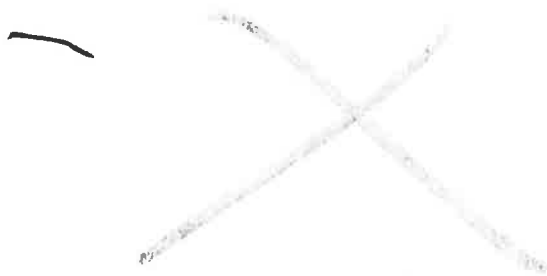




# Next generation Science Standards



Crime Standards  
West Pennsylvania


X

# NEXT GENERATION SCIENCE STANDARDS

**Next Generation Science Standards  
Association of California School  
Administrators**  
Phil Lafontaine, Director  
Professional Learning Support Division  
October 22, 2013

CALIFORNIA DEPARTMENT OF EDUCATION  
Tom Torlakson, State Superintendent of Public Instruction





## Development of NGSS

- Achieve Inc. convened 26 states during the last two years to develop the NGSS
- California State Board of Education has unanimously adopted NGSS Kindergarten through Grade Twelve.

TOM TORLAKSON  
State Superintendent  
of Public Instruction

3



## Let's take a look at the Standards

CALIFORNIA DEPARTMENT OF EDUCATION  
Tom Torlakson, State Superintendent of Public Instruction



**Conceptual Shifts in the  
NGSS**

TOM TORLAKSON  
State Superintendent  
of Public Instruction

1. K-12 science education should reflect the interconnected nature of science as it is practiced and experienced in the real world.
2. The Next Generation Science Standards are student performance expectations – NOT curriculum.
3. NGSS focuses on enduring Disciplinary Ideas, rather than isolated science facts.
4. The science concepts build coherently from K-12.

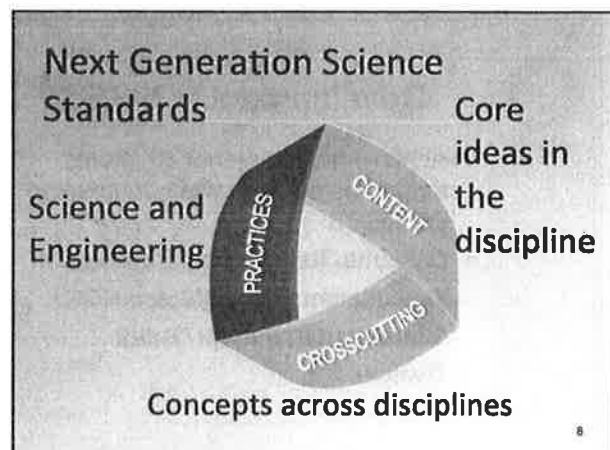
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**Conceptual Shifts in the  
NGSS (cont.)**

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State Superintendent  
of Public Instruction

5. The NGSS focus on deeper understanding of content as well as application of content.
6. Science and Engineering are Integrated in the NGSS from K-12.
7. The NGSS are designed to prepare students for college, career, and citizenship.
8. The NGSS and Common Core State Standards (English language arts and Mathematics) are aligned.

7






**Performance Expectations for NGSS**

Developed in disciplinary core ideas  
(Life Science, Earth and Space Science, Physical Science, and Engineering)

Arranged in

- K-5 grade specific
- 6-8 grade span
- 9-12 grade span




**Performance Expectations for NGSS**

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


**Performance Expectations = Standard**

Each standard is written in the form of one sentence, that identifies the disciplinary core idea, the scientific practice and the crosscutting concept the student is expected to demonstrate at the end of instruction..

The clarification statements provide a short description of a nuance of the standard

The assessment boundary provides the depth of understanding all students are expected to demonstrate.




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


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**Performance Expectations for NGSS**

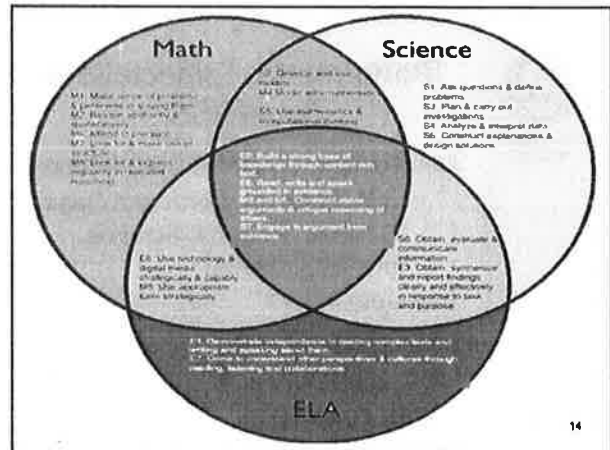
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(Life Science, Earth and Space Science, Physical Science, and Engineering)

Arranged in

- K-5 grade specific
- 6-8 grade span
- 9-12 grade span

### Connection boxes provide:

- a) connections to other topics in a particular grade level.
- b) articulation across grade levels.
- c) connections to Common Core State Standards (CCSS).



## NGSS Supporting Materials

**Adopted by the SBE on September 4, 2013**

- Appendices have been added to support the NGSS and in response to feedback
  - Appendix A – Conceptual Shifts
  - Appendix B – Responses to Public Feedback
  - Appendix C – College and Career Readiness
  - Appendix D – All Standards, All Students
  - Appendix E – Disciplinary Core Idea Progressions in the NGSS
  - Appendix F – Science and Engineering Practices in the NGSS
  - Appendix G – Crosscutting Concepts in the NGSS
  - Appendix H – Nature of Science
  - Appendix I – Engineering Design in the NGSS
  - Appendix J – Science, Technology, Society, and the Environment
  - Appendix K – Model Course Mapping in Middle and High School – Includes California Integrated Model for Grades 6-8
  - Appendix L – Connections to Common Core State Standards in Mathematics
  - Appendix M – Connections to Common Core State Standards in ELA

15

## Moving from Current CA Science Standards to NGSS for California

Less emphasis on	More emphasis on
Discrete facts	Conceptual understanding with a focus on depth over breadth
Isolated investigation and experimentation process skills	Integration of science and engineering practices with content
Student acquisition of information	Student understanding and use of scientific knowledge within and across science disciplines, and science as an engineering practice
Numerous standards	Limited number of Disciplinary Core Ideas and Crosscutting Concepts that unify the study of science and engineering
Uneven articulation throughout grade levels	Learning progressions that develop K-12
No engineering	Engineering standards and practices that all students should encounter
Assessing science knowledge	Assessing scientific understanding and reasoning specified by the performance expectations
Limited correlation with other subjects	Correlation with CCSS ELA and Mathematics
Limited integration of science disciplines in middle school	Integration of science disciplines in middle school

16



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State Superintendent  
of Public Instruction

## Grade 7- Life Science

### California 7<sup>th</sup> Grade Life Science

- *Students know the function of the Umbilicus and placenta during pregnancy.*

### NGSS Life Science - Middle School

- *Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.*

17



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State Superintendent  
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## Grade 5 - Physical Science

- California 5<sup>th</sup> Grade Physical Science
- *Students know the common properties of salts, such as sodium chloride (NaCl).*
- NGSS Physical Science- Grade 5
- *Make observations and measurements to identify materials based on their properties.*

18



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## High School- Earth and Space Sciences

### California High School - Earth Science 1.b

- *Students know the evidence from Earth and moon rocks indicates that the solar system was formed from a nebular cloud of dust and gas approximately 4.6 billion years ago.*

