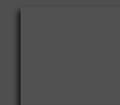


Louisiana Science Standards Review

August 31-September 1, 2016



Welcome

- Committee and workgroup members
- Educators, parents, and interested stakeholders
- Department of Education and BESE staff
- Elected officials

Purpose of Committee Meeting

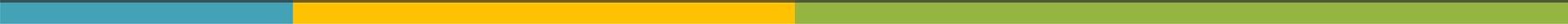
This meeting will ensure the committee:

- Understands the standards review process
- Can describe their role in the process
- Can describe the workgroups' role in the process
- Knows their next steps to prepare for the February committee meeting

Schedule

- Welcome
- Overview
 - Law and policy
 - Standards review process
 - Louisiana student standards
- Public comment
- Next steps
- Lunch
- Content workgroups meeting (separate agenda)

Overview of Standards Review



Purpose and Process

Louisiana State Standards

- Louisiana state law RS 17:24.4 requires BESE to adopt academic content standards, which are defined in the law as statements that define what a student should know or be able to accomplish at the end of a specific time period, grade level or at the completion of a course.
- The law sets forth an expectation that standards be rigorous and that they represent the knowledge and skills needed for students to successfully transition to postsecondary education and the workplace, as determined by content experts, elementary and secondary educators and school leaders, postsecondary education leaders, and business and industry leaders.
- BESE Bulletin 741, §2301 states, “The Louisiana content standards shall be subject to review and revision to maintain rigor and high expectations for teaching and learning.”

Louisiana Science Standards

- In accordance with state law, this review process will be led by content experts, elementary and secondary educators, postsecondary education leaders, and business and industry leaders. BESE has also provided for extensive participation by parents of Louisiana school children and the general public, both through the online review portal and in standards review committee meetings.
- BESE solicited nominations statewide from several education associations, local school systems, and key stakeholder organizations representing parents and business and industry leaders. From these nominations, the board assembled a diverse group of 86 individuals representing every sector mentioned in the law, as well as every geographic region of the state.
- These volunteers will serve on a standards review committee and two content workgroups, each led by a designated chairperson.

Standards Committee & Workgroups

Standards Committee

40 members who guide process and propose standards to BESE

Science Standards Committee

Review and Feedback

Louisiana educators and the general public review drafts and provide feedback

Review and Feedback

Content Workgroups

62 Louisiana educators who draft the standards, review feedback, and propose standards to the Standards Committee

K-8 Workgroup

High School Workgroup

35 members including: educators from every grade level (K-8), special education educators, STEM educators

28 members including: educators of biology, chemistry, earth and space science, environmental science, physical science, physics, STEM, special education

