

UTAH'S NEW MATHEMATICS CORE

Utah State Office of Education

Spring 2011

The Utah Mathematics Core Standards



Utah has adopted more rigorous mathematics standards known as the Utah Mathematics Core Standards. They are the foundation of the mathematics curriculum for the State of Utah.

The standards include the skills and understanding students need to succeed in college and careers. They include rigorous content and application of knowledge and reflect the mathematics standards of the world's highest performing nations and the country's highest performing states.

The adoption of these new stronger mathematics standards will result in important curriculum improvements at every grade level. Some mathematics concepts will be introduced in younger grades, and most will be taught in greater depth. Mathematics courses in Utah's schools will be reorganized in line with the curriculum of countries with the highest mathematics achievement. Some familiar course names, like Algebra or Geometry, will be replaced with Secondary Mathematics I, Secondary Mathematics II, and Secondary Mathematics III. At the

conclusion of Secondary Mathematics III, students will be prepared for credit-bearing college coursework and application of mathematics to careers. Accelerated students will be prepared to complete AP or concurrent enrollment advanced mathematics courses during high school.

Utah's Mathematics Core Standards include interventions for struggling students and opportunities for high achieving students, respecting the speed at which students progress and helping each student meet the standards. The Core's structure allows students more flexibility to accelerate their mathematics learning as they progress through their junior and senior high school education.

Utah's Mathematics Core Standards will help ensure college and career readiness as students graduate from high school. By studying mathematics with greater rigor and depth, and by examining the interrelationships among mathematics concepts, all Utah students will be prepared for success with skills that are increasingly more important than ever in our complex and technical world.

Utah Mathematics Core Standards are Endorsed by

- Utah Legislature
- Utah State Board of Education
- Utah State Superintendent Larry Shumway
- National Parent Teacher Association
- The College Board
- American Association of School Administrators
- Association for Career and Technical Education
- Council for Exceptional Children
- Microsoft U.S. Partners in Learning
- National Association of Secondary School Principals
- National Council of Teachers of Mathematics
- Salt Lake City Chamber of Commerce

What will students experience?

- Solid foundation in critical math skills, like addition, subtraction, multiplication, division, fractions and decimals
- Greater focus on building skills and problem solving ability
- Increased expectations for depth of understanding, especially in the middle and high school years
- More opportunities to prepare for and take college-level mathematics in high school
- Higher expectations of mathematics competency and better preparation career or college skills.
- Increased focus on applications of mathematics concepts to solve real world problems



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Frequently Asked Questions

What opportunities are there in the Mathematics Common Core for high ability students?

- The new standards are more rigorous and become more complex beginning in kindergarten, featuring the study of topics in depth. There are some students who will require additional rigor to challenge their abilities. The new core includes honors courses beginning in seventh grade, leading to Calculus in high school.

How will struggling students be helped to achieve the higher standards in the new core?

- Utah's 3-Tier Model of Mathematics Instruction supports struggling learners through increasingly focused interventions. Teachers will continue to work with individual students to ensure that each student has the opportunity to become college and career ready. Special Education staff will provide specialized instruction based on the student's needs, the curriculum content, and the student's Individualized Educational Program (IEP).

How will the gap be bridged between the current core and the Common Core?

- Utah has adopted a five-year implementation phase-in. During this time, teachers will pay special attention to mathematical concepts that have moved from one grade level to another, or that might not have been taught in the current core. Teachers will engage in professional development and planning that will ensure that they can provide quality instruction for their students.

What will sixth graders learn?

- The sixth grade core will focus on connecting ratio and rate to whole number computation, solving problems, completing understanding of division of fractions and beginning an understanding of negative numbers. Students will also engage in writing, interpreting, and using expressions and equations and developing understanding of statistical thinking.

What will ninth graders learn?

- The ninth grade core will focus on developing a solid understanding of function, and use that understanding to explore many examples of functions, including sequences. Ninth grade students will complete their understanding of linear equations and connect that understanding to exponential functions. They will also build on prior experiences with data to develop formal methods of data analysis. Students will use rigid motions to build understanding of congruence, will construct geometric figures, and will justify geometric principles.

What materials and resources will students use to access the Common Core?

- Your student's teacher is his or her greatest resource. Utah's teachers are knowledgeable about mathematics and will guide students through the transition. They will use and adapt existing materials and seek additional high quality resources. In the coming years, we will see an increase in online and printed materials for student use as the Common Core is fully implemented in school systems.

How will students be assessed on the new standards?

- Students will be assessed during the course of study to check for understanding and progress. At the end of the course, students will be assessed using computer based assessments and hands on application that include traditional multiple choice, non-multiple choice problems, and performance tasks.