

# Louisiana Believes

## Louisiana Guide to Implementing Amplify: Grade 6

To assist teachers with the implementation of the sixth 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 and time availability.

The Amplify Science Grade 6 units may include performance expectations from future 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 Microbiome	Unit 2 Populations and Resources	Unit 3 Matter and Energy in Ecosystems	Unit 4 Force and Motion	Unit 5 Magnetic Fields	Unit 6 Earth, Moon, and Sun	Unit 7 Light Waves
<b>Number of Lessons</b>	11 lessons	19 lessons <a href="#">1 companion lesson</a>	19 lessons <a href="#">3 companion lessons</a>	19 lessons	19 lessons	19 lessons	19 lessons <a href="#">1 companion lesson</a>
<b>Anchor Phenomenon Question</b>	How can having 100 trillion microorganisms on and in the human body keep us healthy?	What caused the size of the moon jelly population in Glacier Sea to increase?	Why did the biodome ecosystem collapse?	What happened in the missing seconds when the space pod should have docked with the space station?	Why did the tests of a magnetic spacecraft launcher not go as planned?	How can an astrophotographer plan for the best times to take photos of specific features of the moon?	Why is there a higher rate of skin cancer in Australia than in other parts of the world?
<b>Louisiana Students Standards for Science<sup>2</sup></b>	6-LS1-1* 6-LS1-2 6-LS2-1 6-LS2-2 7-LS1-3	6-LS2-1 6-LS2-2 6-LS2-3 6-ESS3-4 7-LS1-7 7-LS2-5 8-ESS3-3	6-LS1-2 6-LS2-2 6-LS2-3 6-PS1-1 7-LS1-6 7-LS1-7 7-LS2-4 8-PS1-6 8-ESS2-1 7-ESS3-5	6-PS2-1 6-PS2-2 6-PS3-1	6-PS2-3 6-PS2-4* 6-PS2-5 6-PS3-1 6-PS3-2 8-PS3-5	6-ESS1-1† 6-ESS1-2 6-ESS1-3† 6-PS2-4	6-PS4-1 6-PS4-2† 6-LS1-1 6-LS1-2 7-LS1-6 7-ESS3-5
<b>Engineering Internship Unit (Optional)</b>	Force and Motion Engineering Internship	Standards: 6-PS2-1; 6-PS2-2; 6-PS2-4; MS-ETS1-2; MS-ETS1-3; MS-ETS1-4 <i>Recommended to follow Unit 4, Force and Motion.</i>  10 lessons					

\* The performance expectation is only partially addressed using the identified phenomenon and is addressed in other unit(s).

†The identified phenomenon only partially addresses the performance expectation. Further instruction of the performance expectation should be explored by incorporating the Grade 6 [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 6 Companion Teacher Booklet has strategically added lessons to the storyline to address Louisiana Student Standards for Science for 6<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 6 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 Populations and Resources</b>	Lesson 1, p. 12 Protecting Our Natural Resources	Insert any time after Lesson 3.4	55 minutes (can be spread across multiple class periods)	6-ESS3-4 6-LS2-1
<b>Unit 3 Matter and Energy in Ecosystems</b>	Lesson 2, p. 34 Reading “What’s the Matter in Ecosystems?”	Insert after Lesson 1.2	80 minutes (first and second reads can be spread across two class periods)	6-PS1-1
	Lesson 3, p. 48 Modeling Chemical Reactions in Ecosystems	Insert after Lesson 2.2	45 minutes	6-PS1-1
	Lesson 4, p. 59 Reading “Sugarcane Farm and Pine Forest: The Nitrogen Cycle”	Insert after Lesson 3.4	60 minutes (first and second reads can be spread across two class periods)	6-LS2-3
<b>Unit 7 Light Waves</b>	Lesson 5, p. 71 Explaining Rainbows and Blue Skies	Insert any time after Lesson 3.3	80 minutes (can be spread across multiple class periods)	6-PS4-2

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

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

Units	Investigative Phenomena Questions
<p><b>Unit 1</b> <b>Microbiomes</b></p>	<p>Chapter 1: How small are the microorganisms that live on and in the human body? Chapter 2: How can fecal transplants cure patients infected with harmful bacteria?</p>
<p><b>Unit 2</b> <b>Populations and Resources</b></p>	<p>Chapter 1: What cause the size of the moon jelly population in the Glacier Sea to increase? Chapter 2: What could have caused the births to increase or the deaths to decrease in the moon jelly population? Chapter 3: How could a population besides the zooplankton or sea turtles have caused the moon jelly population to increase? Chapter 4: What was the main cause of the decrease in the size of the orange-bellied parrot population?</p>
<p><b>Unit 3</b> <b>Matter and Energy in Ecosystems</b></p>	<p>Chapter 1: Why didn't the plants and animals in the biodome have enough energy storage molecules? Chapter 2: What caused carbon dioxide to decrease in the air (abiotic matter) of the biodome? Chapter 3: What happened to the carbon that used to be in the air (abiotic matter) of the biodome? Chapter 4: Why does deforestation lead to increased carbon dioxide in the air?</p>
<p><b>Unit 4</b> <b>Force and Motion</b></p>	<p>Chapter 1: What caused the pod to change direction? Chapter 2: The thrusters on the ACM pod exerted the same strength force as thrusters on other pods, so why did this pod move differently? Chapter 3: After collision, how does the pod's motion compare to the motion of the space station? Chapter 4: Why did Vehicle 2 fall off the cliff in Claire's test of the collision scene, but Vehicle 2 did not fall off the cliff in the film <i>Iceworld Revenge</i>?</p>

