



## Teaching and Learning

# Louisiana Guide to Implementing Great Minds PhD Science: Grade 3

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To assist teachers with the implementation of the PhD Science curriculum for grade 3, this document provides guidance for how PhD Science units correlate with the [Louisiana Student Standards for Science](#) (LSSS). The PhD Science curriculum provides ample instructional guidance for teachers. This Louisiana Guide to Implementing Great Minds PhD Science goes a step further to point out places in which teachers may need to make strategic decisions, considering student needs.

The PhD Science Grade 3 units are intentionally designed to provide students the opportunity to incrementally make sense of phenomena to build understanding and abilities over time through a coherent storyline. Modification to the sequence or content of lessons within these units could undermine the design, and therefore, should be approached with caution and careful consideration.

This guidance document is considered a “living” document, reflecting the expectation that teachers and other educators will continue to identify opportunities for improvement as it is applied in practice. Please send feedback to [STEM@la.gov](mailto:STEM@la.gov) so that LDOE may incorporate your suggestions when updating this guide.

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Standards by Module<sup>1</sup>

	<b>Module 1</b> <b>Weather and Climate</b>	<b>Module 2</b> <b>Survival</b>	<b>Module 3</b> <b>Traits</b>	<b>Module 4</b> <b>Forces and Motion</b>
<b>Approximate Time Frame</b>	29 days	28 days	28 days	30 days
<b>Anchor Phenomenon</b>	1900 Galveston Hurricane	Butterfly Survival	Individual Variation in Humpback Whales	Motion in Outer Space
<b>Essential Question</b>	How can we prevent a storm from becoming a disaster?	How do butterflies survive over time in a changing environment?	What makes an individual humpback whale unique?	Why do objects appear to move differently in space than on Earth?
<b>Instructional Texts</b>	<i>Hurricanes!</i> <i>Tornadoes!</i> <i>Marvelous Mattie: How Margaret E. Knight Became an Inventor</i>	<i>A Butterfly is Patient</i> <i>Amos &amp; Boris</i>	<i>Here Come the Humpbacks</i>	<i>Moon Shot</i>
<b>Standards</b>	3-ESS2-1 3-ESS2-2 3-ESS3-1	3-LS2-1 3-LS4-1 3-LS4-3 3-LS4-4	3-LS1-1 3-LS3-1 3-LS3-2 3-LS4-2	3-PS2-1 3-PS2-2 3-PS2-3 3-PS2-4

<sup>1</sup> Adapted from guidance developed by PhD Science

## Concept Focus by Module<sup>1</sup>

Module	Concept Focus Questions
Module 1 Weather and Climate	Concept 1: How do we describe weather? Concept 2: How do people know what weather to expect? Concept 3: How can we plan for severe weather? Application of Concept - Engineering Challenge: How can people design better solutions to reduce the impact of weather hazards?
Module 2 Survival	Concept 1: What do fossils reveal about the past? Concept 2: How do organisms get what they need to survive? Concept 3: What happens to organisms when the environment changes? Application of Concepts - Engineering Challenge: How can we help monarchs survive in a changing environment?
Module 3 Traits	Concept 1: How can we identify individuals? Concept 2: How do individuals change over time? Science Challenge: How does water in the plant's environment influence the plant's traits? Concept 3: How do individuals get their traits? Concept 4: How do individual's traits affect their lives? Application of Concepts
Module 4 Forces and Motion	Concept 1: How can we describe and predict an object's motion? Concept 2: What can cause the motion of an object to change? Concept 3: How can an object move without being touched? Application of Concepts - Engineering Challenge: How can we use magnets to design a solution to help astronauts in space?

<sup>1</sup>Adapted from guidance developed by PhD Science

## LDOE Formative Assessment Resources

LDOE formative assessment resources include a library of Louisiana educator-created discrete items and sets, LEAP Practice Test Items and LEAP Assessment Guide Items correlated to the Louisiana Student Standards for Science. These resources can be used alongside guidance from a high-quality curriculum to provide opportunities for students to showcase their learning.

Module	Discrete Items	Sets
<b>Module 1</b>  <b>Weather and Climate</b>	<p><u><a href="#">LDOE Formative Assessment Items</a></u> (Password - Educate2020):</p> <ul style="list-style-type: none"> <li>LA_BOS (3-ESS2-1)</li> <li>Climates (3-ESS2-2)</li> <li>Gr3 Tornadoes, Levees (3-ESS3-1)</li> </ul> <p><u><a href="#">LEAP Practice Test Standalone Items:</a></u></p> <ul style="list-style-type: none"> <li>16 (3-ESS2-2)</li> <li>9 (3-ESS3-1)</li> </ul> <p><u><a href="#">LEAP Assessment Guide Items:</a></u></p> <ul style="list-style-type: none"> <li>Tornadoes (3-ESS3-1)</li> </ul> <p><u><a href="#">LEAP Science Released Items:</a></u></p> <ul style="list-style-type: none"> <li>Rainfall (3-ESS2-1)</li> </ul>	<p><u><a href="#">LDOE Formative Assessment Sets</a></u> (Password - Educate2020):</p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><u><a href="#">LEAP Practice Test Items:</a></u></p> <ul style="list-style-type: none"> <li>Winter Storms (3-ESS2-1 and 3-ESS3-1)</li> </ul> <p><u><a href="#">LEAP Assessment Guide Sets:</a></u></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><u><a href="#">LEAP Science Released Items:</a></u></p> <ul style="list-style-type: none"> <li>N/A</li> </ul>
<b>Module 2</b>  <b>Survival</b>	<p><u><a href="#">LDOE Formative Assessment Items</a></u> (Password - Educate2020):</p> <ul style="list-style-type: none"> <li>Penguins, Lions and Tigers (3-LS2-1)</li> <li>Fossils, Ashfall Fossil bed, Shark Tooth (3-LS4-1)</li> <li>Gulf Birds, Snails (3-LS4-3)</li> <li>Red Snapper, Tortoises (3-LS4-4)</li> </ul> <p><u><a href="#">LEAP Practice Test Standalone Items:</a></u></p> <ul style="list-style-type: none"> <li>38 (3-LS2-1)</li> <li>12 &amp; 33 (3-LS4-1)</li> </ul>	<p><u><a href="#">LDOE Formative Assessment Sets</a></u> (Password - Educate2020):</p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><u><a href="#">LEAP Practice Test Items:</a></u></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><u><a href="#">LEAP Assessment Guide Sets:</a></u></p> <ul style="list-style-type: none"> <li>Task Set: Tundra Animals: Meet the Caribou and the Musk Ox (3-LS2-1 and 3-LS4-3)</li> </ul>

