

Louisiana Believes

**Louisiana Science Connectors
for Students with Significant Disabilities
March 2018**

Objectives

As a result of today's session, participants will be able to

- Explain the vision for the Louisiana Connectors for students with significant disabilities
- Describe how the Science Connectors work, their alignment to the Louisiana Student Standards for Science, and their alignment to the Louisiana Connectors for ELA and math
- Identify a plan to facilitate implementation of the Science Connectors, including proposing resources and recruiting teachers of students with significant disabilities for Teacher Leader Summit 2018

Agenda

- Vision for the Science Connectors
- Function of the Science Connectors
- Implementation Planning

The background of the slide is a watercolor-style illustration. It features a central white area that tapers towards the top and bottom, creating a lens-like effect. This white area is surrounded by soft, blended washes of light blue and teal. The overall texture is painterly and organic, with irregular edges and varying shades of blue. The text is centered within the white area.

Vision for the Science Connectors

History

Standards for English Language Arts and Mathematics	
Spring 2016	Louisiana Student Standards approved
Winter 2016	Louisiana Connectors for students with significant disabilities approved

Standards for Science	
Spring 2017	Louisiana Student Standards approved
Spring 2018	Louisiana Connectors for students with significant disabilities – pending -

History

	FORMER	NEW
Standards	Extended Standards	Louisiana Connectors
Assessment	LAA 1	LEAP Connect for Students with Significant Disabilities

Vision for Students with Significant Disabilities

Vision:

Louisiana believes that all students, including those with the most significant cognitive disabilities, deserve an education that prepares them to be independent and successful in life after high school.

Additionally:

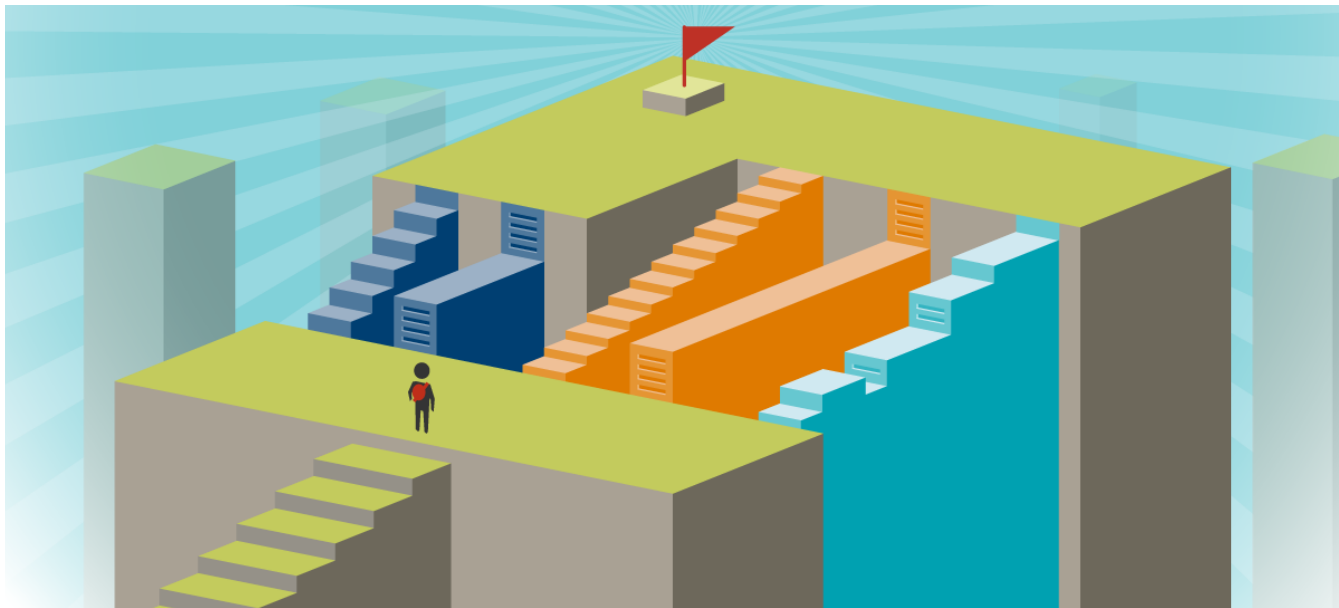
- Grade-level expectations are the highest expectations we have for all students.
- All students must have access to grade-level content and developmentally-appropriate opportunities in order for them to achieve expectations.
- The Louisiana Connectors provide developmentally-appropriate content for all grades and maintain high expectations for all students.



Function and Alignment of the Science Connectors

Science Connectors

- Provide concrete pathways for the academic achievement of students with significant cognitive disabilities
- Represent the major benchmarks along the pathway to achieving performance expectations



Example 1

Performance Expectation	Performance Expectation Connectors
<p>5-ESS1-2 Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</p>	<p>LC-5-ESS1-2a Use data to describe similarities and differences in the timing of observable changes in shadows.</p> <p>LC-5-ESS1-2b Use data to describe similarities and differences in the timing of observable changes in day and night.</p> <p>LC-5-ESS1-2c Use data to describe similarities and differences in the timing of observable changes in the appearance of stars that are visible only in particular months.</p>

Example 2

Performance Expectation	Performance Expectation Connectors
3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.	LC-3-LS3-1a Identify examples of inherited traits that vary between organisms of the same type. LC-3-LS3-1b Identify a cause and effect relationship between an environmental factor and its effect on a given variation in a trait (e.g., not enough water produces plants that have fewer flowers than plants that had more water available).

