

# ENGAGING STUDENTS IN LSSS-ALIGNED INSTRUCTION

## Menu of Services Overview and Rationale



**Overview:** STEM Library Lab is offering Professional Development for Science Methods to schools. This session series walks teachers and coaches through instructional practices used to facilitate inquiry based classrooms, rooted in the Louisiana Student Standards for Science. Sessions account for the statewide shift to Tier 1 Aligned curriculum, and prepare teachers to adapt their instructional practices based on the school's selected High Quality Instructional Materials.

**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, phenomenon and 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.

### Grade Level:

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.

### Curriculum:

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.

### Teacher Experience:

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.

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## Customization and Component Services



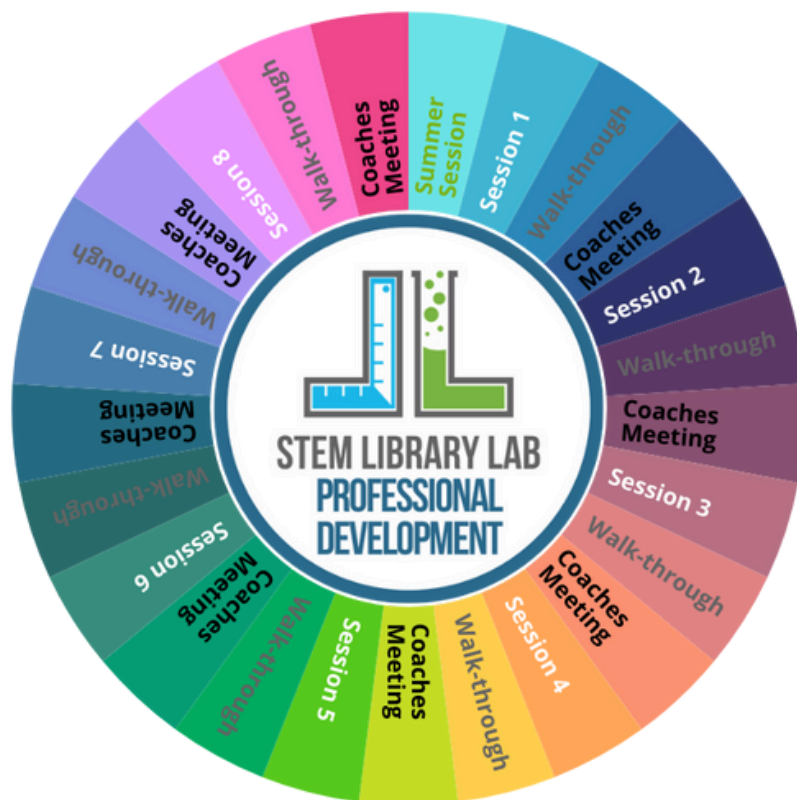
### FULL SERVICE INCLUDES :

1 Summer Administrative Session

8 Sessions

8 Walk-throughs

8 Coaches Sessions



Equipment Lending Co-op  
Year-long Full Membership  
Included

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## Description of Services



**Summer Administrative Session:** Prior to the start of the school year, administrators will engage in a 2 hour session that will allow them to immerse themselves in the core tenets of the new Louisiana Student Standards for Science(LSSS). In this interactive workshop, participants will be introduced to the concepts of Phenomenon and Three Dimensional Learning the way that the students will experience it. This session will outline for coaches the 3 instructional shifts that should occur in science classrooms. As the LEAP test changes to adhere to these shifts, administrators will better understand the expectations of students and teachers in preparing for these changes.

Following this, participants will receive observation tools, and rubrics for how they should observe, evaluate, and coach science teachers. They will then conduct a sample observation using these tools, to explore how they can find evidence of the teacher working to implement the changes in a way that is bite size and functional in the classroom setting. Participants will then dive into a high level overview of the content that their teaching staff will engage with throughout the year in order to understand their active role as coaches and leaders of their science teachers.

**Session One | Navigating the Standards:** This session will then delve into the first major shift in the LSSS: All lessons will focus on the exploration of a specific phenomena introduced by the teacher on day 1 in a more student centered approach to understanding concepts.

At the end of the session, teachers will have the tools to restructure their instructional practice to include the presenting of phenomena, and will begin planning their upcoming units or modules in preparation for Session 2. This session will need to be conducted during or before summer planning.

**Session Two |Assessment in LSSS-Aligned Classrooms:** Begin with the end in mind: Teachers will review examples of Phenomena-Based assessments that support new standards and are built into standardized test preparation. Teachers will learn how to identify the right place and time within the exploration of the phenomena to assess student sensemaking. Teachers will also receive strategies focused on evaluation of stimuli and use of charts and graphs in assessment formats.

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 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.

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.

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**Session Three | Asking Questions:** A notable switch in the classroom where students ask the questions while teachers facilitate by guiding students through the scientific process to find the answers. Teachers are no longer the keepers of knowledge.

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.

**Session Four | Developing and Using Models:** Making Models is an integral part of phenomena instruction. Scientists use models to play a specific role in inquiry and during this session teachers will receive the training to guide students to that understanding. Models provide a place where students can put their understanding on paper, share and even better revise ideas as they gain a better understanding of the phenomena. Teachers will also be guided upon how to make models a key part of their assessments of student learning and sense making.

**Session Five | (Daily Data) Analyzing and Interpreting Data:** This session focuses on how students interact with data. Based on the LSSS students are required to use sense making strategies and draw conclusions that lead to understanding of the DCI while creating Claims that are based on evidence provided in data either given or collected by the student. Teachers will receive strategies that will allow them to guide students through the data analysis process. Using data to draw conclusions and edit models as they grow in understanding.

**Session Six | CER Constructing Explanations and Arguing from Evidence:** CER's are an important part of sense making. As the students explore the phenomena, there are checkpoints within the lessons that allow students to draw conclusions based on evidence from activities and data in the lesson.

**Session Seven | Obtaining and Evaluating Information from Scientific Text:** Reading Comprehension is a very important skill in the science classroom. Teachers will be given strategies that will enable students to get information from scientific text. Teachers will access tools that will allow students the ability to use search engines to gather the most relevant information to add to their understanding of the phenomena.

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**Session Eight | Planning and Carrying out Investigations:** 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 break out 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.

**Walk-throughs:** After each session, a walkthrough will be conducted, including classroom observations and teacher interviews followed by a debrief with administration and a post walk-through report.

**Coaches Sessions:** 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 Year-long 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.