Standards Committee Members

Seat	Name	District/Organization
K-2	Latrenda Knighten*	East Baton Rouge Parish School System
K-2	Bridget Corley*	Sabine Parish School System
K-2	Karen Parrino*	Livingston Parish School System
3-5	Troy Lawson*	New Orleans College Prep
3-5	Bianca Deliberto*	Zachary Community School System
3-5	Donna Reyes*	St. Charles Parish School System
6-8	Heather Howle*	West Feliciana Parish School System
6-8	Brian Fontenot*	Calcasieu Parish School System
6-8	Cathi Cox-Boniol*	Lincoln Parish School System
High School	Lydia Hill*	International High School
High School	Dr. Rhonda Matthews*	Iberville Parish School System
High School (STEM)	Dr. Paulette Perrin*	St. Tammany Parish School System
Louisiana Association of Educators (LAE)	Michael McCoy	Louisiana Association of Educators
Louisiana Federation of Teachers (LFT)	Krystal Swain	Louisiana Federation of Teachers
Associated Professional Educators of Louisiana (A+PEL)	Patrick Turk	Associated Professional Educators of Louisiana
The Louisiana Council of Engineering Deans	Dr. Michelle Sanchez	The Louisiana Council of Engineering Deans
Louisiana Association of Teachers of Mathematics	Jean May-Brett*	Louisiana Association of Teachers of Mathematics
Louisiana Academy of Sciences	Dr. Susan Sullivan	Louisiana Academy of Sciences
University	Dr. Chad Young	Nicholls State University
University: Experimental Program to Stimulate Competitive Research (EPSCOR)	Dr. Brenda Nixon	University: Experimental Program to Stimulate Competitive Research (EPSCOR)
Louisiana Science Teachers Association (LSTA)	Patrice Mire*	Louisiana Science Teachers Association
Louisiana Association of Science Leaders (LASL)	Jeff Holcomb*	Louisiana Association of Science Leaders
Louisiana Early Childhood Association (LAECA)	Dr. Michelle Joubert*	Louisiana Early Childhood Association
Louisiana Board of Regents (BoR)	Dr. Jeanne Burns	Louisiana Board of Regents
Louisiana Parent Teacher Association (PTA)	Bonita Crawford	Louisiana Parent Teacher Association
Black Alliance for Educational Options (BAEO)	Dr. RaeNell Houston	Black Alliance for Educational Options
Urban League of Greater New Orleans	Dr. Calvin Mackie	Urban League of Greater New Orleans
Louisiana Association of Principals (LAP)	Joseph David	Louisiana Association of Principals
Louisiana Association of School Superintendents (LASS)	Scott Devillier	Louisiana Association of School Superintendents
Louisiana School Board Association (LSBA)	Andre Deshotel	Louisiana School Board Association
Louisiana Association of Public Charter Schools (LAPCS)	Akhundov Elkhani*	Louisiana Association of Public Charter Schools
Louisiana Association of Business and Industry (LABI)	Michelle Savoy	Louisiana Association of Business and Industry
LSU Agricultural Center	Josh Dahlem	LSU Agricultural Center
Louisiana Stand for Children	Dr. Keith Leger	Louisiana Stand for Children
Louisiana Family Forum	Dr. Wade Warren	Louisiana Family Forum
Board of Elementary and Secondary Education (BESE)	Danny Pennington	BESE, Ouachita Parish School System
Board of Elementary and Secondary Education (BESE)	Dr. John Oller, ULL	BESE, University of Louisiana Lafayette
Board of Elementary and Secondary Education (BESE)	Joni Smith	BESE, Livingston Parish School System
Board of Elementary and Secondary Education (BESE)	Regina Chustz*	BESE, Lafourche Parish School System

Content Workgroups

- Two content workgroups will review and develop Louisiana science standards.
 - K-8 content workgroup
 - High school content workgroup
- Each workgroup will propose a set of standards to the Standards Committee for consideration.
- Over 90% of each content workgroup are current, district and school-based educators.

K-8 Workgroup Members

Seat	Name	District/Organization
Kindergarten	Karen Parrino*	Livingston Parish School System
Kindergarten	Latrenda Knighten*	East Baton Rouge Parish School System
1st grade	Dawn Barnett	East Feliciana Parish School System
1st grade	Emily Swenson	Rapides Parish School System
2nd grade	Rebecca Jones	Franklin Parish School System
2nd grade	Rachel Loque	St. James Parish School System
K-2nd grades	Bridget Corley*	Sabine Parish School System
3rd grade	Bianca Deliberto*	Zachary Community Schools
3rd grade	Ashly Rathburn	Allen Parish School System
4th grade	Emily McGrath	KIPP Public Charter Schools
4th grade	Alvester Barfield	Red River Parish School System
5th grade	Kizzy Crockett	West Baton Rouge Parish School System
5th grade	Troy Lawson*	New Orleans College Prep
3rd-5th grades	Donna Reyes*	St. Charles Parish School System
6th grade	Shannon Lafont	Lafourche Parish School System
6th grade	Sheila Banks	Orleans Parish School System
7th grade	Lyndsey Ewing	Monroe City Schools
7th grade	Jodi Sanchez	Lusher Charter School
8th grade	Charlene Byrd	Jefferson Parish School System
8th grade	Kyle Duhon	Jefferson Davis Parish School System
Elementary	Kendra Pullen	Caddo Parish School System
Elementary	Jessica Church	Natchitoches Parish School System
Middle school	Brian Fontenot*	Calcasieu Parish School System
Middle school	Wendy DeMers	Homer A. Plessy Community School
K-8th grades	Cathi Cox-Boniol*	Lincoln Parish School System
Louisiana Science Teachers Association (LSTA)	Shavonne Garner-Price	Louisiana Science Teachers Association
University	Dr. Brenda Nixon	Louisiana State University
Louisiana Association of Early Childhood (LAECA)	Dr. Michelle Joubert*	Louisiana Association of Early Childhood
Elementary special education	Marsha Medine	Assumption Parish School System
Middle school special education	Annic Greer	Sabine Parish School System
Louisiana Association of Teachers of Mathematics (LATM)	Jessica Rivero	Louisiana Association of Teachers of Mathematics
Technology	Cecilia Lanier	Tangipahoa Parish School System
K-8 STEM	Heather Howle*	West Feliciana Parish School System
K-8 STEM	Loren Klein	Iberia Parish School System
High School Science	John Provost	Acadia Parish School System