### California Investigation and Experimentation High School

- *1.i. Analyze the locations, sequencing, or time intervals that are characteristic of natural phenomena (e.g. relative ages of rocks, location of planets over time, and succession of species in an ecosystem)*

Or/And

- *1.k. Recognize the cumulative nature of scientific evidence.*

### NGSS Earth and Space Science High school

- *Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.*

19




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## Engineering Design Standards Grades K-2

### Students who demonstrate understanding can:


- *K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.*
- *K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.*
- *K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.*

20





**California Science Expert Panel (SEP)**

- 27 Science Experts who are representative of the SRT
  - K-12 Teachers, COE Science Leaders, IHE Faculty, Business, Industry, and Informal Science Centers
- Noted Scientist Advisors
  - Dr. Bruce Alberts
  - Dr. Helen Quinn
  - Dr. Art Sussman
- California State Board of Education Liaisons
  - Trish Williams
  - Ilene Straus




22



**SEP Role**

- Review National NGSS to make preliminary recommendations for field comment
- Review feedback from public forums and SRT surveys
- Recommend new California Science Standards based on the NGSS to the Superintendent of Public Instruction
- The SEP met for three times during April, May, and June

23



**Path to Middle Grade Arrangement**

- SEP #1: Explore arrangements; current integrated lite; research  
Decision to integrate
- SEP #2: Data from public meetings  
Set criteria
- SEP #3: Data from SRT; NGSS topic arrangement

24





## SEP April Meeting Recommendations to the Field

- Accept NGSS for California
- Build on current California middle grades semi-integrated standards to integrated standards for grades 6-8.

25



## Research

Achieve examined 10 sets of international standards (i.e., Canada, Chinese Taipei, England, Finland, Hong Kong, Hungary, Ireland, Japan, Singapore, and South Korea), with the intent of informing the development of both the conceptual framework and new U.S. science standards. The major key findings include:

- Finding #1 - All countries require participation in integrated science instruction through Lower Secondary and seven of 10 countries continue that instruction through Grade 10, providing a strong foundation in scientific literacy. Achieve (2010).

26



## Criteria for Design

PEs must :

- Be arranged to provide a **TRANSITION** from elementary to high school
- **ALIGN** with CCSS ELA and Math
- Build **WITHIN** and **ACROSS** grade levels
- Be **BALANCED** in complexity and quantity at each grade
- **INTEGRATE** engineering appropriately

27




### Dr. Art Sussman:

...the SEP very seriously considered the option of having discipline-focused concepts ...It quickly became very clear that there had to be foundational physical science concepts in grade 6 to be able to do ...life and earth science concepts.... That combination of needing some physical science in grade 6 but not being able to do all physical science in grade 6 made the discipline-specific approach impossible.

### Dr. Bruce Alberts

[With this arrangement] the students will reinforce what they learned the previous year, returning to related ideas, and the focus in every year will be on **SCIENCE** itself, not biology, or earth sciences, or the physical sciences."

28




## Articulation One Example

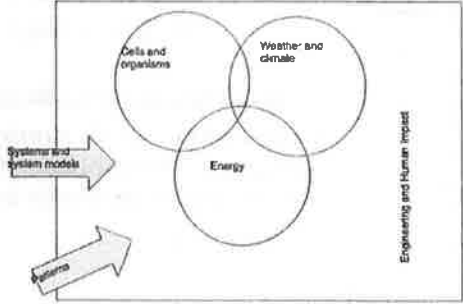
↑ Life Science

- 8<sup>th</sup> Natural Selection
- 7<sup>th</sup> Ecosystems
- 6<sup>th</sup> Cells/Organisms


29



## Example Integration 6<sup>th</sup> Grade




30



## Dr. Helen Quinn

“The recommended middle school sequence was developed with careful attention to many factors that will enhance student learning, as has been presented elsewhere. The evidence that such interleaved learning of topics, where past learning is connected to, applied and further developed in each subsequent unit or year provides the best opportunity for students to develop deeper understanding and transferrable, that is useable, knowledge. I strongly recommend that this sequence should be adopted. While it presents some challenges for teacher assignments it will in the long run be the most productive for in-depth student learning.”

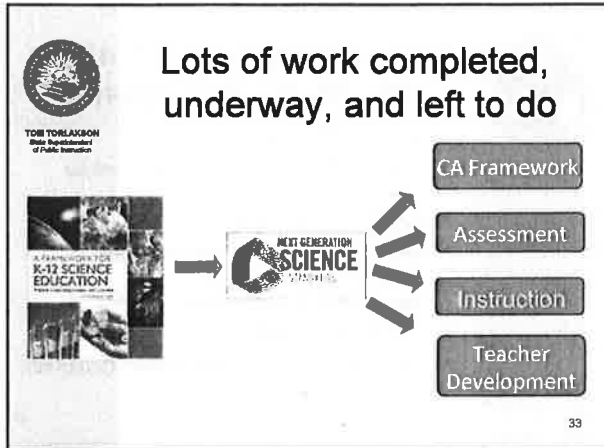


## Pros of the Two Choices

### Discipline Specific Integration

<ul style="list-style-type: none"> <li>• Teacher Content Expertise</li> <li>• Teacher Passion</li> </ul>	<ul style="list-style-type: none"> <li>• NGSS vision for science not silos</li> <li>• Implementation of Cross Cutting Concepts</li> <li>• Possibility of 8<sup>th</sup> grade integrated assessment</li> <li>• Articulated Learning progression with LEPE each year</li> <li>• SEP recommendation</li> </ul>
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32



**Implementation Plan**

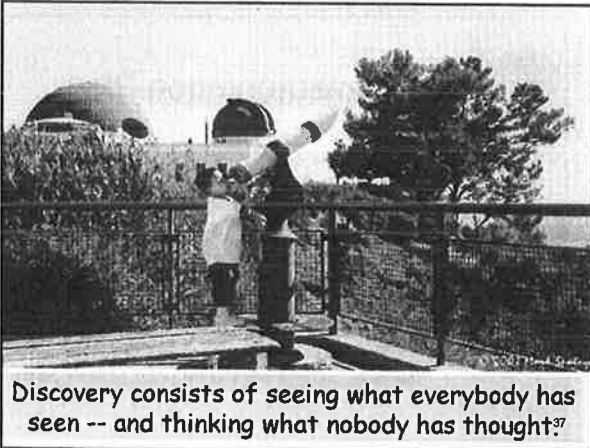
- SSPI Torlakson is convening a Strategic Leadership Team to design the *NGSS for California Implementation Plan*.
- Plan will include timelines and recommendations for
  - New science curriculum framework and instructional materials adoption
  - Implementation strategies
  - New state and national science assessments
- Implementation Plan will be presented to SBE


**Guiding Strategies**  
(modeled after implementation of CCSS)

1. Facilitate high quality professional learning opportunities for educators to ensure that every student has access to teachers who are prepared to teach to the levels of rigor and depth required by the NGSS.
2. Provide NGSS-aligned instructional resources designed to meet the diverse needs of all students.
3. Develop and transition to NGSS-aligned assessment systems to inform instruction, establish priorities for professional learning, and provide tools for accountability.
4. Collaborate with parents, guardians, and the early childhood and extended learning communities to integrate the NGSS into programs and activities beyond the K-12 school setting.
5. Collaborate with the postsecondary and business communities and additional stakeholders to ensure that all students are prepared for success in career and college.
6. Seek, create, and disseminate resources to support stakeholders as NGSS systems implementation moves forward.
7. Design and establish systems of effective communication among stakeholders to continuously identify areas of need and disseminate information.

