

Louisiana Believes

Louisiana Guide to Piloting OpenSciEd: Grade 8

This document provides guidance to assist eighth-grade teachers with the field-testing of OpenSciEd units. 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 so that we may use your input when updating this guide.

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Overview of OpenSciEd

OpenSciEd is an effort among science educators, curriculum developers, teachers and philanthropic foundations to improve the supply of and demand for high-quality K-12 science instructional materials by producing open-sourced, freely available instructional materials designed for college and career-ready science standards. OpenSciEd works with classroom educators, experienced science curriculum developers, individual school districts, education non-profit Achieve, and the science education community to create and pilot robust, research-based, open-source science instructional materials.

Field Testing and Release of Units

Ten partner states volunteered to join this effort including: California, Iowa, Louisiana, Massachusetts, Michigan, New Mexico, New Jersey, Oklahoma, Rhode Island and Washington. After the initial development of the OpenSciEd units, the unit prototypes or **field test units** undergo rigorous external review and robust field-testing in participating classrooms across partner states. Seven Louisiana districts are involved in field-testing the units. The field test units are revised based on the feedback and data collected. The revised or **complete** units are submitted to Achieve’s EQuIP Peer Review Panel and made freely and openly available to the public upon earning a quality rating. The OpenSciEd release schedule provides for **complete units** to release three at a time beginning August 2019 with the entire middle school program (18 units total) fully completed and released in early 2022.

Unit Design & Sample Scope and Sequence

The units in the OpenSciEd Sample Scope and Sequence include bundles of performance expectations that are built around an anchor phenomenon. The scope and sequence integrates the OpenSciEd curriculum and the [Grade 8 Louisiana Sample Scope and Sequence](#). The scope and sequence does not illustrate the only appropriate sequence to teach the units. The units can be organized into different learning sequences, and the performance expectations can be bundled around different phenomena.

The OpenSciEd units may include performance expectations from previous or 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 is not recommended and should be approached with caution and careful consideration.

Contact

For questions or requests for additional information on the OpenSciEd initiative and/or materials, contact info@opensci.ed.org.

2021-22 Sample Scope and Sequence Version A

This sequence is recommended for schools and systems who want to implement all of the OpenSciEd units recommended in Louisiana for Grade 8 regardless of field test or revised status. Note that decisions will need to be made based on kit purchase and availability along with unit release schedules. Please refer to [OpenSciEd Purchasing and Professional Development Pricing](#) for information about purchasing kits or [materials lists](#) for sourcing items individually.

	Unit 1 Energy and Matter (LA Scope and Sequence Unit)	Unit 2 Plate Tectonics and Rock Cycling OpenSciEd Unit 6.4	Unit 3 Natural Hazards OpenSciEd 6.5	Unit 4 Energy in Chemical Reactions OpenSciEd 7.2	Unit 5 Natural Resources & Human Impact OpenSciEd 7.6	Unit 6 Genetics OpenSciEd Unit 8.5	Unit 7 Natural Selection & Common Ancestry OpenSciEd 8.6
Unit Question	People in one small area had power after a catastrophic earthquake in Japan.	How and why does Earth's surface change?	Where do natural hazards happen and how do we prepare for them?	How can we help people make a flameless heater?	How do changes in earth's system impact our communities and what can we do about it?	Why are living things different from one another?	How could things living today be connected to things living long ago?
Standards	8-PS1-1 8-PS1-3 8-PS3-3 8-PS3-5	8-ESS1-4 8-ESS2-1 8-ESS2-2 8-ESS2-3 8-LS4-1*	8-ESS3-2	8-PS1-6	8-ESS3-1 8-ESS3-3* 6-ESS3-4 7-ESS3-5	8-LS1-5* 8-LS3-1 7-LS3-2 7-LS4-5	8-LS1-4 8-LS4-1* 8-LS4-2 8-LS4-3 8-LS4-6 7-LS4-4
Resource	Louisiana Sample Scope and Sequence	Complete Unit	Complete Unit	Complete Unit	Field Test Unit	Field Test Unit	Field Test Unit
Additional Information					Complete Unit Available Winter 2022	Complete Unit Available Fall 2021	Complete Unit Available Winter 2022

† Unit 1 performance expectations are not addressed by the Grade 8 OpenSciEd units. The performance expectations can be addressed by incorporating the Grade 8 [Louisiana Sample Scope and Sequence](#) units as needed. *The performance expectation is partially addressed using the identified phenomenon and is addressed in multiple units.

