



Engaging Students in LSSS-Aligned Instruction

Update for 2020-2021: In Response to the COVID-19 Pandemic, Engaging Students in LSSS-Aligned Instruction has shifted to support distance learning and assist teachers in their transition to provide inquiry-based virtual classroom experiences. This includes:

- Online virtual bootcamp (sessions 1-2) and optional virtual deep dive (sessions 3-6) based on current restrictions during the school year;
- Option for virtual classroom observations whether recorded in classrooms, or reviewing synchronous/asynchronous lesson materials online;
- “How to set up your virtual classroom” resource bank and video tutorials;
- Additional bootcamp mini-workshop: “how to create asynchronous inquiry-based video demonstrations,” to assist teachers in developing engaging distance learning resources.
- Sessions customized based on school decisions for virtual or in-person learning with strategies for ensuring inquiry-based instructional practices according to presentation methodology

With these supports, the Engaging Students in LSSS-Aligned Instruction workshop series ensures that teachers have the operational capacity to process and implement pedagogical and instructional shifts in science classrooms, and that administrative staff have the skills needed to assess and coach teachers in high-quality inquiry-based distance learning experiences.

Explanation: This workshop series is intended for schools and networks that are looking to improve their teachers’ ability to implement lessons, units, and curriculum aligned to the new Louisiana Student Standards for Science. This includes how to read and use the new standards, 5E inquiry-based lesson planning, and in-class instructional strategies for science classrooms.

Rationale: This workshop series was developed at the behest of current SLL member schools because teachers and administrators were reporting that teachers were having difficulty effectively planning for science, implementing rigorous hands-on lessons, and assessing students according to the new standards.

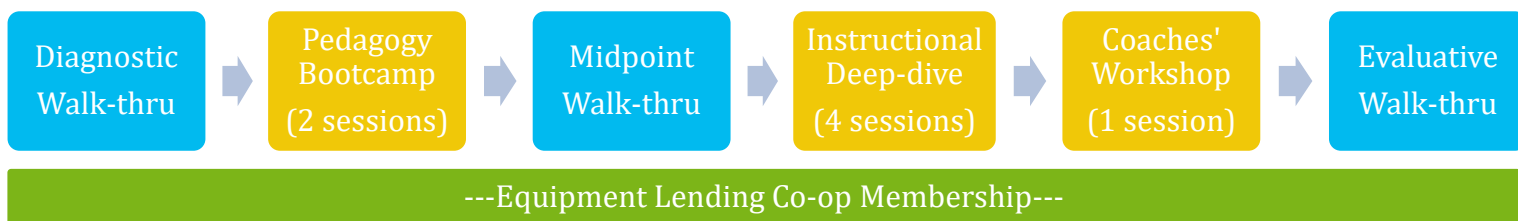


Customization: Science instruction looks different at schools across this city for a variety of reasons. This workshop series is tailored to meet your school's needs.

<u>Grade level:</u>	<u>Curriculum:</u>	<u>Teacher experience:</u>
As K-5 science looks different from middle or high school classrooms, and sessions will explore instructional practices and strategies specific to your target grade bands.	Many schools have purchased a Tier-1 curriculum, and seek assistance ensuring a successful rollout for both teachers and students. Other schools voice being lost as to where to start, or valuing the flexibility afforded by self-created modules. Sessions will incorporate either the materials specific to your school's curriculum, or to highest-quality free and open source options.	The new standards require a shift in teaching pedagogy. Whether your school is comprised of veteran educators or those without experience teaching before the new standards were rolled out, sessions will focus on the particular skillsets and needs of your teachers.

Before services begin, SLL staff will conduct a scoping session with school administration to determine how to best customize sessions to fit the needs of the school. Following the scoping session, the school will receive a variety of options for implementation, ranging from full service (as described below) to a la carte selections.

Full Service Option: 3 walk-throughs, 6 teacher workshops, 1 coach workshop, yearlong subscription to SLL's Equipment Lending Co-op.



4-hour school walk-throughs

Diagnostic:

Before PD sessions, SLL staff and admin visit classrooms with a rubric to assess current practices and develop baselines. SLL staff conducts interviews with teachers. Results are shared and used to drive content in sessions 1-2.



Mid-point:

Between weeks 2 and 3, SLL staff and admin visit classrooms with a rubric, Teachers are instructed to prepare a science lesson based on strategies in the first 2 weeks. Results are shared and used to drive content in sessions 3-4.

Evaluative:

After week 6, SLL staff and admin visit classrooms and independently complete assessments using the rubric provided in session 6. Results are discussed and an action plan for admin coaching is developed.