**Guiding Legislation**

- Senate Bill 300
  - Development and adoption of new science curriculum frameworks and evaluation criteria for instructional materials
- Assembly Bill 484
  - 2013-2014
    - CSTs for Science in grades 5,8, and 10
    - 1998 California Science Standards






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State Superintendent  
of Public Instruction

## Opportunities to learn about the NGSS for California

- CDE NGSS 101 Webinar
  - Wednesday, October 16, 2013 (will be archived)
- CDE NGSS web pages
- California Science Teachers Association (CSTA)
- California Science Subject Matter project
- K-12 Alliance- WestEd
- California STEM Learning Network (CSLNet)

38



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## Join the CDE NGSS ListServ

**EDUCATION**


**Next Generation Science Standards**

California Department of Education

The next generation science standards for California are being developed by a team of experts from across the state. The standards are being developed in a collaborative process that involves teachers, scientists, and other stakeholders. The standards are being developed in a collaborative process that involves teachers, scientists, and other stakeholders. The standards are being developed in a collaborative process that involves teachers, scientists, and other stakeholders.

<http://www.cde.ca.gov/pd/ca/sc/ngssintrod.asp>

39



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of Public Instruction

## NGSS Input Survey

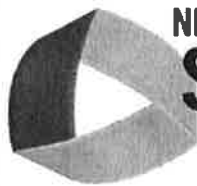
<http://www.surveymonkey.com/s/NGSS-implementation>

- Your feedback will be shared with the State Board of Education

40



Thank you  
[NGSS@cde.ca.gov](mailto:NGSS@cde.ca.gov)



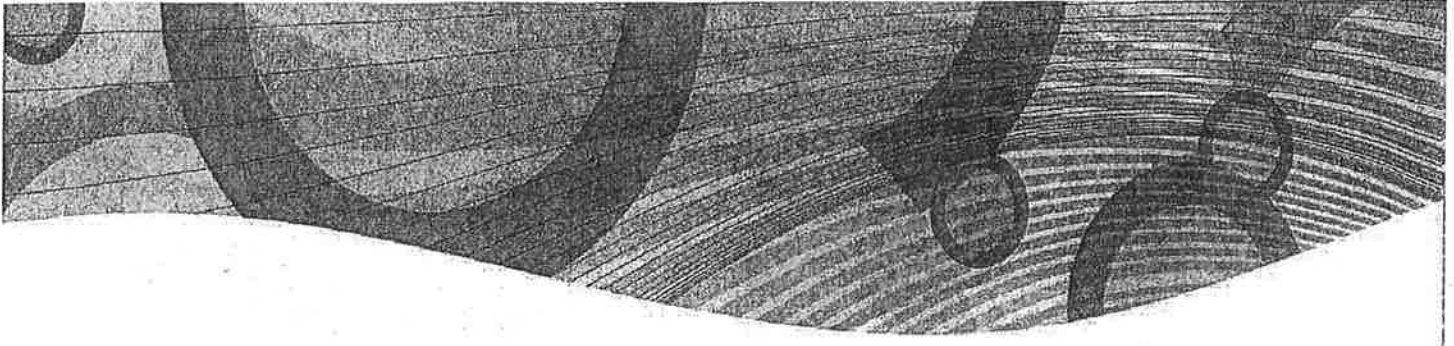
**NEXT GENERATION  
SCIENCE  
STANDARDS**  
For States, By States

41



## Creative Implementation

- Teach life, earth or physical 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grade
- Combine expertise at grade level—students rotate; teachers stay in discipline
- Teachers collaborate to share expertise with colleagues
- Ease in implementation over the next several years
- State fully funds professional development!







# Governmental Relations



James  
Smith

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## State Legislative Highlights 2013 ~ the Year in Review

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ACSA Governmental Relations tracked over 400 legislative measures during the 2013 Legislative Session. Just under half of those bills were passed to the Governor for his signature or veto at the end of this year's session. This report will provide highlights of a number of high priority education policy issues that rose to the forefront in 2013. Please visit our website at [www.acsa.org/advocacy](http://www.acsa.org/advocacy) for a full listing of [all bills tracked by ACSA](#). You can also go to our website to keep up to date regarding legislative issues, and to take part in ACSA's legislative action alerts year-round.

### The State Budget/School Finance

*(GR Staff Contact: Adonai Mack – [amack@acsa.org](mailto:amack@acsa.org))*

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This year, Governor Brown proposed a historic change to our state's education finance system known as the Local Control Funding Formula (LCFF). LCFF moves us from a revenue limit based system to a weighted and student based system. The purpose of this new funding formula is to provide a simpler and transparent funding system that parents and the public can better understand. The formula focuses resources on a targeted group of students that are typically considered to need additional resources. The LCFF is being transitioned in over an eight-year period.

Another important component of the 2013-14 Budget Act is a set-aside of one-time Prop 98 funds to assist districts with the implementation of the Common Core State Standards (CCSS). As part of our Superintendency Council's "One Voice Initiative," ACSA released an alert to our members asking for your assistance in lobbying for a one-time "down payment" in state funding to begin investing in the local implementation of the CCSS. Thanks to your participation in this lobbying effort as well as the efforts of many of our coalition partners throughout the state, a one-time fund of \$1.25 billion was approved for this purpose. Please [click here](#) for ACSA's detailed analysis of the 2013-14 Budget Act.

**AB 1066 (Holden):** This bill changes the calculation of school funding from an Average Daily Attendance (ADA) model, to an Average Daily Enrollment (ADE) model over a three year phase-in period. This legislation also provides that students with excessive absences will have specific funding provided to them for programs designed to help them improve their attendance at school.

➤ **ACSA Position:** Support      **Outcome:** Held in Assembly Education Committee in 2013. 2-year bill, may be revived in 2014.

**AB 1152 (Ammiano):** This bill removes the California School Age Families (Cal-SAFE) program from categorical flexibility, which has the effect of reestablishing the requirements of the program. This bill exempts the Cal-Safe program from any new education financing proposal that would eliminate categorical programs commencing with FY 2013-14 and all subsequent fiscal years. AB 1152 also requires the funding received by school districts, county offices of education, and charter schools that do not elect to implement a Cal-SAFE program to be reappropriated to this program for the purpose of expanding or establishing new programs.

➤ **ACSA Position:** Oppose      **Outcome:** Held in Assembly Appropriations Committee in 2013. 2-year bill, may be revived in 2014.

**SB 302 (Cannella):** This bill makes various changes related to the oversight of school district cafeteria funds. SB 302 requires cafeteria fund expenditures to be part of the annual financial and compliance audit and requires school districts to maintain all financial records related to its cafeteria fund for five years. School districts would not be authorized to charge a food service program any charge prohibited by state or federal law or regulation or guidance. A school district would also be prohibited from withholding any financial records involving school nutrition programs from its food service director. A school district would no longer be authorized to establish and maintain a cafeteria fund reserve for equipment or to enter into a revenue sharing agreement with an associated student body. The California Department of Education (CDE) would be required to assess its food services workload and staffing needs and would be required to request sufficient federal funding to hire the appropriate number of staff based on that assessment. The CDE would also be required to prepare simplified guidelines that address most of the common charges to cafeteria funds and to post on its Internet Web site all enforcement actions for the misappropriation of those funds.

➤ **ACSA Position:** Support      **Outcome:** Held in Assembly Appropriations Committee in 2013. 2-year bill, may be revived in 2014.

