

1-LS3 Heredity: Inheritance and Variation of Traits

1-LS3 Heredity: Inheritance and Variation of Traits

Students who demonstrate understanding can:

- 1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.** [Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.] [Assessment Boundary: Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.]

The performance expectations above were developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<p>Constructing Explanations and Designing Solutions Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.</p> <ul style="list-style-type: none"> Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-LS3-1) 	<p>LS3.A: Inheritance of Traits</p> <ul style="list-style-type: none"> Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1) <p>LS3.B: Variation of Traits</p> <ul style="list-style-type: none"> Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1) 	<p>Patterns</p> <ul style="list-style-type: none"> Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-LS3-1)
<p><i>Connections to other DCIs in first grade:</i> N/A</p> <p><i>Articulation of DCIs across grade-levels:</i> 3.LS3.A (1-LS3-1); 3.LS3.B (1-LS3-1)</p> <p><i>Common Core State Standards Connections:</i></p> <p><i>ELA/Literacy –</i></p> <p>RI.1.1 Ask and answer questions about key details in a text. (1-LS3-1)</p> <p>W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-LS3-1)</p> <p>W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-LS3-1)</p> <p><i>Mathematics –</i></p> <p>MP.2 Reason abstractly and quantitatively. (1-LS3-1)</p> <p>MP.5 Use appropriate tools strategically. (1-LS3-1)</p> <p>1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object. (1-LS3-1)</p>		

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

The section entitled “Disciplinary Core Ideas” is reproduced verbatim from *A Framework for K-12 Science Education: Practices, Cross-Cutting Concepts, and Core Ideas*. Integrated and reprinted with permission from the National Academy of Sciences.