## 2. Interdependent Relationships in Ecosystems

**Students who demonstrate understanding can:**

**2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.** [Assessment Boundary: Assessment is limited to testing one variable at a time.]

**2-LS2-2. Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.*

**2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.** [Clarification Statement: Emphasis is on the diversity of living things in each of a variety of different habitats.] [Assessment Boundary: Assessment does not include specific animal and plant names in specific habitats.]

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**Science and Engineering Practices**

### Disciplinary Core Ideas

#### LS2.A: Interdependent Relationships in Ecosystems
- Plants depend on water and light to grow. (2-LS2-1)
- Plants depend on animals for pollination or to move their seeds around. (2-LS2-2)

#### LS4.D: Biodiversity and Humans
- There are many different kinds of living things in any area, and they exist in different places on land and in water. (2-LS4-1)

#### ETS1.B: Developing Possible Solutions
- Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem’s solutions to other people. (secondary to 2-LS2-2)

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**Cause and Effect**

- Events have causes that generate observable patterns. (2-LS2-1)

**Structure and Function**

- The shape and stability of structures of natural and designed objects are related to their function(s). (2-LS2-2)

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### Crosscutting Concepts

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### Science and Engineering Practices

#### Developing and Using Models
Modeling in K-2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

- Develop a simple model based on evidence to represent a proposed object or tool. (2-LS2-2)

#### Planning and Carrying Out Investigations
Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.

- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-LS2-1)
- Make observations (firsthand or from media) to collect data which can be used to make comparisons. (2-LS4-1)

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### Scientific Knowledge is Based on Empirical Evidence

- Scientists look for patterns and order when making observations about the world. (2-LS4-1)

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### Articulation of DCIs across grade-bands:

<table>
<thead>
<tr>
<th>K.LS1.C</th>
<th>(2-LS2-1); K.ESS3.A</th>
<th>(2-LS2-1); K.ETS1.A</th>
<th>(2-LS2-2); 3.LS4.C</th>
<th>(2-LS4-1); 3.LS4.D</th>
<th>(2-LS4-1); 5.LS1.C</th>
<th>(2-LS2-1); 5.LS2.A</th>
<th>(2-LS2-2), (2-LS4-1)</th>
</tr>
</thead>
</table>

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### Common Core State Standards Connections:

**ELA/Literacy –**

- **W.2.7** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-LS2-1), (2-LS4-1)
- **W.2.8** Recall information from experiences or gather information from provided sources to answer a question. (2-LS2-1), (2-LS4-1)
- **SL.2.5** Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (2-LS2-2)

**Mathematics –**

- **MP.2** Reason abstractly and quantitatively. (2-LS2-1), (2-LS4-1)
- **MP.4** Model with mathematics. (2-LS2-1), (2-LS2-2), (2-LS4-1)
- **MP.5** Use appropriate tools strategically. (2-LS2-1)
- **2.MD.D.10** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems. (2-LS2-2), (2-LS4-1)

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*The performance expectations marked with an asterisk integrate traditional science content with engineering through a Practice or Disciplinary Core Idea.


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