

**Instruction****MATHEMATICS INSTRUCTION**

The Governing Board desires to offer a rigorous mathematics program that ~~provides a strong foundation in basic mathematical~~ ***progressively develops the knowledge and skills*** and prepares students to apply mathematics in real life ***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)

***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 grade-level curricula that offer a balanced instructional program, including but not limited to: ***or select curricula that are aligned with these standards and the state curriculum framework.***

- ~~1. Basic mathematical skills: quantification, basic facts, sorting and classification, and computational skills including addition, subtraction, multiplication, division, fractions, decimals, squares and square roots~~
- ~~2. Conceptual understanding: knowledge and application of facts and definitions; identification of principles; understanding of relationships among mathematical concepts; recognition and application of signs, symbols and terms~~
- ~~3. Problem solving: use of mathematical concepts, skills, tools and reasoning strategies to formulate and solve problems in a variety of situations~~

~~The mathematics program shall develop such knowledge and skills in the subject areas of numbers, measurement, geometry, functions, statistics and probability, logic, algebra and discrete mathematics. Students should know, understand and demonstrate concepts through their application to classroom and real-life situations.~~

~~The Superintendent or designee shall ensure that all students have many opportunities to take the full range of mathematics course options.~~

(cf. 6143—Courses of Study)

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~~The Board shall establish specific content and performance standards in mathematical skills, concepts and problem-solving ability for each grade level. Students at risk of failing to meet performance standards shall receive additional assistance and intervention.~~

~~(cf. 6146.1 – High School Graduation Requirements)~~

*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 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.*

*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.*

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)

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*(cf. 4331 – Staff Development)*

~~Students shall~~ ***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. 6141 – Curriculum Development and Evaluation)~~

***(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. 6162.7 – Use of Technology in Instruction)~~

***(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 through 6

51220 Areas of study, grades 7 through 12

***51224.5 Algebra in course of study for grades 7-12***

***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:

***Governing to the Core, Government Briefs***

~~CDE~~ ***California Department of Education*** PUBLICATIONS

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~~Improving Mathematics Achievement for All California Students: The Report of the  
California Mathematics Task Force, 1995~~

~~Mathematics Framework for California Public Schools, 1992~~

*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>*

Policy MANHATTAN BEACH UNIFIED SCHOOL DISTRICT

adopted: September 5, 2007 Manhattan Beach, California

revised: