow are its roots. The plant actually doesn't need the dirt to grow but it does need the water and minerals often found in the dirt. Roots carry these nutrients from the environment to the plant. As long as plants are getting minerals, water, and sunlight, they can grow! There are many types of plants living in different habitats that get their minerals in unique ways. DCIs: LS2.A, LS4.D</li> <li>● We've learned that plants need water and minerals to survive, but they also need light! It's possible to watch plants grow toward light following the sun throughout the day. The leaves of a plant soak up the sun and deliver it to the rest of the plant. Trees compete for sunlight, so their leaves are at the top of the tree and they grow as tall as possible. DCIs: LS2.A</li> <li>● All plants need sunlight and water to survive, but they don't need the same amount of them. There are plants that like shade, and live on the forest floor. There are even plants that need small amounts of water and can survive in the hot and dry desert. DCIs: LS2.A, LS4.D</li> <li>● In order to grow a plant successfully, it's important to know its needs! We've learned that plants need different amounts of sunlight and</li> </ul>	<p>seed looks like for 2 days, turn the root viewer to the side on Day 3, and record the growth until Day 4.</p> <ul style="list-style-type: none"> <li>● Students make a Grass Head and conduct an investigation to determine the sun's impact on the direction plants grow. Analyzing data from Mystery 1, students predict growth patterns of plants.</li> <li>● Students <b>analyze</b> the data from their Grass Head in Mystery 3. They compare their growth pattern prediction with the actual results to determine if the grass grew in the direction of the sunlight.</li> <li>● Students <b>engage</b> in a model simulation of a farm with different growing conditions in different areas of the farm. Students consider the needs of a plant in order to determine where it will grow best.</li> </ul> <p><b>Inquiry Questions:</b></p> <ol style="list-style-type: none"> <li>1. How did a tree travel halfway around the world?</li> <li>2. Do plants eat dirt?</li> <li>3. Why do trees grow so tall?</li> <li>4. Should you water a cactus?</li> <li>5. Where do plants grow best?</li> </ol>
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water. If you planted a cactus in an area that got a lot of rain, it probably wouldn't survive. Knowing a plant's needs helps gardeners and farmers grow plants. DCIs: LS2.A, LS4.D

**Evidence**

**Evaluation Criteria**

**Assessment Evidence**

**PERFORMANCE TASK(S):**

**OTHER EVIDENCE:**

**Unit assessment**

## Learning Plan

*Summary of Key Learning Events and Instruction*