Six 180-minute session weekly workshop series

Session 1: Navigating the Standards

Teachers will develop a pedagogical approach to reading and interpreting the Louisiana Student Standards for Science, learn where to find planning resources, and engage with 3 state approved best practices for implementing instruction across all grades/subjects-phenomenon, models, and driving question boards

Session 2: Finding and Writing the Science Lesson Plan

Teachers will walk through 5E model curriculum planning options with a case-study specific to the school's particular curriculum, then teachers will redesign a lesson or unit following the introduced strategies

Session 3: In-class Instructional Strategies for Science

Teachers will learn how to increase rigor and time-on-task in their science classrooms through academic discourse, notebooks, classroom technology, and classroom management strategies

Session 4: Preparing for Lab Day

Teachers will be introduced to a variety of the challenges common to hands-on instruction as differentiated from traditional instruction, and revise upcoming lessons to incorporate strategies that ensure positive academic and management outcomes.

Session 5: Assessment in LSSS-Aligned Classrooms

Teachers will learn how to find and create LSSS aligned formative and summative assessments, as well as best practices for using assessments to guide future instruction

Session 6: External Resources and the Local Landscape

Teachers will learn how to navigate additional resources in the local landscape including field trips, volunteer assistance, extracurricular options, content specific PD opportunities, and current events

One 120 minute coaches' workshop

Coaches' Workshop: Evaluating and Coaching Science Instruction

Administrators will engage with rubrics and tools for how to conduct classroom observations and evaluate teacher effectiveness, along with coaching strategies to help teachers improve rigor and engagement

One yearlong school-wide membership to SLL's Equipment Lending Co-op



On-site library orientation and walk-through

Teachers will visit the library, learn about resources, and create borrower profiles in order to check out equipment.

Content-specific workshops

Teachers will be invited, based on subject/grade-level, to attend Communities of Practice and Office Hours with Experts workshops at SLL

On-site planning support

Teachers can visit SLL with questions about lesson planning and received personalized, tailored support from SLL team

Teacher Co-Working Center

Teachers can work from our open Teacher Co-Working Center, with access to photocopier, poster printer, laminator, and standard office and workspace materials.

Full Service:	Basic:	A la Carte Option:
<ul style="list-style-type: none"> • Diagnostic, Mid-point, and Evaluative Walk-throughs • 6 teacher workshop sessions • 1 coach workshop session • 1-year membership to Equipment Lending Co-op 	<ul style="list-style-type: none"> • Diagnostic walk-through • Select any 3 workshop sessions based on data from walk through • 1-year membership to Equipment Lending Co-op 	Select any: <ul style="list-style-type: none"> • Walk-through (\$750) • Workshop session (\$1,500) • Equipment Lending Co-op membership (\$2,000-\$4,000-varies by school size/grade)
\$14,000-\$15,500 (based on ELS membership)	\$6,500-\$8,500 (based on ELS membership)	

Prices quoted include:

Walk-throughs:

- 4 30-minute classroom observations
- 3 20-minute teacher interviews
- Debrief with administration
- Post walk-through report

Workshop sessions:

- Up to 12 teachers per workshop
- 2 hours of presentation content
- 1 hour of guided work-time (incrementally throughout presentation)
- Post session implementation instructions/prep work
- Guided notes, presentation slides, web resources
- 1 grade-band focus area per workshop
- 1 curriculum focus area per workshop



Detailed descriptions of each content session:

Session 1: Navigating the Standards

Teachers will develop a pedagogical approach to reading and interpreting the Louisiana Student Standards for Science, learn where to find planning resources, and engage with 3 state approved best practices for implementing instruction across all grades/subjects- phenomenon, models, and driving question boards

- This session will introduce teachers to the LSSS by first walking through where to find LDOE approved grade-level resources, then conducting a case study of a single standard in which teachers will examine the what, why, and how, of Performance Expectations, Clarifying Statements, Science and Engineering Practices, Disciplinary Core Ideas, and Cross-Cutting Concepts (Three-Dimensional Learning).
- Teachers will examine each of these aspects of the new standards in detail through pedagogical and implementation-based lenses.
- This session will then delve into the first major shift in the LSSS: Activity Before Content. Teachers will take on a student-facing role in which they dive into phenomenon-based instruction using model making and a driving question board.
- At the end of the session, teachers will have the tools to restructure their instructional practice following the Activity Before Content premise, and will begin planning their upcoming units or modules in preparation for Session 2.

Session 2: Finding and Writing the Science Lesson Plan

Teachers will walk through 5E module curriculum planning options with a case-study specific to the school's particular curriculum, then teachers will redesign a lesson or unit following the introduced strategies

- Building on the shift addressed in Session 1, Activity Before Concept, this session will introduce the second shift, 5E planning for units and lesson sequences. Teachers will learn the pedagogical impetus for, and walk through practical implementation of each aspect of the 5Es, including timelines, teacher actions, and student actions.
- Using the curriculum pre-selected by the school, teachers will dive into a case-study for how navigate the intellectual property materials provided to them through their curriculum. In the absence of a pre-selected option, teachers will complete this walk-through using grade-level appropriate open source materials available online.
- This session will link the concepts of 5E modules with phenomenon, model making, and driving question boards, and will guide teachers in how to weave



the Three-Dimensional Learning expectations from the new standards into their 5E modules.

