

CSBA Sample

Board Policy

Mathematics Instruction

BP 6142.92
Instruction

***Note: The following optional policy may be revised to reflect district practice and the grade levels offered by the district. Education Code 51210 and 51220 require that mathematics, including mathematical concepts and understandings, operational skills, and problem solving, be included in the course of study offered in grades 1-12; see BP 6143 - Courses of Study. In addition, Education Code 51224.5, as amended by AB 220 (Ch. 165, Statutes of 2015), specifies that the adopted course of study for grades 7-12 must include algebra and that, as part of the two courses in mathematics required for high school graduation pursuant to Education Code 51225.3, students must complete coursework that meets or exceeds the rigor of the content standards for Algebra I or Mathematics I adopted by the State Board of Education (SBE); see BP 6146.1 - High School Graduation Requirements. ***

The Governing Board desires to offer a rigorous mathematics program that progressively develops the knowledge and skills students will need to succeed in college and career. The district's mathematics program shall be designed to teach mathematical concepts in the context of real-world situations and to help students gain a strong conceptual understanding, a high degree of procedural skill and fluency, and ability to apply mathematics to solve problems.

(cf. 6143 - Courses of Study)
(cf. 6146.1 - High School Graduation Requirements)

***Note: The Common Core State Standards (CCSS) for mathematics, modified in January 2013, are based on the three principles of (1) focus, placing strong emphasis on the concepts in the standards so that students have sufficient time to think about, practice, and integrate new ideas; (2) coherence, linking topics across grade levels and establishing connections with other topics; and (3) rigor, requiring that conceptual understanding, procedural skills and fluency, and applications be pursued with equal intensity. ***

****Note: All California schools are expected to implement the CCSS in the 2014-15 school year. In November 2013, the SBE adopted the Mathematics Framework for California Public Schools: Kindergarten Through Grade Twelve which was updated to reflect these standards. In addition, the state assessment system is transitioning to the California Assessment of Student Performance and Progress which is aligned with the CCSS; see BP/AR 6162.51 - State Academic Achievement Tests. The CCSS and state curriculum framework are available on the California Department of Education's web site. For further information about the CCSS and recommendations for implementation, see CSBA's Governing to the Core series of governance briefs. ***

***Note: Education Code 51284, as amended by AB 166 (Ch. 135, Statutes of 2013), requires that, concurrent with the next revision of textbooks or the curriculum framework in mathematics, the SBE ensure the integration of financial literacy, including, but not limited to, budgeting and managing credit, student loans, consumer debt, and identity theft security. An appendix to the 2013 curriculum framework provides examples and resources to assist in incorporating problems or exercises that teach financial literacy concepts and skills. ***

For each grade level, the Board shall adopt academic standards for mathematics that meet or exceed the Common Core State Standards. The Superintendent or designee shall develop or select curricula that are aligned with these standards and the state curriculum framework.

(cf. 6011 - Academic Standards)

(cf. 6141 - Curriculum Development and Evaluation)

***Note: The CCSS for mathematics include two types of standards: mathematical practice standards (identical for each grade level) and mathematical content standards (different at each grade level). The eight practice standards are grouped into four categories as reflected in items #1-4 below. ***

The district's mathematics program shall address the following standards for mathematical practices which are the basis for mathematics instruction and learning:

1. Overarching habits of mind of a productive mathematical thinker: Making sense of problems and persevering in solving them; attending to precision
2. Reasoning and explaining: Reasoning abstractly and quantitatively; constructing viable arguments and critiquing the reasoning of others
3. Modeling and using tools: Modeling with mathematics; using appropriate tools strategically
4. Seeing structure and generalizing: Looking for and making use of structure; looking for and expressing regularity in repeated reasoning

***Note: The following three paragraphs reflect the mathematic content standards of the CCSS and may be revised to reflect district practice. The district should select the paragraph(s) applicable to the grade levels offered by the district. ***

In addition, the program shall be aligned with grade-level standards for mathematics content.

For grades K-8, content shall address, at appropriate grade levels, counting and cardinality, operations and algebraic thinking, number and operations in base ten, fractions, measurement and data, geometry, ratios and proportional relationships, functions, expression and equations, the number system, and statistics and probability. Students shall learn the concepts and skills that prepare them for the rigor of higher mathematics.

