



Teaching and Learning

Louisiana Guide to Implementing Amplify: Grade 4

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Purpose

To assist teachers with the implementation of the Amplify curriculum for grade 4, this document provides guidance for how Amplify units correlate with the [Louisiana Student Standards for Science](#) (LSSS). The Amplify curriculum provides ample instructional guidance for teachers. This Louisiana Guide to Implementing Amplify goes a step further to point out places in which teachers may need to make strategic decisions, considering student needs.

The Amplify Science Grade 4 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 so that LDOE may incorporate your suggestions when updating this guide.

Standards by Unit¹

	Unit 1 Energy Conversions	Unit 2 Vision & Light	Unit 3 Earth's Features	Unit 4 Waves, Energy, & Information
Number of Lessons	22 lessons	22 lessons	22 lessons	22 lessons
Anchor Phenomenon Question	Why does Ergstown keep having blackouts?	Why is an increase in light affecting the health of Tokay geckos in a Philippine rainforest?	What was the environment of this place like in the past?	How can a mother dolphin and her calf communicate underwater when they cannot see each other? How can humans use patterns to communicate?
Standards	4-PS3-1 4-PS3-2 4-PS3-3* 4-PS3-4 4-ESS3-1 4-ESS3-2*	4-LS1-1 4-LS1-2 4-PS4-2	4-ESS1-1 4-ESS2-1 4-ESS2-2 4-ESS3-2	4-PS3-2 4-PS3-3 4-PS4-1 4-ESS3-2 4-LS1-2*

* The performance expectation is only partially addressed using the identified phenomenon. The performance expectation is addressed in other unit(s). Standard 4-ESS2-3 is partially addressed throughout the Grade 4 units.

¹ Adapted from guidance developed by Amplify Science

Investigative Phenomena by Unit¹

Unit	Investigative Phenomena Question
Unit 1 Energy Conversions	Chapter 1: What happened to the electrical system the night of the Ergstown blackout? Chapter 2: What makes the devices in Ergstown output energy or fail to output energy? Chapter 3: Where does the electrical energy for the devices in Ergstown come from? Chapter 4: How does energy get to the devices all over Ergstown?
Unit 2 Vision & Light	Chapter 1: How does a Tokay gecko get information about its environment? Chapter 2: How does light allow a Tokay gecko to see its prey? Chapter 3: How does a Tokay gecko know that it is looking at its prey? Chapter 4: How could more light at night make it hard for a Tokay gecko to see its prey? Chapter 5: How do our senses help us understand our environment?
Unit 3 Earth's Features	Chapter 1: How did the fossil get inside the rocky outcrop? Chapter 2: What was the environment of Desert Rocks National Park in the past? Chapter 3: What is the order of the past environments of Desert Rocks National Park? Chapter 4: Why did more rock layers get exposed in Desert Rocks Canyon than in Keller's Canyon?
Unit 4 Waves, Energy, & Information	Chapter 1: How does a mother dolphin communicate with her calf across a distance? Chapter 2: How does sound energy travel through the water from a mother dolphin to her calf? Chapter 3: How does a dolphin calf know which call is his mother's call? Chapter 4: How can humans use patterns to communicate?

¹Adapted from guidance developed by Amplify 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	Item Sets and Practice Test Items
Unit 1 Energy Conversions	<p><u>LDOE Formative Assessment Items</u> (Password - Educate2020):</p> <ul style="list-style-type: none"> Hockey Puck (4-PS3-1) Pool Temperature(4-PS3-2) Boat Design (4-PS3-4) Wind Power (4-ESS3-1) <p><u>LEAP Practice Test Standalone Items:</u></p> <ul style="list-style-type: none"> 39 (4-PS3-1) 22-23 (4-PS3-4) 38 (4-ESS3-1) <p><u>LEAP Assessment Guide Items:</u></p> <ul style="list-style-type: none"> Blender (4-PS3-2) Softball (4-PS3-3) <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> Solar Panels (4-PS3-4) 	<p><u>LDOE Formative Assessment Sets</u> (Password - Educate2020):</p> <ul style="list-style-type: none"> N/A <p><u>LEAP Practice Test Sets:</u></p> <ul style="list-style-type: none"> Item Set: Heating with Solar Energy (4-PS3-4 and 4-ESS3-1) Item Set: Marble Experiment (4-PS3-1 and 4-PS3-3) Item Set: Striking Flint (4-PS3-3 and 4-PS3-2) <p><u>LEAP Assessment Guide Sets:</u></p> <ul style="list-style-type: none"> N/A <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> N/A
Unit 2 Vision & Light	<p><u>LDOE Formative Assessment Items</u> (Password - Educate2020):</p> <ul style="list-style-type: none"> Green Pitcher (4-LS1-1) Spiders (4-LS1-2) Cave (4-PS4-2) <p><u>LEAP Practice Test Standalone Items:</u></p> <ul style="list-style-type: none"> 40 (4-PS4-2) 	<p><u>LDOE Formative Assessment Sets</u> (Password - Educate2020):</p> <ul style="list-style-type: none"> Item Set: Blackbirds (4-ESS2-3 and 4-LS1-1) Item Set: Cuttlefish (4-LS1-1 and 4-LS1-2) <p><u>LEAP Practice Test Sets:</u></p> <ul style="list-style-type: none"> Item Set: Predator and Prey (4-LS1-2 and 4-PS4-2) Task Set: Beavers (4-ESS2-3 and 4-LS1-1)

