Policy 6142.92: Mathematics Instruction **Status:** ADOPTED

Original Adopted Date: 10/01/1995 | **Last Revised Date:** 09/01/2024 | **Last Reviewed Date:** 09/01/2024

CSBA 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 AR 6143 - Courses Of Study. In addition, Education Code 51224.5 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.

Pursuant to Education Code 51002, SBE adopts curriculum frameworks for specified subjects, including mathematics, to offer guidance for the implementation of content standards for those subjects. The, "2023 Mathematics Framework for California Public Schools: Kindergarten Through Grade Twelve," is designed to help educators align classroom teaching with California's math content standards, and provides guidelines and selected research-based approaches for implementing instruction to ensure optimal benefits for all students.

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.

CSBA NOTE: The, "2023 Mathematics Framework for California Public Schools," aims to remove structural barriers to students' mathematics success and ensure access and opportunity for all students to receive high level mathematics instruction.

The district's mathematics program shall also incorporate recognized principles, concepts, and research-based strategies to meet the needs of all students and provide equal access to learning through lessons that are relevant to students. Instructional resources adopted for use in district schools shall provide guidance to support a diverse student population, including students who are English learners, at-promise, advanced learners, and students with learning disabilities.

CSBA NOTE: The Common Core State Standards (CCSS) for mathematics are based on three principles: (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.

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.

CSBA NOTE: The CCSS for mathematics include two types of standards: (1) mathematical practice

standards, which are identical for each grade level, and (2) mathematical content standards, which are 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

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

CSBA NOTE: The following paragraph is for districts that offer grades K-8, reflect the mathematics content standards of the CCSS, and may be revised to reflect district practice.

For grades K-8, mathematics 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.

CSBA NOTE: The following paragraph is for use by districts that maintain secondary grades. The, "Mathematics Framework for California Public Schools," recognizes that schools are free to organize mathematics pathways in different ways but encourages districts to consider offering two potential pathways to enable students who would like to reach Calculus by the end of high school to do so. The California Department of Education's guidance recommends flexibility so that choices made by students during their first two years do not limit their later choices. Additionally, the CCSS provide for two advanced courses: (1) Advanced Placement Statistics and Probability and (2) Calculus.

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 are offered.

For higher mathematics, the district shall offer alternative pathways of courses through which students shall be taught concepts that address number and quantity, algebra, functions, modeling, geometry, and statistics and probability. Any pathway offered by the district shall be designed in a manner that provides maximum opportunities for students to access advanced mathematics courses during high school.

CSBA NOTE: Education Code 51224.7 requires any district maintaining grade 9 to have a policy in place regarding placement of students in mathematics courses. See BP 6152.1 - Placement In Mathematics Courses for language fulfilling this mandate.

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 academic measures.

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.

CSBA 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.

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.