## Accountability/Assessment

(GR Staff Contact: Sherry Griffith – [sgriffith@acsa.org](mailto:sgriffith@acsa.org))

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**AB 484 (Bonilla):** The adoption of the new Common Core State Standards (CCSS), as well as the July 1, 2014 sunset date of the STAR system, renders California's current assessment system obsolete. This bill ensures we can properly transition to common core assessments by allowing our students to take the field test this spring to "test the test" and prepare for the 2015 spring administration rather than focus on the outdated CSTs. AB 484 also ensures a state determined calendar will be developed for all other assessments and preserves both the Primary Language Assessments and CAPA until suitable alternatives are found. ACSA supported this bill and asked its members for assistance in urging the governor to sign AB 484 and thanks to your involvement; this bill has been signed into law.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

**AB 959 (Bonilla):** This bill creates a plan to align the assessments with college entry requirements, course placement for college, and postsecondary career technical and training institutions. By creating a better alignment among systems, AB 959 also provides an opportunity to build upon the structure created through the implementation of the CCSS to expand and strengthen indicators of pupil preparedness, specifically college and career readiness.

➤ **ACSA Position:** Sponsor      **Outcome:** Held in the Assembly Appropriations committee in 2013. 2-year bill, may be revived in 2014.

**AB 1279 (Conway):** This bill seeks to remake the Open Enrollment Act in an attempt to secure additional federal funding to serve low-income disadvantaged students, into a statewide open enrollment policy that would essentially collapse school and school district boundaries. ACSA opposed AB 1279 and argued that it is unnecessary because the Legislature has already created the District of Choice program and because every district in the state has inter-and intra-district transfer policies that already provide parents and students with options for school and district attendance.

➤ **ACSA Position:** Oppose      **Outcome:** Held in Assembly Education Committee in 2013. 2-year bill, may be revived in 2014.

**SB 247 (Liu):** This bill addresses the use of second grade diagnostic assessments for use by classroom teachers in the absence of state-required testing of second grade pupils. This measure will also require the CDE to identify existing assessments in English language arts and mathematics that are aligned to the CCSS, and are appropriate for diagnostic use at the second grade level. SB 247 will ensure school districts are able to continue gathering valuable diagnostic data at a critical time in a student's academic career.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

**SB 451 (Huff):** This bill mirrors AB 1279 (Conway) in that it seeks to remake the Open Enrollment Act. ACSA opposed SB 451 and argued that it is unnecessary because the Legislature has already created the District of Choice program and because every district in the state has inter and intra district transfer policies that provide parents and students with options for school and district attendance.

➤ **ACSA Position:** Oppose      **Outcome:** Held in Senate Education Committee in 2013. 2-year bill, may be revived in 2014.

## Adult Education

(GR Staff Contact: Laura Preston – [lpreston@acsa.org](mailto:lpreston@acsa.org))

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**SB 173 (Liu):** This bill recognizes that both school districts and community colleges are critical to providing the breadth of programs to educate and train adult students and is critical to all reform efforts. SB 173 requires the CDE and Chancellor's Office to work together to develop accountability, assessments, evaluation and data collection for all adult education providers. In addition, SB 173 clarifies the programs that school districts are authorized to offer. This bill restores the coordination between the two systems to improve coordination and collaboration statewide.

➤ **ACSA Position:** Support      **Outcome:** Held in the Assembly Higher Ed committee in 2013. 2-year bill, may be revived in 2014.

## Alternative Education/Continuation Schools

(GR Staff Contact: Laura Preston – [lpreston@acsa.org](mailto:lpreston@acsa.org))

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**SB 744 (Lara):** This bill was introduced as an attempt to legislate the involuntary placement of students into county community schools. The bill initially removed the ability of a School Attendance Review Board (SARB) or probation officer from making the best placement for a student based on that individual's needs by requiring that the parent/guardian provide consent prior to the placement. ACSA originally took an oppose unless amended position on this bill and partnered with Education Coalition member, CSBA, in lobbying for the appropriate amendments. ACSA and CSBA were able to attain amendments allowing for SARB recommendation and requiring that the county office of education have space for the pupil, ensuring the pupil's educational needs are met by the placement, guaranteeing the pupil would not incur transportation costs above and beyond those at his or her prior school, affirming that the parent would not expressly object to the referral, and offering the pupil the right to return to his or her previous school at the end of the semester. This bill was vetoed. In his veto message, Governor Brown cited the imposition of specific restrictions on the way local schools handle disruptive students as his reason.

➤ **ACSA Position:** Neutral      **Outcome:** Vetoed by Governor.

## Career Technical Education

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**AB 1214 (Muratsuchi):** This bill requires regional occupational center programs (ROC/Ps) established by a joint powers authority (JPA) to receive an annual appropriation from the General Fund (GF) for purposes of providing career technical education services (CTE). This bill requires the funds to be appropriated directly to the ROC/Ps based on a formula agreed upon by school districts participating in the JPA.

(GR Staff Contact: Adonai Mack – [amack@acsa.org](mailto:amack@acsa.org))

➤ **ACSA Position:** Oppose Unless Amended      **Outcome:** Held in Assembly Appropriations Committee in 2013. 2-year bill, may be revived in 2014.



## Credentialing

(GR Staff Contact: Sal Villasenor – [svillasenor@acsa.org](mailto:svillasenor@acsa.org))

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**Teacher Preparation Reforms:** In 2011, the Commission on Teacher Credentialing (CTC) approved a plan to convene the Teacher Preparation Advisory (TAP) Panel tasked with providing expert recommendations to improve the system of educator preparation. The wide ranging [recommendations](#) were released to the CTC at their June 2013 meeting and included such issues as strengthening the field experience requirement prior to licensure, integrating essential knowledge and skills of special education and general education to create highly inclusive settings for all learners, and creating options that allow teachers to seek, demonstrate and apply specialized knowledge. At the direction of the Commission, CTC staff subsequently released their "[Staff Recommendation Aligned to the TAP Recommendations](#)" in August. Further details regarding the Commission's actions on the TAP panel and CTC Staff recommendations can be found in their August and September meeting minutes at <http://www.ctc.ca.gov/commission/agendas-minutes.html>. This issue is ongoing and ACSA will continue to monitor and report the progress of the TAP panel's recommendations and any related CTC actions as they arise.

**SB 5 (Padilla):** This bill allows teacher preparation programs to include up to two years of professional preparation which is double the current cap of one year. The next generation of teachers will be faced with extraordinary challenges including the application of new methods of pedagogy to deal with the implementation of the national CCSS and this rise in teacher expectations could require more preparation time for which this bill allows.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

**SB 368 (Pavley):** This measure will allow credentialing programs to issue credit for comparable coursework or experience to Special Educators seeking additional credential authorizations. SB 368 will give credential programs legal authority to use prior knowledge and coursework when evaluating the needs of credential candidates assuring that every Special Education student gets instruction from a properly credentialed teacher.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

**SB 576 (Block):** This bill removes the California Postsecondary Education Commission (CPEC) representative from the CTC and replaces it with a representative appointed by the Board of Governors of the California Community Colleges allowing all segments of higher education to be represented and providing the CTC with the additional perspective of that segment. Community college representation on the CTC



would be appropriate given their role in the teacher preparation pipeline and programs for students in child development programs.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

## Curriculum/Instruction

(GR Staff Contact: Sherry Griffith – [sgriffith@acsa.org](mailto:sgriffith@acsa.org))

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**SB 300 (Hancock):** Existing law suspends the development of science curricular frameworks until July 1, 2015. This bill would require the State Board of Education (SBE) to consider the adoption of a revised curriculum framework and evaluation criteria for instructional materials in science by January 31, 2016. It is important that the Legislature and State Board continue to stagger instructional material adoptions so that districts have sufficient time to prepare for those purchases. SB 300 ensures the adoption will not occur simultaneously with other instructional material adoptions.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

**SB 330 (Padilla):** This bill requires the SBE and the Instructional Quality Commission (IQC) to consider developing, and recommending for adoption by the SBE, a distinct category for mental health instruction; utilizing our educational system to provide each child with an opportunity to learn about mental health issues.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

## Data/Technology

(GR Staff Contact: Adonai Mack – [amack@acsa.org](mailto:amack@acsa.org))

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**SB 505 (Jackson):** This bill extends the sunset, until January 1, 2019, on the State Education Technology Services (SETS) programs as well as the California Technology Assistance Project (CTAP) administered by the CDE which provide a regionalized network of technical assistance to schools and school districts on the implementation of education technology.