Activity



- **Find** the grade level with which you are most comfortable on [Louisiana Believes](https://www.louisianabelieves.com) website.
- **Review** the Science Connectors associated with that grade level.
- **Analyze** how the Science Connectors work toward the Performance Expectation.
- **Discuss** with a shoulder partner how the Connectors you reviewed “work”.

Instructional Shifts

The Louisiana Connectors enable the following instructional shifts for students with significant cognitive disabilities:

- **Access** – access grade-level content and skills and increase inclusion opportunities
- **Focus** – concentrate instruction on the “big ideas”
- **Pathways** – clarify present levels of performance and determine best next steps

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Implementation of the Science Connectors

Aligned Resources

To assist teachers in providing standards-based instruction for students with significant disabilities, potential resources include:

- Louisiana Connectors (aligned to Louisiana Student Standards)
- Science Component Cards
- Lesson Plan Adaptation
- Student Response Modes
- ?
- ?
- ?

Resource: Louisiana Connectors

- **Louisiana Connectors (aligned with Louisiana Student Standards)**
- The document presents the Louisiana Connectors which are aligned to the Louisiana Student Standards and represent the most salient grade-level, core academic content in Science.

Kindergarten Science MOTION AND STABILITY: FORCES AND INTERACTIONS	
Louisiana Student Standards	Louisiana Connectors (LC)
K-PS2-1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.	LC-K-PS2-1a Identify the effect caused by different strengths or directions of pushes and pulls on the motion of an object.
	LC-K-PS2-1b Explain the effect of pushes and pulls on the motion of an object.
	LC-K-PS2-1c Identify the effect of different strengths and directions of pushes and pulls on the motion of an object.
	LC-K-PS2-1d Compare different strengths or different directions of pushes and pulls on an object.
K-PS2-2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.	LC-K-PS2-2a Identify if something designed to push or pull an object makes it move the way it is intended.
	LC-K-PS2-2b Identify if something designed to change the speed of an object makes it move the way it is intended.
	LC-K-PS2-2c Identify if something designed to change the direction of an object makes it move the way it is intended.

Resource: Science Component Cards

- Science Component Cards
- The cards are arranged by grade levels for kindergarten through grade 8 and content areas for high school. The Component Cards include detailed Connectors for element of the performance expectations found in the the LSS:
 - Performance Expectation
 - Clarification Statements
 - Science and Engineering Practices
 - Disciplinary Core Ideas
 - Crosscutting Concepts

Performance Expectation 3-PS2-1 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.		
Performance Expectation Connector LC-3-PS2-1a Identify ways to change the motion of an object (e.g., number, size, or direction of forces). LC-3-PS2-1b Describe how objects in contact exert forces on each other.		
Science and Engineering Practice Planning and carrying out investigations: Planning and carrying out investigations to answer questions (science) or test solutions (engineering) to problems in 3-5 builds on K-2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design. • Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. Plan investigations collaboratively to produce data to serve as the basis for evidence. Conduct investigations collaboratively to produce data to serve as the basis for evidence. Plan investigations collaboratively using fair number of trials considered. Conduct investigations collaboratively using fair tests in which variables are controlled and the number of trials considered.	Disciplinary Core Idea FORCES AND MOTION Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it but they add to give zero net force on the object. (UE.PS2A.a) A force is a push or pull. A force can cause an object to start moving, stop moving, or change the object's direction. All forces have strength and direction. Forces typically occur in pairs and can be either balanced or unbalanced. When balanced forces act on an object it will remain at rest, but if unbalanced forces act on the object it will begin to move. If an object is not moving, the total of the forces acting on it have a sum of zero. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (Qualitative and conceptual, but not quantitative addition of forces are used at this level.) (UE.PS2A.b) The motion of an object depends on the effects of multiple forces, sum of zero. When unbalanced forces are applied to an object, they can cause the object to increase in speed or change in direction. TYPES OF INTERACTIONS Objects in contact exert forces on each other. (UE.PS2B.a) Whenever there is an interaction between two objects, there is a force upon each of the objects. When two objects are no longer in contact with one another, the two objects no longer experience the force.	Crosscutting Concept CAUSE AND EFFECT Cause and effect relationships are routinely identified, tested, and used to explain change. Cause and effect relationships may be identified. Cause and effect relationships may be tested. Cause and effect relationships may be used to explain change.

Resource: Lesson Plan Adaptation

- **Lesson Plan Adaptation**
- This document serves as a template for adapting whole class lesson plans to more individualized instruction for students with significant cognitive disabilities.