High School Workgroup Members

Seat	Name	District/Organization
Biology	Lydia Hill*	International High School
Biology	Casey McMann	Plaquemines Parish School System
Biology	Jed Pitre	Lafourche Parish School System
Biology	Regina Chustz	Terrebonne Parish School System
Chemistry	Cody Cole	Beauregard Parish School System
Chemistry	Mamie Brauer	Vernon Parish School System
Chemistry	Dr. Rhonda Matthews*	Iberville Parish School System
Chemistry	Anthony McElligott	Collegiate Academies
Earth Science	Rene Naquin	Terrebonne Parish School System
Earth Science	James Oubre	St. John Parish School System
Environmental Science	Lisa Nance	Caddo Parish School System
Environmental Science	Jean May-Brett*	Louisiana Association of Teachers of Mathematics
Astronomy	John Sorrel	St. Mary Parish School System
University	Dr. Waneene Dorsey	Grambling State University
Physical Science	Conrad Browne	St. Bernard Parish School System
Physical Science	Stephen Knight	St. Martin Parish School System
Physics	Suzanne Prince	Lafayette Parish School System
Physics	Catherine Raziano	Zachary Community School System
STEM	Lisa Ranney	Lafayette Parish School System
STEM	Nathan Cotten	Terrebonne Parish School System
STEM	Akhundov Elkhan*	Kenilworth Charter School
STEM	Dr. Paulette Perrin*	St. Tammany Parish School System
General Science	Patrice Mire*	Vermilion Parish School System
Louisiana Association of Science Leaders (LASL)	Jeff Holcomb*	Louisiana Association of Science Leaders
High school special education	Tracy Hoffman	St. Tammany Parish School System
Technology	Steve Babcock	University Laboratory School – Louisiana State University
Laser Interferometer Gravitational-wave Observatory (LIGO)	Dr. Amber Stuver	Laser Interferometer Gravitational-wave Observatory
Cyber Innovation Center (CIC)	John Ownby	Cyber Innovation Center

Review Process: Timeline Overview

Meeting	Purpose	Date	Location
Standards Committee and Content Workgroups	<i>Organizational meeting</i>	Wednesday, August 31, 2016	Alexandria
Content Workgroups	<i>Finalize framework and begin draft</i>	Thursday, September 1, 2016	Alexandria
Content Workgroups	<i>Draft</i>	Monday, September 12- Tuesday, September 13, 2016	Alexandria
Content Workgroups	<i>Draft</i>	Wednesday, October 5-Thursday, October 6, 2016	New Orleans
Content Workgroups	<i>Produce first draft</i>	Monday, November 7, 2016	Covington
Standards Committee	<i>Review draft for public comment</i>	Thursday, November 10, 2016	Baton Rouge
Content Workgroups	<i>Revise first draft after public comment period</i>	January 12-13, 2017	Lafayette
Standards Committee	<i>Review draft and provide feedback</i>	January 25, 2017	Bossier
Content Workgroups	<i>Update draft (if needed)</i>	February 1, 2017	Baton Rouge
Standards Committee	<i>Final draft and vote</i>	February 13, 2017	New Orleans

Meeting Procedures

- **Committee meetings:** Meetings of the Standards Committee will be advertised, open to the public, and held pursuant to the Louisiana Open Meetings Law.
- **Committee leadership:** Each committee and workgroup will be facilitated by a chairman.
- **Workgroups:** Workgroups will divide into smaller subgroups as needed to address grade level and content specific work. Content workgroup members will work together to finalize any recommended revisions or additions to standards.
- **Voting:** Votes will be taken as a slate by the committee, not by individual standard or edit, to move proposed standards forward to the committee and to BESE.
- **Voting proxies:** No proxies will be allowed for voting purposes. Participants must be in attendance to vote.

Public Comment

- **Public comment at meetings:** Public comment will be received during each committee meeting and prior to any votes. Members of the public may also submit written comments for the record.
- **Content of public comment:** All public comment must relate to the review and development of standards, not other matters of policy.

