

## Policy 6142.92: Mathematics Instruction

The ~~Board of Education~~ **Governing Board** desires to offer a rigorous mathematics program that ~~provides a strong foundation in basic mathematical skills and prepares students to apply mathematics in real life~~ 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.

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.

For each grade level, the **Governing** Board shall adopt academic standards for mathematics that meet or exceed the Common Core State Standards. The Superintendent or designee shall develop ~~grade-level or select~~ curricula that ~~offer a balanced instructional program, including but not limited to:~~

- ~~1. Basic mathematical skills: quantification, basic facts, sorting and classification, and computational skills including addition, subtraction, multiplication, division, fractions, decimals, squares and square roots~~  
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- ~~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~~  
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- ~~3. Problem solving: use of mathematical concepts, skills, tools and reasoning strategies to formulate and solve problems in a variety of situations~~  
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~~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.~~¶

~~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.~~ are aligned with these standards and the state curriculum framework.

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.

For grades TK-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.

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.~~

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.

~~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.

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