Template

Teaching Louisiana Student Standards to students who participate in the LEAP Connect for Students with Significant Disabilities ensures teachers create educational opportunities for all students to work toward grade-level content. While the content remains constant, differential expectations for achievement are established by simplifying and prioritizing content and creating individualized adaptations for students with significant disabilities to learn the same concepts.

General education teachers know what content is most important for each grade and they often have developed activities and materials that can be readily adapted for students with significant disabilities. For those students who participate in the general education setting, the logical point of departure would be for specialists to work with the classroom teacher to create universally designed lesson plans that include all students. For others, additional adaptations will be needed to address unique learning differences. For examples of approaches with both, please refer to the case studies found on the [Louisiana Believes website](#). The following table outlines a simplified process for thinking through lesson plan adaptation for students with significant disabilities.

<i>Step 1 – Identify whole class standard and lesson</i>	
<i>Step 2 – Identify aligned Louisiana Connector</i>	
<i>Step 3 – Create student-specific objective and assessment</i>	
<i>Step 4 – Create aligned activities</i>	
<i>Step 5 – Identify appropriate supports and scaffolds</i>	

Resource: Student Response Modes

- **Student Response Modes**
- This document supports teachers in identifying the best way for all students to demonstrate their understanding in each lesson.

It is important to identify the best way for your student to show what they know in each lesson. Here are some options to consider:

- **Point to the correct response when given an array** - The number of options in the array may vary depending on the student's current skills. An array of four is often used with one correct answer, at least one plausible incorrect answer, and two other distractors. Be sure to vary the location of the correct answer in the array. This array can be placed on the students' communication system.
- **Pull-off** - Some students have difficulty pointing but may be able to make a selection when the responses are attached to a page. The array of four options is used, but the student pulls the correct response.
- **Eye gaze** - Students who do not have the motor skills to point, but have vision, may be able to indicate the response by looking at the correct option. The array can be attached to each corner of a piece of see-through plexiglass (available from most hardware stores). By looking through the plexiglass, the teacher can see where the student focuses his or her eyes to indicate the answer.
- **Say or Type** - Some students can verbalize the correct answer. This answer may be given after viewing an array of options or by generating the answer when asked a question. Other students may be able to generate the answer by typing a response. Saying or typing the answer provides students with the most flexibility to describe what they know.
- **Show** - Some learning can be demonstrated through showing the answer. The student may be able to indicate the area of the rectangle by moving his or her hand across the shape. Or, a student may answer a comprehension question by pantomiming the answer.
- **Write or type on computer** - Sometimes the student may be able to write the answer, for example, by writing the correct number in an equation or writing the name of the main character in a story.
- **Use material from the lesson** - Students may be able to show the correct math answer by using a number card or plastic numbers or with other manipulatives. Similarly, in language arts, the student may use a picture on the page in the book or pron that is used with a story to answer a comprehension question. Remember the

Resource: Activity



- **Brainstorm:** The proposed resource is _____ .
- **Justify:** The proposed resource will support teacher instruction and planning by _____.

Standards Development: Timeline and Process

Timeline	Key Engagement
Dec 2017	Initial stakeholder discussions (process, timelines, guiding principles)
Jan – Feb 2018	Alignment proposal (LDOE worked with stakeholders and experts to determine alignment approach and develop drafts)
Mar 2018	Public comment (surveys, Collaborations, LaSEA, webinar)
Mar 29, 2018	Special Education Advisory Panel (endorsement of Bulletin 127 revision for the Louisiana Connectors for students with significant disabilities)
Apr 2018	Finalize proposals (review public feedback and finalize proposals) Recommendation for policy revisions to BESE
May 30–Jun 1, 2018	Teacher Leader Summit trainings for administrators and teachers

Planning Activity



- Provide feedback on Connectors
- Recruit Teacher Leader Summit participants
- Plan turnkey trainings for your district/ schools

Example 1: Provide Feedback



- **Provide feedback** during the public comment phase (March) and encourage others in your district to do the same (enter survey link here)

Example 2: Recruit Talent

Recruit
our talent



- Determine and **actively recruit Teacher Leader Summit participants** for the two strands available.

Train the Trainer – full day for specialists

General Overview – single session for generalists

Activity 3: Communicate



- Create a **plan to communicate the information from this session across the district**. Be sure to identify who will be responsible, when and where, and the outcomes you want to see for general education teachers and specialists.

Planning Activity



- Provide feedback on Connectors
- Recruit Teacher Leader Summit participants
- Plan turnkey trainings for your district/ schools

Closing

- ✓ **Curriculum and resources** – New standards, curricular and instructional resources, and parent communication tools (spring/summer 2018)
- ✓ **Assessments** – Preview of assessment design and structure (fall 2018), new assessment administration (spring 2019)
- ✓ **Teacher training and professional development** – Trainings on new standards (spring and summer 2018 and on-going) and provide recommendations to districts for continuing support (ongoing)

Email louisianastandards@la.gov with questions on standards and instruction; email assessment@la.gov with questions about the LEAP Connect assessment.