Review Process: Public Review

Step	Details
Public Review December 1, 2016- January 6, 2017	<ul style="list-style-type: none">• Standards posted on the website for public review• Parents, committee members, educators, and other citizens share their feedback on each individual standard, K-12• Content workgroups review feedback from the public and determine appropriate revisions to the proposed standards

Overview of the Louisiana Student Standards

The Louisiana Student Standards:

- Define what a student should know or be able to accomplish at the end of a specific time period, grade level or completion of a course.
- Represent the knowledge and skills needed for students to successfully transition to postsecondary education and the workplace.
- Serve as the basis for state assessments that set student achievement standards consistent with students nationally.
- Allow local districts, schools, and teachers to develop and implement curriculum, content and methodology for required subjects.
- Build on skills learned in previous years and avoid repetition from year to year.
- Connect across grades and within grades.

Overview of the Louisiana Student Standards

Standards Do	Standards Do Not
1. Identify key knowledge and skills that <i>students</i> should demonstrate by the end of the year	<ul style="list-style-type: none">• Focus on <i>teacher</i> actions or what <i>teachers</i> should do to teach that content• Require specific instructional strategies, approaches, curricula or text to be used (“e.g.” or “such as” indicate an example, not a requirement)• Omit critical content
2. Connect learning within and across grade levels	<ul style="list-style-type: none">• Include unnecessarily repetitive standards• Create contradictions within a grade or with standards in other grades• Create gaps in the progression of learning within or across grades
3. Use clear language that clarifies for educators what students should be able to do at the end of a particular grade.	<ul style="list-style-type: none">• Use ambiguous or vague language

Framework

The work groups will propose a draft framework and key components of the standards in their first draft. The standards' framework will be the basis to achieve the desired state of science education in Louisiana.

During the workgroup meeting taking place today and tomorrow, the workgroups will consider which of the following components to include in the science standards framework:

- Science & engineering practices
- Cross-cutting concepts
- Disciplinary core ideas and performance expectations
- Engineering performance expectations
- Clarification statements
- Connections to the nature of science
- Connections to Louisiana Student Standards for math and ELA

Standards

In addition to the framework components, workgroups will consider the specific criteria that will be used to ensure quality standards. Use the sample criteria below to evaluate the four standards and determine if they meet the expectation for quality.

- The standard should use clear language, not be too prescriptive or too vague.
- The standard should be grade appropriate.
- Meeting the performance expectation or standard should demonstrate a student's understanding of the core idea in science.
- Standard should apply to multiple phenomenon (facts, occurrences, or circumstances).
- Standards should be more than 1-dimensional. In other words, they should connect core ideas, scientific and engineering practices, and/or cross-cutting concepts.
- Standards should connect learning within and across grade levels.

Standards

Evaluate the four standards below with the criteria in the Standards Analysis Worksheet.

Standards to Analyze

3rd grade: Use the five senses to describe observations.

3rd grade: Define a simple design problem that can be solved by applying scientific ideas about magnets.

3rd grade: Create models to identify physical features of Earth (e.g., mountains, valleys, plains, deserts, lakes, rivers, oceans).

3rd grade: Identify, in order, the planets in the solar system.

Public Comment

- **Public comment at meetings:** Public comment will be received during each committee meeting and prior to any votes. Members of the public may also submit written comments for the record.
- **Content of public comment:** All public comment must relate to the review and development of science standards, not other matters of policy.

Committee Task to Workgroup

- The committee hereby tasks the workgroups with developing Louisiana science standards by Tuesday, November 8, 2016 to be reviewed prior to public comment period.
- These should include:
 - Standards for Kindergarten through 8th grade
 - Standards for Biology, Chemistry, Physics, Earth and Space Science, and Environmental Science

Committee Next Steps

Step	Details
<p>Standards Committee and Content Workgroups Organizational meeting</p> <p>August 31-September 1, 2016</p>	<p>After the meeting:</p> <ul style="list-style-type: none">▪ Review minutes from today's meeting. They will be posted by Tuesday, September 6, 2016.▪ Review the draft standards for public comment, which will be sent by November 8, 2016.▪ Attend the standards committee meeting Thursday, November 10, 2017, in Baton Rouge. Logistics will be sent in October.

Workgroups Next Steps

Step	Details
Standards Committee and Content Workgroups Organizational meeting August 31-September 1, 2016	Content workgroups meeting immediately following lunch. Next steps will be detailed at the end.



Lunch

Lunch for committee and workgroup members will be served in this room.

After lunch, workgroups will meet in the library.