➤ <b>ACSA Position:</b>	<b>Oppose</b>	<b>Outcome:</b>	<b>Held in Assembly Education</b>
	<b>Unless</b>		<b>Committee in 2013. 2-year bill, may</b>
	<b>Amended</b>		<b>be revived in 2014.</b>

## Employee/Employer Relations

(GR Staff Contact: Laura Preston – [lpreston@acsa.org](mailto:lpreston@acsa.org))

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**AB 349 (Gatto):** This bill establishes a new process for tracking classified school employees who have a change in employment status as a result of misconduct or while an allegation of misconduct is pending. ACSA partnered with other education management organizations to seek amendments to this bill that would provide more precise guidance language to ensure proper implementation. ACSA and its partners also expressed the fact that alternatives to legislation may exist to simplify the process and requested that further consideration be given to enhancing existing mechanisms in order to develop a more comprehensive system that would help ensure reference checks for school employees.

➤ **ACSA Position:** Oppose      **Outcome:** Held in the Senate Appropriations committee in 2013. 2-year bill, may be revived in 2014.

**AB 375 (Buchanan):** This bill attempted to expedite the certificated employee dismissal process and was supported by the unions, State Superintendent of Public Instruction (SSPI) Tom Torlakson, and the PTA while opposed by school districts, county offices of education, and school attorneys. ACSA also opposed AB 375. While the provisions of AB 375 could have worked for unsatisfactory performance dismissals, neither the author nor supporters were willing to amend the bill to apply to only those cases. Upon reaching the Senate Floor, ACSA sent an action alert to its members requesting they call their senators expressing opposition to the bill. Many education leaders made those calls and their efforts were mentioned during debate on the Senate floor. The bill did, however, pass to the Governor for signature or veto. ACSA members were then asked to send their letters of opposition to Governor Brown in an effort to obtain a veto on the bill. Thanks to your participation in getting our position to the governor, this bill was vetoed citing the fact that the bill would make the process “too rigid” and that limiting the number of depositions could encumber rather than expedite the teacher dismissal process.

➤ **ACSA Position:** Oppose      **Outcome:** Vetoed by Governor.

**AB 615 (Bocanegra):** This bill allows employees of government and non-profit educational institutions who are not in an instructional or administrative role to collect unemployment insurance (UI) compensation benefits between school years.

➤ **ACSA Position:** Oppose      **Outcome:** Held in the Assembly Appropriations committee in 2013. 2-year bill, may be revived in 2014.

**AB 729 (Hernandez):** This bill seeks to protect all information that a union agent has acquired through his or her professional duties or while acting in the representative capacity in both civil and criminal matters. ACSA opposed AB 729 and expressed concern about the level of protections this bill afforded to a represented employee and his/her union representative. ACSA argued that the level of protection currently afforded doctors/lawyers/psychotherapists/clergy/domestic violence counselors and their clients should not be expanded to union agents and represented workers, especially in criminal cases.

➤ **ACSA Position:** Oppose      **Outcome:** Vetoed by Governor.

## English Language Learners

(GR Staff Contact: Sal Villasenor – [svillasenor@acsa.org](mailto:svillasenor@acsa.org))

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**AB 899 (Weber):** This bill would establish a process to align the English language development (ELD) standards to the new Common Core Math and Next Generation Science Standards. In 2012, the state established a process to align the ELD standards to the new CCSS in English Language Arts (ELA). AB 899 would establish a similar process for aligning the ELD standards. This measure would also require the SSPI to convene a group of experts in English language instruction, curriculum and assessment, including individuals who have a minimum of three years of demonstrated experience instructing English learners (ELs) in the classroom at the elementary or secondary level. Lastly, the bill would require the SSPI and SBE to report to the Governor and Legislature on the implementation plan for integrating the aligned ELD standards into the education system.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

**SB 201 (Liu):** This bill permits the adoption of instructional materials in the English language arts (ELAs) and English language development (ELD) and makes changes to the assessment of ELD for pupils who are ELs.

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

**SB 344 (Padilla):** This bill attempted to establish new requirements for program accountability and parent participation for local education agencies (LEAs). ACSA and its coalition partners believed that the bill would interfere with the work of the SBE as it works to implement the provisions of the LCFF and was, in fact, contradictory to the approved state budget. SB 344 also would have established reclassified ELs as a subgroup for which improvement in academic achievement must be demonstrated. ACSA believed this provision was premature and that it would be better to await the

completion of a list of “best practices” for such a reclassification from the CDE which is required by law passed in 2012. Governor Brown agreed with these arguments and vetoed SB 344 citing ACSA’s position regarding the bill’s interference with the LCFF in his [veto message](#).

➤ **ACSA Position:** Oppose      **Outcome:** Vetoed by Governor.

## **Facilities/Class Size Reduction/Bonds**

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**AB 182 (Buchanan):** This bill places restrictions on the use of Capital Appreciation Bonds (CABs). Initially, ACSA opposed AB 182 due to the fact that it proposed to limit *all* K-14 finance tools. It prohibited K-14 districts from selling any bond under the authority of the Government Code; restricted K-14 districts to selling any bond *only* under the Education Code which placed much stricter terms on the debt than the Government Code; and it placed additional restrictions on *all* bonds issued by K-14 districts under the Education Code. ACSA worked closely with others in the education community to seek amendments to AB 182 that would remove our opposition. The amendments we sought would retain the ability of school districts and community colleges to issue all other types of bonds under the Government Code. ACSA also issued an action alert to our members asking them to send letters to their legislators expressing opposition to the bill and seeking the amendments we had proposed. Thanks to your participation in this advocacy effort, we were able to obtain the appropriate amendments to AB 182 and ACSA removed its opposition to the bill.

(GR Staff Contact: [Laura Preston – lpreston@acsa.org](mailto:lpreston@acsa.org))

➤ **ACSA Position:** Neutral      **Outcome:** Signed by Governor.

**AB 558 (Cooley):** This bill extends the practice of reducing penalty assessments from FY 2014-15 to FY 2017-18 for a school district that does not meet a student/teacher ratio of 20:1 under the K-3 Class Size Reduction (K-3 CSR) program. This bill gradually increases the funding penalties assessed on a school district that does not meet specified K-3 CSR program ratios. This bill also increases the funding penalties over a four-year period with the goal of maximum penalties assessed in FY 2017-18 to a school district that does not meet the student/teacher ratio of 20:1 required under this program.

(GR Staff Contact: [Adonai Mack – amack@acsa.org](mailto:amack@acsa.org))

➤ **ACSA Position:** Oppose      **Outcome:** Held in Assembly Appropriations Committee in 2013. 2-year bill, may be revived in 2014.

