



# Louisiana Believes

## Louisiana Guide to Implementing Amplify: Grade 8

To assist teachers with the implementation of the eight grade Amplify curriculum, this document provides guidance regarding how Amplify units correlate with the [Louisiana Student Standards for Science](#) (LSSS). The Amplify curriculum provides ample instructional guidance for teachers. This Louisiana Guide for 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 8 units may include performance expectations from previous grade levels. These 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 as we believe that teachers and other educators will find ways to improve the document as they use it. Please send feedback to [STEM@la.gov](mailto:STEM@la.gov) so that we may use your input when updating this guide.

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Standards by Unit<sup>1</sup>

	Unit 1 Geology on Mars	Unit 2 Plate Motion	Unit 3 Rock Transformations	Unit 4 Thermal Energy	Unit 5 Natural Selection	Unit 6 Evolutionary History
<b>Number of Lessons</b>	11 lessons	19 lessons <i>1 companion lesson</i>	19 lessons <i>2 companion lessons</i>	19 lessons <i>1 companion lesson</i>	19 lessons <i>2 companion lessons</i>	19 lessons
<b>Anchor Phenomenon Question</b>	How can we search for evidence that other planets were once habitable?	Why are fossils of <i>Mesosaurus</i> separated by thousands of kilometers of ocean when the species once lived all together?	Why are rock samples from the Great Plains and from the Rocky mountains composed of such similar minerals, when they look so different and come from different areas?	Which heating system will best heat Riverdale School?	What caused the newt population in Oregon State Park to become more poisonous?	Is this Mystery Fossil more closely related to wolves or to whales?
<b>Louisiana Students Standards for Science<sup>2</sup></b>	8-ESS2-2 6-ESS1-3	8-ESS1-4 8-ESS2-2 8-ESS2-3	8-ESS2-2 8-ESS2-3 8-ESS3-1 8-ESS3-3 8-PS1-3† 8-ESS2-1† 6-ESS1-3	8-PS1-1 8-PS3-3 8-PS3-5 8-PS1-6† 7-PS1-4 6-PS2-1 7-PS3-4	8-LS3-1 8-LS4-6 8-LS1-4† 8-LS1-5† 7-LS2-4 7-LS4-4 7-LS4-5	8-LS4-1 8-LS4-2 8-LS4-3 8-LS4-6
<b>Plate Motion Engineering Internship Unit</b>	Standards: 8-ESS2-2; 8-ESS2-3; 8-ESS3-2; MS-ETS1-1; MS-ETS1-2; MS-ETS1-3 <i>Recommended to follow Unit 2, Plate Motion</i> <i>10 lessons</i>					
<b>Natural Selection Engineering Internship Unit</b>	Standards: 8-LS3-1; 8-LS4-6; MS-ETS1-1; MS-ETS1-2; MS-ETS1-3; 7-LS4-4 <i>Recommended to follow Unit 5, Natural Selection</i> <i>10 lessons</i>					

†The identified phenomenon only partially addresses the performance expectation. Further instruction of the performance expectation should be explored by incorporating the Grade 8 [Louisiana Scope and Sequence](#) units as needed.

<sup>2</sup>Performance expectations which are unique to the Next Generation Science Standards for Middle School have not been included in this table.

<sup>1</sup>Adapted from guidance developed by Amplify.

**Companion Lesson Guidance<sup>1</sup>**

Guidance provided in the Amplify Louisiana Grade 8 Companion Teacher Booklet has strategically added lessons to the storyline to address Louisiana Student Standards for Science for 8<sup>th</sup> grade not fully addressed in the core unit materials. These companion lessons ensure that the Louisiana Student Standards for Science for grade 8 are covered by building on what students are learning in core units and extending their understanding of unit concepts.

Unit	Companion Lesson	Lesson Placement	Time Frame	Standards
<b>Unit 2 Plate Motion</b>	Lesson 1, p. 12 Reading “Using Rock as a Clock: Dating the Dinosaur Extinction”	Insert after Lesson 3.3	90 minutes (can be spread across multiple class periods)	8-ESS1-4 8-ESS2-2
<b>Unit 3 Rock Transformations</b>	Lesson 2, p. 27 Reading “From Living Things to Plastic: A Journey Through Rock”	Insert after Lesson 1.5	80 minutes (can be spread across multiple class periods)	8-MS-PS1-1 8-PS1-3 8-ESS3-3
	Lesson 3, p. 48 Reading “Bryce Canyon Hoodoos”	Insert after Lesson 2.6	60 minutes (can be spread across multiple class periods)	8-PS1-1 8-PS1-3
<b>Unit 4 Thermal Energy</b>	Lesson 4, p. 62 Designing Hot Packs and Cold Packs	Insert after Lesson 2.5	105 minutes (can be spread across multiple class periods)	8-PS1-6
<b>Unit 5 Natural Selection</b>	Lesson 5, p. 85 Reading About Plant and Animal Reproduction	Insert after Lesson 4.4	60 minutes (can be spread across multiple class periods)	8-LS1-5
	Lesson 6, p. 96 Reading “Growing Giant Pumpkins”	Insert after Lesson 4.4	60 minutes (can be spread across multiple class periods)	8-LS1-5

<sup>1</sup> Adapted from guidance developed by Amplify.