Module	Discrete Items	Sets
<b>Module 2</b> <i>continued</i>	<ul style="list-style-type: none"> <li>13 &amp; 17 (3-LS4-3)</li> <li>14 (3-LS4-4)</li> </ul> <p><u><b>LEAP Assessment Guide Items:</b></u></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><u><b>LEAP Science Released Items:</b></u></p> <ul style="list-style-type: none"> <li>Eras in Earth's History (3-LS4-1)</li> </ul>	<p><u><b>LEAP Science Released Items:</b></u></p> <ul style="list-style-type: none"> <li>Item Set: Salmon and River Dams (3-LS4-4)</li> </ul>
<b>Module 3</b> <b>Traits</b>	<p><u><b>LDOE Formative Assessment Items (Password - Educate2020):</b></u></p> <ul style="list-style-type: none"> <li>Black Bears, Butterfly Cycle (3-LS1-1)</li> <li>Moth, Bowerbirds, Cat's Claw (3-LS4-2)</li> </ul> <p><u><b>LEAP Practice Test Standalone Items:</b></u></p> <ul style="list-style-type: none"> <li>10 (3-LS3-1)</li> <li>11 (3-LS3-2)</li> <li>34 (3-LS4-2)</li> </ul> <p><u><b>LEAP Assessment Guide Items:</b></u></p> <ul style="list-style-type: none"> <li>Spoonbills (3-LS3-2)</li> <li>Pollinators (3-LS4-2)</li> </ul> <p><u><b>LEAP Science Released Items:</b></u></p> <ul style="list-style-type: none"> <li>N/A</li> </ul>	<p><u><b>LDOE Formative Assessment Sets (Password - Educate2020):</b></u></p> <ul style="list-style-type: none"> <li>Task Set: Pythons (3-LS3-1 and 3-LS3-2)</li> </ul> <p><u><b>LEAP Practice Test Items:</b></u></p> <ul style="list-style-type: none"> <li>Amazon River Dolphins (3-LS2-1 and 3-LS1-1)**</li> <li>Rattlesnake (3-LS3-1 and 3-LS4-2)</li> <li>Plants and Heat (3-LS3-2 and 3-ESS2-1)**</li> </ul> <p><u><b>LEAP Assessment Guide Sets:</b></u></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><u><b>LEAP Science Released Items:</b></u></p> <ul style="list-style-type: none"> <li>N/A</li> </ul>
<b>Module 4</b> <b>Forces and Motion</b>	<p><u><b>LDOE Formative Assessment Items (Password - Educate2020):</b></u></p> <ul style="list-style-type: none"> <li>Cradle, Volleyball, Skateboard (3-PS2-1)</li> <li>Ball Type (3-PS2-2)</li> </ul>	<p><u><b>LDOE Formative Assessment Sets (Password - Educate2020):</b></u></p> <ul style="list-style-type: none"> <li>Item Set: Oil Spill (3-PS2-2 and 3-PS2-3)</li> <li>Item Set: Bowling (3-PS2-1 and 3-PS2-2)</li> </ul>

Module	Discrete Items	Sets
<b>Module 4</b> <i>continued</i>	<p><u><b>LEAP Practice Test Standalone Items:</b></u></p> <ul style="list-style-type: none"> <li>35 (3-PS2-1)</li> <li>36 (3-PS2-2)</li> <li>31 &amp; 32 (3-PS2-3)</li> <li>15 &amp; 39 (3-PS2-4)</li> </ul> <p><u><b>LEAP Assessment Guide Items:</b></u></p> <ul style="list-style-type: none"> <li>Toy Truck Investigation (3-PS2-1)</li> </ul> <p><u><b>LEAP Science Released Items:</b></u></p> <ul style="list-style-type: none"> <li>Magnets (3-PS2-4)</li> </ul>	<p><u><b>LEAP Practice Test Items:</b></u></p> <ul style="list-style-type: none"> <li>Seesaws (3-PS2-1 and 3-PS2-2)</li> </ul> <p><u><b>LEAP Assessment Guide Sets:</b></u></p> <ul style="list-style-type: none"> <li>Item Set: Lightning and Static Electricity (3-PS2-3, 3-ESS2-1)**</li> </ul> <p><u><b>LEAP Science Released Items:</b></u></p> <ul style="list-style-type: none"> <li>Item Set: Forces and Cabinet Doors (3-PS2-1 and 3-PS2-4)</li> </ul>

\*\*Contains performance expectation(s) from a previous unit.