## Graduation Requirements

(GR Staff Contact: Sherry Griffith – [sgriffith@acsa.org](mailto:sgriffith@acsa.org))

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**SB 540 (Wyland):** This bill would allow school districts and county offices of education to award pupils a career technical education (CTE) certificate if specified requirements are met. This bill provided that the award of a CTE certificate shall in no way be construed as equivalent to the award of a high school diploma or as a change to the requirements in existing law regarding compulsory education and high school graduation.

➤ **ACSA Position:** Support      **Outcome:** Vetoed by Governor.

## Instructional Materials

(GR Staff Contact: Sherry Griffith – [sgriffith@acsa.org](mailto:sgriffith@acsa.org))

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**SB 185 (Walters):** This bill provides assistance to county offices of education, school districts, and charter schools with their purchase and use of K-12 instructional materials and supplemental instructional materials. SB 185 will allow county offices of education, school districts, and charter schools to negotiate the price of standards aligned materials in either print or digital format. This bill will also allow for those materials to be offered as unbundled elements to be purchased separately from other components. School districts will also be allowed to use their digital materials to create a secure district-wide online digital database for classroom use. Furthermore, SB 185 is completely in line with the LCFF in that it provides districts the ability to work with publishers to best meet the needs of their students through the most cost-effective means possible. SB 185 received only one negative vote as it moved through both the Senate and Assembly before being passed to the governor for action. ACSA sponsored this bill and asked its members for assistance in urging the governor to sign SB 185. Your efforts once again proved fruitful as this bill has been signed into law.

➤ **ACSA Position:** Sponsor      **Outcome:** Signed by Governor.

**SB 682 (Lara):** This bill authorizes school districts to provide a digital version of instructional materials to students that may be downloaded onto an electronic device, and allows students to keep the digital materials beyond the end of the school year.

➤ **ACSA Position:** Watch      **Outcome:** Held in Senate Rules Committee in 2013. 2-year bill, may be revived in 2014.



## Physical Education/CIF

(GR Staff Contact: Laura Preston – [lpreston@acsa.org](mailto:lpreston@acsa.org))

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**AB 1266 (Ammiano):** This bill was greatly publicized as it dealt with the controversial issue of segregation of transgender youth. The bill requires that a transgender pupil be permitted to participate in sex-segregated school programs and activities and be allowed to use facilities consistent with his or her gender identity rather than physical gender of record. Supporters of this bill purport that ensuring that transgender students feel comfortable, rather than isolated, at school will allow these students to thrive. Opponents argue that this bill doesn't provide guidelines, standards, or any definition to allow educators to assess situations; nor does it contain any provisions to guard against the privacy and security concerns of the students who might be disturbed about sharing group facilities. Although this bill has been signed into law, opponents are actively seeking to have it repealed.

➤ **ACSA Position:** Neutral      **Outcome:** Signed by Governor.

## Pupil Services

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**AB 1068 (Bloom):** This bill prohibits the release of directory information for homeless pupils, and requires schools to permit access to pupil records to a pupil who is at least 14 years old, homeless and unaccompanied.

(GR Staff Contact: Adonai Mack – [amack@acsa.org](mailto:amack@acsa.org))

➤ **ACSA Position:** Disapprove      **Outcome:** Signed by Governor.

**SB 177 (Liu):** This bill would ensure homeless students receive immediate enrollment opportunities in public schools and establishes a State Interagency Team for Children and Youth. The Team will present policies to the State Department of Social Services for consideration and adoption. SB 177 declares homeless, runaway, and exploited youth a priority, special needs population deserving of state policy attention and intervention and ensures a homeless child who changes residences is immediately deemed to meet all residency requirements for participation in interscholastic sports or other extracurricular activities. Lastly, this legislation requires the CDE and the Department of Social Services to convene a workgroup to adopt policies and practices support unaccompanied homeless youth and to ensure that child abuse and neglect reporting requirements do not create barriers to school enrollment and attendance of such youth. (GR Staff Contact: Sal Villasenor – [svillasenor@acsa.org](mailto:svillasenor@acsa.org))

➤ **ACSA Position:** Support      **Outcome:** Signed by Governor.

**SB 430 (Wright):** This bill requires, as of September 1, 2014, all pupils to have a vision exam by an optometrist or ophthalmologist before first enrolling in a California school, and every three years thereafter until the eighth grade. School districts would be required to notify parents that they have two weeks at the beginning of a school year to supply evidence that the pupil has had a vision exam. The vision exam would be required to include tests for visual acuity, binocular function, refraction, eye health evaluations and color vision on male pupils before the first grade. Binocular function exams would not need to begin until the pupil has reached the third grade. If a pupil is ineligible for affordable health care coverage, the county office of education or the school district shall refer the pupil to the county health department or other appropriate community resources able to perform a vision exam. If a pupil is unable to obtain a vision exam through the referral, the school may waive the vision examination requirement. (GR Staff Contact: Adonai Mack – [amack@acsa.org](mailto:amack@acsa.org))

➤ **ACSA Position:** Watch      **Outcome:** Held in Assembly Health Committee in 2013. 2-year bill, may be revived in 2014.

## Retirement

(GR Staff Contact: Sal Villasenor – [svillasenor@acsa.org](mailto:svillasenor@acsa.org))

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**AB 1381 (Committee on PER&SS):** This bill would make changes in the Teachers' Retirement Law to conform with the provisions of the California Public Employees' Pension Reform Act (PEPRA) of 2013. The bill would revise the definition of creditable compensation and salary, and specify exclusions from the definition for purposes of the Defined Benefit Program and the Cash Balance Benefit Program. The bill would define a member subject to PEPRA and would except from that definition a member who was also a member in certain other retirement systems, prior to January 1, 2013.

➤ **ACSA Position:** Neutral      **Outcome:** Signed by Governor.

## School Safety

(GR Staff Contact: Laura Preston – [lpreston@acsa.org](mailto:lpreston@acsa.org))

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**AB 420 (Dickinson):** This bill limits the authority of a superintendent or principal by allowing only a pupil enrolled in grades 6-12 to be suspended, not expelled, for willful defiance. ACSA sought amendments to this bill that would prohibit the suspension or recommendation for expulsion solely for willful defiance for grades K-3 only, remaining consistent with other sections of the Education Code. ACSA cited their concerns to the

author about the lack of funding and training provided to educators for alternative placement options and urged that training be provided and resources restored before we continue to mandate significant changes to a struggling system.

➤ <b>ACSA Position:</b>	Oppose Unless Amended	<b>Outcome:</b>	Held on Senate Floor in 2013. 2-year bill, may be revived in 2014.
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## Looking Forward to 2014 and Beyond

As we enter the second year of the two-year legislative session, those bills held over from 2013 will likely regain momentum and thousands of new bills will be introduced; hundreds of which will affect K-12 education. As conversations continue over old issues and new ones arise, ACSA will continue to remain on the forefront at the State Capitol and across the state.

In the coming year, ACSA will also begin implementing its [Strategic Plan](#) as we strive to fulfill our new [mission statement](#) and continue to be “the driving force of education in California and beyond”. With advocacy being the focus of one of our Phase I action plans, ACSA Governmental Relations staff will begin focusing on training our membership in advocacy techniques and strengthening ACSA’s voice at the Capitol. We will also continue to seek your support in advocating for or against legislation through our legislative action alerts and will be working toward greater participation among our membership in order to make our voices heard, loudly and clearly.