- At the end of the session, teachers will be prepared to begin implementing standards-aligned instruction, and will be tasked with preparing and teaching a unit or lesson sequence in preparation for the second walk through and later sessions.

Session 3: In-class Instructional Strategies for Science

Teachers will learn how to increase rigor and time-on-task in their science classrooms through academic discourse, notebooks, classroom technology, and classroom management strategies

- In this session, teachers will deep dive into the Science and Engineering Practices, and the Cross-Cutting Concepts aspects of the new LSSS. Using these two topics as a framework, this session focuses on specific in-class instructional strategies as they tie into the SEPs and CCCs.
- Teachers will explore how to foster high quality discussions and productive argumentation from evidence within the science context. Additionally, teachers will assess the value of using a science notebook and/or lab report to guide a lesson sequence.
- Using the school's pre-selected curriculum, teachers will examine CFUs and the strategy of robust independent practice as a tool for engaging students effectively.
- During the session, teachers will evaluate how to employ SEP/CCC rooted in-class instructional strategies into their current lesson sequence

Session 4: Preparing for Lab Day

Teachers will be introduced to a variety of the challenges common to hands-on instruction as differentiated from traditional instruction, and revise upcoming lessons to incorporate strategies that ensure positive academic and management outcomes.

- In this session, teachers will explore strategies for rigor and classroom management during hands-on activities. Starting with the question of “why are we doing this activity” teachers will learn which questions to ask to create a plan for a successful activity, rooted in the practices of the SEPs and the themes of the CCCs.
- Topics will include: inquiry vs procedural, when in the lesson sequence, setting student expectations, experiment vs activity vs lab vs interactive demonstration, determining group sizes and classroom configuration, CFUs for assessing learning in the moment, and post lab consensus-making strategies.
- Teachers will also learn practical strategies to convert existing activities they may have used in the past into LSSS-aligned lessons, and will weave in the



specifics of the school's pre-selected curriculum to determine how they are intended to construct hands-on experiences.

- With this, teachers will breakout to find the time in their upcoming lesson sequence when they will utilize hands-on instruction, and directly employ strategies from the workshop to locate or revise materials for this lesson.
- Teachers will go beyond the scope of the school's pre-selected curriculum to determine which external resources and methodologies may best assist them in presenting content for their particular context.

Session 5: Assessment in LSSS-Aligned Classrooms

Teachers will learn how to find and create LSSS aligned formative and summative assessments, as well as best practices for using assessments to guide future instruction

- In this session, teachers will compare a variety of assessments according to the expectations of the LSSS to identify commonalities among rigorous aligned assessments. Using the mantra that the words "Aligned to Louisiana Standards" printed on a particular material are not indicative of the material's quality, teachers will be able to find and adapt assessments to meet the spirit of the LSSS.
- Teachers will explore how to use formative assessments throughout the 5E module in order to ensure that teaching is flexible and meets the needs of students in practice. They will practice real-time strategies to ensure that the process of giving and making sense of assessments does not become overburdensome given the range of daily expectations.
- Teachers will investigate open source resources for making summative assessments more robust, aligned to the LSSS. These include rubric creation and implementation of non-exam based assessment methodologies.
- With these new tools in their toolbox, teachers will explore a case-study from the school's pre-selected curriculum to determine if it passes the benchmarks required by the LSSS, and will practice modifying it as needed.

Session 6: External Resources and the Local Landscape

Teachers will learn how to navigate additional resources in the local landscape including field trips, volunteer assistance, extracurricular options, content specific PD opportunities, and current events

- In this session teachers will develop the tools they need to find and plan for non-traditional instruction. Building on the premise that the LSSS' instructional shifts are aimed at engaging students in their own learning processes, teachers will receive assistance in locating potential field trip excursions relevant to their upcoming content, as well as options to bring content experts into the classroom either locally or online.



- Additional resources explored will include local nonprofits, government entities, universities, and businesses that provide opportunities for expanded educational experiences.
- Teachers will have embedded guided time to explore these opportunities as well as educator specific resources such as content specific professional development, grant opportunities, and citizen science or current event engagement options

Coaches' Workshop: Evaluating and Coaching Science Instruction

Administrators will engage with rubrics and tools for how to conduct classroom observations and evaluate teacher effectiveness, along with coaching strategies to help teachers improve rigor and engagement

- In this session, coaches and administrators will begin with a brief crash course on the instructional shifts in the LSSS, and their rationale. This base will provide the framework to understand how coaches can best support teachers whether they have a formal science background, or none at all.
- Coaches will investigate rubrics for how to evaluate science classrooms according to the instructional shifts with three-dimensional learning. Because of the instructional shifts, both lesson planning and daily instruction may look different than usual and may not follow traditional formats, in which case coaches will be able to appropriately evaluate lesson effectiveness and rigor
- Using case studies, coaches will explore how to work with teachers to ensure that they are versed in the language and expectations of science teaching according to the LSSS, and prepared to help both new and veteran teachers to grow in their practice.