Module	Discrete Items	Item Sets and Practice Test Items
Unit 2 <i>continued</i>	<p><u>LEAP Assessment Guide Items:</u></p> <ul style="list-style-type: none"> • Armadillos (4-LS1-2) <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> • N/A 	<p><u>LEAP Assessment Guide Sets:</u></p> <ul style="list-style-type: none"> • Item Set: How Bears See (4-LS1-2 and 4-PS4-2) <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> • N/A
Unit 3 Earth's Features	<p><u>LDOE Formative Assessment Items (Password - Educate2020):</u></p> <ul style="list-style-type: none"> • LA Coast, Grand Canyon, Dam (4-ESS2-1) <p><u>LEAP Practice Test Standalone Items:</u></p> <ul style="list-style-type: none"> • 32 & 41 (4-ESS1-1) • 33 (4-ESS2-1) • 15 & 34 (4-ESS2-2) <p><u>LEAP Assessment Guide Items:</u></p> <ul style="list-style-type: none"> • Erosion Experiment (4-ESS2-1) <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> • Rock Layers (4-ESS1-1) 	<p><u>LDOE Formative Assessment Sets (Password - Educate2020):</u></p> <ul style="list-style-type: none"> • Item Set: Sierra Nevada (4-ESS1-1 and 4-ESS2-2) <p><u>LEAP Practice Test Sets:</u></p> <ul style="list-style-type: none"> • Item Set: Hawaiian Volcanoes (4-ESS2-2 and 4-ESS3-2) <p><u>LEAP Assessment Guide Sets:</u></p> <ul style="list-style-type: none"> • Task Set: The Ages of Louisiana Soil and Fossils (4-ESS1-1 and 4-ESS2-1) <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> • Item Set: Bryce Canyon (4-ESS1-1 and 4-ESS2-1)
Unit 4 Waves, Energy, & Information	<p><u>LDOE Formative Assessment Items (Password - Educate2020):</u></p> <ul style="list-style-type: none"> • Marbles (4-PS3-3) • Puddles (4-PS4-1) • Ashfall (4-ESS3-2) <p><u>LEAP Practice Test Standalone Items:</u></p> <ul style="list-style-type: none"> • 14 (4-ESS3-2) 	<p><u>LDOE Formative Assessment Sets (Password - Educate2020):</u></p> <ul style="list-style-type: none"> • Item Set: Hurricanes (4-ESS2-1 and 4-PS4-1) <p><u>LEAP Practice Test Sets:</u></p> <ul style="list-style-type: none"> • N/A <p><u>LEAP Assessment Guide Sets:</u></p> <ul style="list-style-type: none"> • N/A

Module	Discrete Items	Item Sets and Practice Test Items
Unit 4 <i>continued</i>	<p><u>LEAP Assessment Guide Items:</u></p> <ul style="list-style-type: none"> N/A <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> House on Sliders (4-ESS3-2) 	<p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> N/A
Additional Standards	<p><u>LDOE Formative Assessment Items</u> (Password - Educate2020):</p> <ul style="list-style-type: none"> Termite (4-ESS2-3) <p><u>LEAP Practice Test Standalone Items:</u></p> <ul style="list-style-type: none"> 37 <p><u>LEAP Assessment Guide Items:</u></p> <ul style="list-style-type: none"> N/A <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> N/A 	<p><u>LDOE Formative Assessment Sets</u> (Password - Educate2020):</p> <ul style="list-style-type: none"> N/A <p><u>LEAP Practice Test Sets:</u></p> <ul style="list-style-type: none"> Task Set: Beavers (4-ESS2-3 and 4-LS1-1) <p><u>LEAP Assessment Guide Sets:</u></p> <ul style="list-style-type: none"> N/A <p><u>LEAP Science Released Items:</u></p> <ul style="list-style-type: none"> Item Set: Water Hyacinths (4-LS1-1 and 4-ESS2-3)