2021-22 Sample Scope and Sequence Version B

Note that this sequence is designed for schools and systems that are interested in beginning to implement OpenSciEd and want to prioritize complete revised units. Kit purchases should all be made through [Aquaphoenix](#) as units are publically released and kits become available for purchase. In this version, schools and systems should use portions of the [Grade 8 Louisiana Sample Scope and Sequence](#) to address standards that fall outside of the suggested OpenSciEd units.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 7	Unit 8
	Biological Evolution (LA Scope and Sequence Unit)	Embryological Similarities (LA Scope and Sequence Unit)	Genetics and Traits (LA Scope and Sequence Unit)	Energy and Matter (LA Scope and Sequence Unit)	Plate Tectonics and Rock Cycling OpenSciEd Unit 6.4	Natural Hazards OpenSciEd 6.5	Energy in Chemical Reactions OpenSciEd 7.2
Unit Question/Anchor Phenomenon	Archosaurs, sauropods and tyrannosaurs were anatomically different from organisms of today	Chickens and cows have embryological similarities; yet, they are two different organisms.	Charles Darwin's Finches on Galapagos Island were identical to mainland finches but had different beaks.	People in one small area had power after a catastrophic earthquake in Japan.	How and why does Earth's surface change?	Where do natural hazards happen and how do we prepare for them?	How can we help people make a flameless heater?
Standards	8-MS-ESS1-4 8-MS-LS4-1 8-MS-LS4-2*	8-MS-LS4-2* 8-MS-LS4-3	8-MS-LS1-4 8-MS-LS1-5 8-MS-LS3-1 8-MS-LS4-6 8-MS-ESS3-3	8-PS1-1 8-PS1-3 8-PS3-3 8-PS3-5	8-ESS1-4 8-ESS2-1 8-ESS2-2 8-ESS2-3 8-LS4-1*	8-ESS3-2	8-PS1-6
Resource	Louisiana Sample Scope and Sequence	Louisiana Sample Scope and Sequence	Louisiana Sample Scope and Sequence	Louisiana Sample Scope and Sequence	Complete Unit	Complete Unit	Complete Unit
Additional Information					Complete Unit Available October 2021		

*The performance expectation is partially addressed using the identified phenomenon and is addressed in multiple units.

Alignment to EAGLE 2.0 for Scope and Sequence Version A

EAGLE is a bank of assessment items created by Louisiana educators to support formative assessment in the classroom and appear on the [K-12 Science Planning Page](#). These items may be used in conjunction with guidance from the high-quality curriculum as opportunities for students to demonstrate what they have learned.

Grade 8 (Version A)	EAGLE Discrete Items	EAGLE and Practice Test Item Sets
Energy and Matter	Marbles (8-MS-PS1-1) Mixing Liquids (8-MS-PS1-3) Potato Experiment (8-MS-PS3-3) Sailboat (8-MS-PS3-5)	Nitinol (8-MS-PS1-1, 8-MS-PS1-3) Solar Cooker (8-PS3-3, 8-PS3-5)
Plate Tectonics and Rock Cycling OpenSciEd Unit 6.4	Fossils (8-MS-ESS1-4) South America (8-MS-ESS2-1) Mushroom Rock (8-MS-ESS2-2) Pangaea (8-MS-ESS2-3) Geo_Time_Scale (8-MS-LS4-1)	North Carolina Landslides (8-MS-ESS2-2, 8-MS-ESS3-2)
Natural Hazards OpenSciEd Unit 6.5	Cascadia (8-MS-ESS3-2)	Tsunamis & the Louisiana Coast (8-MS-ESS2-1, 8-MS-ESS3-2) Tornadoes (8-MS-ESS3-2)
Energy in Chemical Reactions OpenSciEd Unit 7.2	Items Coming Soon	Items Coming Soon
Natural Resource and Human Impact OpenSciEd Unit 7.6	Petroleum (8-MS-ESS3-1)	Opal (8-MS-ESS3-1, 8-MS-ESS3-3)
Genetics OpenSciEd Unit 7.6	Daisies (8-MS-LS1-5) Miles Davis (8-MS-LS3-1)	Glowing Jellyfish (8-LS3-1, 8-MS-LS4-6)

Natural Selection and Common Ancestry OpenSciEd Unit 8.6	Scotch Broom (8-MS-LS1-4) Horses (8-MS-LS4-2) Embryo Development (8-MS-LS4-2) Bats (8-MS-LS4-2) Comparing Embryos (8-MS-LS4-3) Hummingbird (8-MS-LS4-6)	Surviving in Desert Landscapes (8-LS1-5, 8-LS1-4)
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Distance Learning Support

To support school systems, schools, and teachers in ensuring continuous learning in science, the Department will release guidance for implementing OpenSciEd in a hybrid or distance learning setting for every available OpenSciEd Unit.

Distance learning plans for each unit will contain the following:

- Links to OpenSciEd remote learning resources
- Unit guidance
- Detailed lesson-by-lesson guidance, including activities and slides for virtual classes
- Printable lesson documents to send home with students

The resources available now are linked below:

- [OpenSciEd Distance Learning](#) – This document contains links to distance learning support for each unit
- OpenSciEd Distance Learning Support Webinar [Slide Deck](#) and [Video](#)
- [Release Schedule for Science Distance Learning](#)