For questions and further information regarding legislation and policy issues, please contact one of our Governmental Relations staff members listed on the next page or visit our website at [www.acsa.org/advocacy](http://www.acsa.org/advocacy).



## Who to Contact

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- ◆ ACSA PAC
- ◆ Assessment
- ◆ State Board of Education
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- ◆ Endorsements, Elections and Initiatives
- ◆ After School / Supplemental Instruction
- ◆ Child health / Nutrition
- ◆ Federal Issues
- ◆ Lottery
- ◆ Preschool & Kindergarten
- ◆ Pupil Services (Counseling / Student Health)
- ◆ QEIA
- ◆ School Business (Accounting / Mandate Claims)
- ◆ School Finance / LCFF
- ◆ Special Education
- ◆ State Budget
- ◆ Tax Credit / Tax Policy
- ◆ Technology
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- ◆ Alternative Ed
- ◆ Attendance
- ◆ Charter Schools / Charter School Professional Development Project
- ◆ CIF / PE
- ◆ Career Tech / ROC/P's / Workforce Prep / STEM
- ◆ Employee / Employer Relations / Evaluations / Dismissal
- ◆ Facilities / class size reduction / school bonds / Parcel taxes / Proposition 39
- ◆ Governance / Transparency (Brown Act, Public Records Act, etc.)
- ◆ Green Technology
- ◆ Healthcare (CCHR / SEAC)
- ◆ School safety / Alternatives to Discipline
- ◆ State Allocation Board

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- ◆ Credentialing / CTC / Induction
- ◆ English Language Learners
- ◆ Equity
- ◆ Professional Development / Leadership
- ◆ Retirement / Pensions
- ◆ Government Appointments
- ◆ Supplemental Instruction

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- ◆ Common Core
- ◆ Curriculum & Instruction
- ◆ Graduation Requirements
- ◆ Instructional Materials
- ◆ Online Learning
- ◆ Parcel Tax Consultation
- ◆ Standards
- ◆ State & Federal Accountability

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- ◆ Retirement Committee Coordinator
- ◆ State Board of Education Policy Liaison
- ◆ Vice Presidents for Legislative Action

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- ◆ Assistant to Legislative Advocates
- ◆ Education Legal Support Fund Liaison
- ◆ Legislative Bill Tracking
- ◆ Legislative Policy Committee Coordinator



CA SBE  
September 2013  
Agenda



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## CALIFORNIA STATE BOARD OF EDUCATION

### SEPTEMBER 2013 AGENDA

#### SUBJECT

Adoption of *Next Generation Science Standards for California Public Schools, Kindergarten through Grade Twelve* as the new Science Content Standards based upon the nationally developed Next Generation Science Standards (NGSS) as required by *Education Code 60605.85*. Included in the recommendation for adoption are the NGSS Appendices A through M.

- ☒ Action
- ☒ Information
- ☐ Public Hearing

#### SUMMARY OF THE ISSUE(S)

California *Education Code (EC)* Section 60605.85 required the State Superintendent of Public Instruction (SSPI) to submit a set of revised *Science Content Standards* to the State Board of Education (SBE) by July 31, 2013. The revised science standards for California must be based upon the nationally developed Next Generation Science Standards (NGSS).

#### RECOMMENDATION

The California Department of Education (CDE) recommends the SBE adopt the proposed *Next Generation Science Standards for California Public Schools, Kindergarten through Grade Twelve* (CA NGSS) as the new Science Content Standards based upon the nationally developed NGSS as required by *EC* Section 60605.85. The proposed standards are available on the CDE Website at <http://www.cde.ca.gov/pd/ca/sc/ngssstandards.asp>. Included in the recommendation for adoption are the NGSS Appendices A through M. The appendices are available on the NGSS Website at <http://www.nextgenscience.org/next-generation-science-standards>.

#### BRIEF HISTORY OF KEY ISSUES

##### Background Information

*EC* Section 60605.85 required the SSPI to submit a set of revised science content standards for California public schools, kindergarten through grade twelve to the SBE by July 31, 2013, and the SBE's adoption, rejection, or modification of those standards

by November 30, 2013. The science standards for California must be based upon the nationally developed NGSS.

The standards were presented to the SBE and recommended for adoption as the *Next Generation Science Standards for California Public Schools, Kindergarten through Grade Twelve* under SBE Agenda Item 2 of the July 10 SBE meeting. Item 2 and related documents are available online as part of the full SBE July agenda at <http://www.cde.ca.gov/be/ag/ag/documents/agenda201307.pdf>. This agenda item provided the SBE and the public information on the feedback gathered through three public meetings and from the review by the California State Science Expert Panel (SEP) on the proposed CA NGSS based upon the nationally developed NGSS (by Achieve, Inc.) as required by EC Section 60605.85.

### **Process for Developing Revised Science Standards**

The proposed CA NGSS are based on the NGSS that were developed from September 2011 through April 2013. California was a lead state in the development of NGSS. CDE convened a State Review Team (SRT) of 80 science stakeholders in November 2011 that reviewed five drafts of the NGSS and provided feedback to Achieve, Inc. and to the CDE.

Upon the April 9, 2013 release of the final draft of the NGSS by Achieve, Inc., the CDE, with support of the California Comprehensive Center of WestEd, worked on a process to recommend revised science standards to the SBE. The process began with convening a Science Expert Panel (SEP) representative of the SRT. Beginning in April 2013, the SEP met three times to review the NGSS and made recommendations for new science standards for California. The SEP also reviewed and analyzed the input from three public meetings and recommended learning progressions for middle school science because the NGSS left open to states to decide how to address the middle school learning progressions. The final recommendations from this entire review process were presented to the SSPI in June 2013.

### **Proposed Science Standards for California K–12 Education**

The proposed CA NGSS, based on the NGSS, are different than current California science standards. The proposed science standards emphasize the importance of having a deep understanding of science concepts and engaging in scientific thinking. The proposed standards further acknowledge the importance of addressing big ideas and cross cutting concepts.

The proposed science standards also emphasize:

- The integration of science and engineering practices within the content,
- The integration of the Common Core State Standards for English language arts and Mathematics,
- The integration of skills and practices across the content areas as the foundation of STEM (Science, Technology, Engineering, and Mathematics) education,
- Student understanding and use of scientific knowledge within and across science disciplines, and

- Learning progressions that develop from Kindergarten through grade 12.

### **Proposed Learning Progressions for Middle School/Grades Science**

NGSS is divided into grade levels for K–5, then grade spans for 6–8 and 9–12. The SEP members reviewed the learning progressions of elementary school science and determined the best progression from elementary school and what would be the most helpful leading to a successful science education at high school. They determined that middle school science would be best served through an integrated approach. The SEP utilized a set of guiding criteria to develop the middle school learning progression.

After examining the input from the SRT's review of three proposed learning progression options, and careful consideration of the guiding criteria, the SEP made a final recommendation for a learning progression for middle school science course of study to transition to high school.

In an effort to clarify the rationale to the proposed organization of the middle school standards, representatives from WestEd, California Science Project, California Science Teachers Association, and CDE and Dr. Helen Quinn developed a document on the middle school/grades learning progression. This document explains the organization of the proposed standards by domain, the integration of the domains by grade level, and the progression through the middle school/grades. The document is available on the CDE Web site at <http://www.cde.ca.gov/pd/ca/sc/ngssrationale6thgr.asp>.

The CDE and California Commission on Teacher Credentialing (CTC) have created a guidance document to assist teachers, administrators, and other educational stakeholders to determine which teaching credentials are required to teach the proposed middle school science progression (see Attachment 1).