***Note: The following paragraph is for use by districts that maintain secondary grades. As revised in January 2013, the CCSS for higher mathematics replace the unique Grade 8 Algebra course with an Algebra I course that covers the same content regardless of the grade level of the student taking the course. Thus, students who are not ready to take algebra in grade 8 may take an alternate path. As revised, the higher mathematics standards are organized into both conceptual categories and model courses, which may be delivered using a traditional pathway (i.e., Algebra I, Geometry, Algebra II) or an integrated pathway (i.e., Mathematics I, II, and III) in which each course contains standards from all six conceptual categories. The CCSS also provide for two advanced courses: (1) Advanced Placement Statistics and Probability and (2) Calculus. For further information, see the state curriculum framework or the Common Core State Standards Initiative's guidance, Appendix A: Designing High School Mathematics Courses Based on the Common Core State Standards, available on its web site. ***

****Note: The district may revise the following paragraph to reflect the pathway(s) used in the district and/or the grade levels at which higher mathematics shall be offered. ***

For higher mathematics, the district shall offer a pathway of courses through which students shall be taught concepts that address number and quantity, algebra, functions, modeling, geometry, and statistics and probability.

Note: Education Code 51224.7, as added by SB 359 (Ch. 508, Statutes of 2015), requires any district maintaining grade 9 to have a policy in place prior to January 1, 2016 regarding the placement of students in mathematics courses. See BP 6152.1 - Placement in Mathematics Courses for language fulfilling this mandate.

Comment [WT1]: The minor revision is for district that maintain grade 9

The Superintendent or designee shall ensure that students are appropriately placed in mathematics courses and are not required to repeat a course that they have successfully completed in an earlier grade level. Placement decisions shall be based on consistent protocols and multiple objective academic measures.

(cf. 6152.1 - Placement in Mathematics Courses)

***Note: AB 97 (Ch. 47, Statutes of 2013) eliminated the Professional Development Block Grant (Education Code 41530-41532) and the Mathematics and Reading Professional Development Program (Education Code 99230-99242) and redirected that funding into the local control funding formula. At their discretion, districts may provide professional development opportunities to meet the purposes of those programs or other local needs. ***

The Superintendent or designee shall ensure that certificated staff have opportunities to participate in professional development activities designed to increase their knowledge and skills in effective mathematics teaching practices.

(cf. 4131 - Staff Development)

(cf. 4331 - Staff Development)

***Note: As a condition of receiving funds for instructional materials from any state source,

Education Code 60119 requires the Governing Board to annually hold a public hearing to determine whether each student in the district has sufficient standards-aligned textbooks or instructional materials in mathematics and other specified subjects to use in class and to take home. For a definition of "sufficiency" for this purpose and a sample Board resolution, see BP/E 6161.1 - Selection and Evaluation of Instructional Materials. ***

The Superintendent or designee shall ensure that students have access to sufficient instructional materials, including manipulatives and technology, to support a balanced, standards-aligned mathematics program.

(cf. 0440 - District Technology Plan)
(cf. 1312.2 - Complaints Concerning Instructional Materials)
(cf. 1312.4 - Williams Uniform Complaint Procedures)
(cf. 6161.1 - Selection and Evaluation of Instructional Materials)
(cf. 6161.11 - Supplementary Instructional Materials)
(cf. 6163.1 - Library Media Centers)

The Superintendent or designee shall provide the Board with data from state and district mathematics assessments and program evaluations to enable the Board to monitor program effectiveness.

(cf. 0460 - Local Control and Accountability Plan)
(cf. 0500 - Accountability)
(cf. 6162.5 - Student Assessment)
(cf. 6162.51 - State Academic Achievement Tests)
(cf. 6162.52 - High School Exit Examination)
(cf. 6190 - Evaluation of the Instructional Program)

Legal Reference:

EDUCATION CODE

51210 Areas of study, grades 1-6
51220 Areas of study, grades 7-12
51224.5 Algebra in course of study for grades 7-12
51224.7 California Mathematics Placement Act of 2015
51225.3 High school graduation requirements
51284 Financial literacy
60605 State-adopted content and performance standards in core curricular areas
60605.8 Common Core standards

Management Resources:

CSBA PUBLICATIONS

Governing to the Core, Governance Briefs

CALIFORNIA DEPARTMENT OF EDUCATION PUBLICATIONS

Mathematics Framework for California Public Schools: Kindergarten Through Grade Twelve,
2013

California Common Core State Standards: Mathematics, rev. January 2013
COMMON CORE STATE STANDARDS INITIATIVE PUBLICATIONS
Appendix A: Designing High School Mathematics Courses Based on the Common Core State Standards

WEB SITES

CSBA: <http://www.csba.org>

California Department of Education: <http://www.cde.ca.gov>

Common Core State Standards Initiative: <http://www.corestandards.org/math>