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

<p><b>Unit 5</b> <b>Magnetic Fields</b></p>	<p>Chapter 1: How can the launcher make the model spacecraft move without touching it? Chapter 2: Where did the energy to launch the model spacecraft come from? Chapter 3: Why was there so much more potential energy stored in the launcher system on Wednesday than on Tuesday? Chapter 4: Which design will launch the roller coaster cart the fastest?</p>
<p><b>Unit 6</b> <b>Earth, Moon, and Sun</b></p>	<p>Chapter 1: Why is there a border between light and dark on the Moon? Chapter 2: Why does the border between light and dark on the Moon change location? Chapter 3: What are the conditions that cause a lunar eclipse? Chapter 4: During a year, will there be a lunar eclipse of the moon of Kepler-47c?</p>
<p><b>Unit 7</b> <b>Light Waves</b></p>	<p>Chapter 1: How does light from the sun cause skin cancer? Chapter 2: How can the same amount of sunlight cause different rates of skin cancer? Chapter 3: Why does Australia get more ultraviolet light than other parts of the world? Chapter 4: Can the crabs see the plankton they eat near the ocean floor?</p>
<p><b>Engineering Design Unit</b> <b>Force and Motion</b> <b>Engineering Internship</b></p>	<p>Research Phase Design Phase Proposal Phase Application of science content</p>

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**Alignment to LDOE EAGLE Items**

EAGLE is a bank of assessment items created by Louisiana educators to support formative assessment in the classroom. These items may be used in conjunction with guidance from the high-quality curriculum as opportunities for students to demonstrate what they have learned.

Unit	Eagle Discrete Items	EAGLE Item Sets and Practice Test Items
<b>Unit 1 Microbiomes</b>	Minerals (6-LS1-1) Slugs and Chloroplasts (6-LS1-2) Plant Cells (6-LS1-2) Cherry Tree (6-LS2-2) Wolves and Moose (6-LS2-2)	Deer (6-LS2-1) Organelles (6-MS-LS1-1; 6-MS-LE1-2)
<b>Unit 2 Populations and Resources</b>	Cherry Tree (6-LS2-2) Wolves and Moose (6-LS2-2) Microplastics (6-LS2-3)	Deer (6-LS2-1)
<b>Unit 3 Matter and Energy in Ecosystems</b>	Slugs and Chloroplasts (6-LS1-2) Plant Cells (6-LS1-2) Cherry Tree (6-LS2-2) Wolves and Moose (6-LS2-2) Microplastics (6-LS2-3) Models (6-PS1-1)	Anasazi and the Great Drought (6-MS-LS2-1, 6-MS-LS2-2)
<b>Unit 4 Force and Motion</b>	Satellite (6-PS2-1) Shin Guard Design (6-PS2-1) Juan’s Skateboard (6-PS2-2) Soccer Ball (6-PS2-2) Sports Balls (6-PS3-1)	Bowling (6-PS3-1 and 6-PS2-2)

<p><b>Unit 5</b> <b>Magnetic Fields</b></p>	<p>Electric Motor (6-PS2-3) Moons (6-PS2-4) Popcorn (6-PS2-5) Sports Balls (6-PS3-1)</p>	<p>Bowling (6-PS3-1 and 6-PS2-2) Changes in the Earth’s Magnetic Field (6-MS-PS2-3, 6-MS-PS3-5) Marbles (6-MS-PS3-1, 6-MS-PS3-2)</p>
<p><b>Unit 6</b> <b>Earth, Moon, and Sun</b></p>	<p>Midnight Sun (6-ESS1-1) Spitzer (6-ESS1-2) Dwarf Planet (6-ESS1-3) Moons (6-ESS1-1 and 6-PS2-4)</p>	<p>Asteroids in the Solar System (6-MS-ESS1-2, 6-MS-ESS1-3)</p>
<p><b>Unit 7</b> <b>Light Waves</b></p>	<p>Trials (6-PS4-1) Reverberation (6-PS4-1) Spectral Signature (6-PS4-2) Telescopes (6-PS4-2) Minerals (6-LS1-1) Slugs and Chloroplasts (6-LS1-2) Plant Cells (6-LS1-2)</p>	<p>Ocean Waves (6-PS4-1) Properties of Light and Sound Waves (6-MS-PS4-1, 6-MS-PS4-2)</p>
<p><b>Engineering Design Unit</b> <b>Force and Motion</b> <b>Engineering Internship</b></p>	<p>Satellite (6-PS2-1) Shin Guard Design (6-PS2-1) Juan’s Skateboard (6-PS2-2) Soccer Ball (6-PS2-2) Moons (6-PS2-4)</p>	<p>Bowling (6-PS3-1 and 6-PS2-2)</p>