### **Science Standards Implementation**

The implementation of the CA NGSS requires a goal-focused strategic plan and the participation of key individuals and organizations. Broadly stated, the strategic plan includes: (a) the review, recommendation and adoption of CA NGSS, and (b) implementation of CA NGSS through three phases: awareness, transition, and full implementation at the school level, transforming science teaching and learning for all students and teachers.

#### ***Strategic Leadership Team***

A Strategic Leadership Team will be selected to design the CA NGSS Implementation Plan and review critical issues that could impact effective adoption and implementation of the NGSS. The plan will include a timeline for full implementation as well as a timeline for the development and adoption of the science frameworks and the development of new state and national academic performance assessments. The plan will also include implementation strategies, both short and long term, for local education agencies.

This team will be a consortium of 15–20 field colleagues selected by the SSPI and will consist of research-based effective professional learning programs, Institutes of Higher Education, California Commission on Teacher Credentialing, professional organizations for California public school teachers and administrators, Informal Science Programs, after-school programs, district and county office science specialists, and business representatives.

In addition, multiple divisions within the department will be working to develop the strategic action plan. Once the strategic leadership team and the Department have completed their work, the strategic action plan will be presented to the SBE at a future meeting.

### **SUMMARY OF PREVIOUS STATE BOARD OF EDUCATION DISCUSSION AND ACTION**

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**July 2013:** Phil Lafontaine, Director of the Professional Learning Support Division, presented background information on the proposed NGSS for California public schools to the SBE. Also presenting were Kathy DiRanna, Director of the K–12 Alliance at WestEd, and Helen Quinn, chair of the National Research Council committee that developed *A Framework for K–12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*. Kathy presented on the work of the SEP and the development of the grade level progressions for middle schools. Dr. Quinn presented on the science behind the middle schools progressions.

After the presentation on Item 2 and public comment, the SBE decided to defer action on adoption of the science standards. This will allow teachers, especially middle grades teachers, further opportunity to review the recommended grade progressions. SBE President Michael Kirst also requested CDE staff to provide assessment options for the national science standards at the September SBE meeting.

**May 2013:** Phil Lafontaine, Director of the Professional Learning Support Division, along with Dr. Stephen L Pruitt, Vice President for Content, Research, and Development at Achieve, Inc. provided an update on the final draft of the NGSS and the supporting Appendices A-M. A preliminary report on the public hearings was also provided.

**March 2013:** Phil Lafontaine, Director of the Professional Learning Support Division, shared an update of the development process of the NGSS.

**November 2012:** The CDE updated the SBE through an Information Memorandum on the development of NGSS.

**May 2012:** At its May 2012 meeting, the CDE staff presented on the progress and timeline of the development of the NGSS along with Dr. Stephen L Pruitt, Vice President for Content, Research, and Development at Achieve, Inc.



**November 2011:** The CDE's presentation included information on the requirements of Senate Bill 300. Specifically, the SSPI was required to recommend science content standards—utilizing the NGSS as their basis—to the SBE by March 30, 2013. The SBE was required to adopt, reject, or modify those standards by July 30, 2013. Information regarding the state's involvement in the national process for the development of the NGSS was discussed.

#### **FISCAL ANALYSIS (AS APPROPRIATE)**

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Projected estimated costs for participating in the development of the NGSS are approximately \$186,000. CDE has worked with foundations to cover much of the costs of required trips to Washington, convene the California teams, and for staff to coordinate the logistics associated with the development of the standards. CDE is currently seeking foundation funding of approximately \$141,000 to cover the activities of the proposed Awareness Phase.

#### **ATTACHMENT(S)**

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Attachment 1: Authorizations to Teach NGSS (Next Generation Science Standards) for California in Grades 6–8 (2 pages)

## Authorizations to Teach NGSS (Next Generation Science Standards) for California in Grades 6–8

Type of Credential	Content Area of Credential
	<p>The proposed California NGSS middle school learning progression specifies integrated science content (cross-cutting concepts) in grades 6 – 8 and also incorporates engineering practices for students to engage in rather than engineering as a distinct content area.</p> <p>Teachers holding Biological Science (specialized), Chemistry (specialized), Physics (specialized), Geoscience (specialized); specific supplemental and subject matter authorizations (e.g. Biology, Chemistry, Earth Science, Physics, Biological Science, Geoscience), and standard secondary teaching credential with a minor in the area would <b>not</b> be authorized to teach the proposed California NGSS middle school integrated science content in grades 6 – 8.</p> <p>The following credentials <b>are</b> authorized to teach this integrated arrangement of performance expectations.</p>
<p style="text-align: center;"><b>R Y A N  &amp;  2 0 4 2</b></p>	<p><b>Single Subject in:</b></p> <ul style="list-style-type: none"> <li>• Life Science</li> <li>• Physical Science</li> <li>• Science: Biological Sciences</li> <li>• Foundational-Level General Science</li> <li>• Science: Chemistry</li> <li>• Science: Geosciences</li> <li>• Science: Physics</li> </ul> <hr/> <p><b>Supplementary or Subject Matter Authorization(s) in:</b></p> <ul style="list-style-type: none"> <li>• General Science (<i>added to elementary credentials</i>)</li> <li>• General Science (<i>added to secondary credentials-R1A authorization code</i>)</li> <li>• Introductory General Science (<i>added to secondary credentials</i>)</li> <li>• Introductory Life and Physical Science (<i>added to secondary credentials</i>)</li> <li>• Introductory Science (<i>added to secondary credentials</i>)</li> <li>• Life Science and Physical Science (<i>added to elementary credentials</i>)</li> <li>• Science (<i>added to elementary credentials</i>)</li> </ul>
<p style="text-align: center;"><b>S T</b></p>	<p><b>Standard Secondary (grades 7 - 8 only) or Elementary with a Minor in Astronomy, Chemistry, Geology, or Physics AND a Minor or a Supplementary Authorization in one of the following:</b></p> <ul style="list-style-type: none"> <li>• Biological Science(s)</li> <li>• Biological Science &amp; Mathematics: Biological Science</li> </ul>

<b>A N D  S T A N D A R D</b>	<b><i>Standard Secondary (grades 7 - 8 only) or Elementary with a Major in:</i></b> <ul style="list-style-type: none"> <li>• Astronomy</li> <li>• Biological Science</li> <li>• Biological Science &amp; Mathematics (added to elementary only)</li> <li>• Chemistry</li> <li>• Geology</li> <li>• Physical Science (added to elementary only)</li> <li>• Physical Science &amp; Mathematics (added to elementary only)</li> <li>• Physics</li> </ul>
	<b><i>Standard Secondary (grades 7 - 8 only) or Elementary with a Minor in Biological Science or Biological Science &amp; Mathematics: Biological Science AND a Minor or a Supplementary Authorization in one of the following:</i></b> <ul style="list-style-type: none"> <li>• Astronomy</li> <li>• Chemistry</li> <li>• Geology</li> <li>• Physical Science</li> <li>• Physical Science: Chemistry, Geology, or Physics</li> <li>• Physics</li> </ul>
	<b><i>Standard Secondary (grades 7 - 8 only) or Elementary with a Minor in Astronomy, Chemistry, Geology, or Physics AND a Minor or a Supplementary Authorization in one of the following:</i></b> <ul style="list-style-type: none"> <li>• Biological Science(s)</li> <li>• Biological Science &amp; Mathematics: Biological Science</li> </ul>