Investigative Phenomena by Unit<sup>1</sup>

Units	Investigative Phenomena Questions
<b>Unit 1 Geology on Mars</b>	Chapter 1: What geologic process could have formed the channel on Mars? Chapter 2: How can we gather more evidence about whether lava or water formed the channel on Mars? Chapter 3: How can we decide which geologic process formed the channel on Mars?
<b>Unit 2 Plate Motion</b>	Chapter 1: What is the land like where <i>Mesosaurus</i> fossils are found? Chapter 2: How did the South American Plate and the African Plate move? Chapter 3: How did the <i>Mesosaurus</i> fossils on the South American Plate and the African Plate get so far apart? Chapter 4: Students apply what they learn to a new question: What best explains the pattern of volcanic and earthquakes on the Jalisco Block?
<b>Unit 3 Rock Transformations</b>	Chapter 1: How did the rock of the Great Plains and the rock of the Rocky Mountains form? Chapter 2: Where did the magma and sediment that formed the rock of the Great Plains and the rock of the Rocky Mountains come from? Chapter 3: How could rock from one of the regions have transformed into a different type of rock in the other region? Chapter 4: Students apply what they learn to a new question: What rock transformation processes are happening on Venus?
<b>Unit 4 Thermal Energy</b>	Chapter 1: What is happening when the air in the school gets warmer? Chapter 2: What causes air molecules inside the school to speed up? Chapter 3: Which heating system will warm the air in the school more? Chapter 4: Students apply what they learn to a new question: Why wasn't the water pasteurized?

<p><b>Unit 5 Natural Selection</b></p>	<p>Chapter 1: What caused the newt population to become more poisonous? Chapter 2: How did the trait for increased poison level become more common in the newt population? Chapter 3: How did a poison-level trait that wasn't always present in the newt population become the most common trait? Chapter 4: Students apply what they learn to a new question: What caused the stickleback population to have less armor and become faster?</p>
<p><b>Unit 6 Evolutionary History</b></p>	<p>Chapter 1: Where in the museum does this new fossil belong? Chapter 2: How did wolves, whales, and the Mystery Fossil become so different from their common ancestor population? Chapter 3: How can we tell if the Mystery Fossil is more closely related to wolves or whales? Chapter 4: Students apply what they learn to a new question: Is the Tometti fossil more closely related to ostriches or crocodiles?</p>
<p><b>Engineering Design Unit: Plate Motion Engineering Internship</b></p>	<p>Research Phase Design Phase Proposal Phase Application of science content</p>
<p><b>Engineering Design Unit Natural Selection Engineering Internship</b></p>	<p>Research Phase Design Phase Proposal Phase Application of science content</p>

<sup>1</sup> Adapted from guidance developed by Amplify.

**LDOE Formative Assessment Resources**

Created by Louisiana educators to support formative assessment in the classroom, the Department has released a library of discrete items and item sets correlated to the Louisiana Student Standards for Science. These items, along with LEAP 2025 Practice Test Items, may be used in conjunction with guidance from high-quality curriculum as opportunities for students to demonstrate what they have learned. LDOE Formative Assessment Resources can be found on the [K-12 Science Planning](#) webpage.

Unit	Discrete Items	Item Sets and Practice Test Items
<b>Unit 1</b> <b>Geology on Mars</b>	Mushroom Rock (8-ESS2-2)	North Carolina Landslides (8-ESS3-2; 8-ESS2-2)
<b>Unit 2</b> <b>Plate Motion</b>	Fossils (8-ESS1-4) California Rock Formation (8-ESS1-4) Mushroom Rock (8-ESS2-2) Pangea (8-ESS2-3)	North Carolina Landslides (8-ESS3-2; 8-ESS2-2)
<b>Unit 3</b> <b>Rock Transformations</b>	Mixing Liquids (8-PS1-3) South America (8-ESS2-1) Mushroom Rock (8-ESS2-2) Pangea (8-ESS2-3) Petroleum (8-ESS3-1) Pollutants (8-ESS3-3)	North Carolina Landslides (8-ESS3-2; 8-ESS2-2)
<b>Unit 4</b> <b>Thermal Energy</b>	Marbles (8-PS1-1) Potato Experiment (8-PS3-3) Sailboat (8-PS3-5)	
<b>Unit 5</b> <b>Natural Selection</b>	Scotch Broom (8-LS1-4) Daisies (8-LS1-5) Miles Davis (8-LS3-1) Hummingbird (8-LS4-6)	

<p><b>Unit 6</b>  <b>Evolutionary</b>  <b>History</b></p>	<p>Geo Time Scale (8-LS4-1)          Horses (8-LS4-2)          Bats (8-LS4-2)          Embryo Development (8-LS4-2)          Comparing Embryos (8-LS4-3)          Hummingbird (8-LS4-6)</p>	
<p><b>Engineering</b>  <b>Design Unit:</b>  <b>Plate Motion</b>  <b>Engineering</b>  <b>Internship</b></p>	<p>Mushroom Rock (8-ESS2-2)          Pangea (8-ESS2-3)          Cascadia (8-ESS3-2)</p>	<p>North Carolina Landslides (8-ESS3-2; 8-ESS2-2)          Tornadoes (8-ESS3-2)</p>
<p><b>Engineering</b>  <b>Design Unit</b>  <b>Natural Selection</b>  <b>Engineering</b>  <b>Internship</b></p>	<p>Miles Davis (8-LS3-1)          Hummingbird (8-LS4-6)</p>	