

Math E-Alert

From the Academic Office
Standards, Curriculum and Assessment

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Fluency:

The Connecticut Core Standards (CCS) math calls for three shifts—namely focus, coherence and rigor. The shift of rigor is comprised of three parts: conceptual understanding; procedural skill and fluency; and application. What is meant by fluent in relation to the standards? Some content standards include the word *fluently*. When this appears in the standards, it means *quickly and accurately*. However, building fluency should involve more than speed and accuracy. It must reach beyond procedures and computation (NCTM *Summing It Up*, 2012).

Principles and Standards for School Mathematics states, “Computational fluency refers to having efficient and accurate methods for computing. Students exhibit computational fluency when they demonstrate *flexibility* in the computational methods they choose, *understand* and can explain these methods and produce accurate answers *efficiently*. The computational methods that a student uses should be based on mathematical ideas that the student understands well, including the structure of the base-ten number system, properties of multiplication and division, and number relationships” (p. 152).

Fluency encompasses more than memorizing facts and procedures. Standards that address fluency are culminations of progressions of learning, often spanning several grades, involving conceptual understanding, thoughtful practice and extra support where necessary (Smarter Balanced Content Specifications). It is important to provide the conceptual building blocks that develop understanding in tandem with skill along the way to fluency.

Understanding the spirit and intent of fluency encompassed in the CCS Math is important when choosing resources to support fluency and flexible thinking. Two resources that are aligned to this are Deep Sea Duel (<http://illuminations.nctm.org/Lesson.aspx?id=4063>) and Kakooma (<http://gregtangmath.com/kakooma>). Through the use of cards, Deep Sea Duel, allows students to have fun while doing math and building strategy. KAKOOMA has been found to be a great way to get students fluent in their facts, while also having to engage in thinking and reasoning.

Smarter Balanced Math Updates:

Scoring Guide: The Smarter Balanced Assessment Consortium has provided a scoring guide to help educators understand how to score some of the short-text mathematics items that were included on the 2014 Smarter Balanced Field Test. While most of the test items administered as part of the Smarter Balanced assessments are machine-scored, some items must be scored by trained scorers using a process commonly called hand scoring. The items that appear in this scoring guide were developed and field tested specifically to help build a common understanding of mathematical reasoning and determine how best to construct items that elicit autonomous chains of mathematical reasoning from students at different grade levels. A copy of the scoring guide can be found at *Smarter Balanced Scoring Guide for Selected Short-Text Mathematics Items (Field Test 2014)*.

Achievement Level Setting: Member states of the Smarter Balanced Assessment Consortium recently voted to approve initial achievement levels for the mathematics and English language arts/literacy assessments that will be administered in the spring of 2015. Information about the achievement levels, and the process that Smarter Balanced used to develop them, is available on the [Achievement Levels](#) page of the Smarter Balanced Web site.

Testing Window: The Smarter Balanced Assessments testing window for Grades 3-8 will be from March 17 to June 12. The Grade 11 assessment will have a testing window from April 27 to June 12.

MATHEMATICS



Professional Opportunities

Principal Webinar Series: CSDE continues to host a series of webinars for principals. These are held on the last Wednesday of each month from 1-2 p.m. The topics for these are: *What Should I See in the Classroom*, *What Do All School and Family Partners Need To Know*, *Supporting Teachers in their Professional Learning*, *Meeting the Needs of All Learners*, *Supporting ALL Learners*, *Using Assessment to Engage Students in their Own Learning and Checking In on Progress With Data*. If you are unable to join the webinar live, or have missed one, they will be available on-demand through the CTcorestandards.org Web site.

Open Intel Math Course: Taught by an experienced Intel Math certified instructor team, which consists of a mathematician and a mathematics educator. The Summer Institute includes the 80-hour, intensive math curriculum from Intel. Intel Math is a mathematics course that is directly aligned with the CCS and is designed specifically for K-8 teachers of mathematics. Participants will better understand the interconnectivity of mathematics concepts spanning the base-ten number system through algebra, and thereby be better prepared to support student learning of the mathematics outlined in the Standards. PIMMS is offering this Intel Math summer course to all K-8 teachers in any Connecticut school district. For more information or to apply, visit <http://www.wesleyan.edu/>.

LearnZillion's 2015 Dream Team: LearnZillion is looking for up to 200 teachers, academic coaches and administrators who deeply understand K-8 math content to join our 2015 Dream Team! They are seeking individuals who want to scale their impact far beyond their own classroom and school; deeply understand the K-8 math content they teach; want to share their conceptual understanding with others; and are eager to join a nationwide community that is committed to providing high-quality resources to all teachers and students. For more information or to apply, visit learnzillion.com/how_to_apply.

Mobile Computer Science Principles (CSP) Training: Mobile CSP provides a complete Advance Placement (AP)-level course that gets students engaged in learning computer science by building apps for mobile devices. The Mobile CSP project is a National Science Foundation (NSF)-funded professional development effort aimed at helping schools incorporate the College Board's emerging AP CSP course into their curriculum. For more information about this professional development opportunity, please visit <http://mobile-csp.org>.

The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST): This is the highest honor bestowed by the United States government specifically for K-12 mathematics and science (including computer science) teaching. This award recognizes those teachers who develop and implement a high-quality instructional program that is informed by content knowledge and enhances student learning. Awardees serve as models for their colleagues, an inspiration to their communities, and leaders in the improvement of mathematics and science (including computer science) education. Nominations for the 2015 awards, which recognize teachers at the secondary level (7-12), is now open. The applications are due in the spring of 2015. For more information, please visit www.paemst.org.

CSDE Updates

SRBI: In February of 2008, the CSDE released *Using Scientific Research-Based Interventions: Improving Education for all Students*. This publication went into great detail about effective implementation of SRBI in schools to support all learners. Recently, the CSDE designed a brief 20-item survey to gather information regarding the implementation of Connecticut's Framework for Scientific Research-Based Interventions statewide. This survey is part of the CSDE's ongoing efforts to communicate with and support educators in our collective work to improve student outcomes. Regardless of where your school or district is in SRBI implementation, you can be assured that your input will affect the thinking and planning at the CSDE. Please take a moment to participate in this needs assessment by clicking on this link: sde.ct.gov/qualtrics.com. Your participation is much appreciated.

Algebra I: The Algebra I model curriculum is now available on the CTcorestandards.org Web site. Upon completion, the Geometry and Algebra II curriculums will also be posted. Access to assessment items is still limited to the secured Web site. at <http://sde-cths Moodle.cthss.cen.ct.gov/moodle/login/index.php>

Mathematics e-Alerts are back! Encourage your friends and colleagues to [enroll](#). If you would like to unsubscribe from this e-Alert or update your profile, please go to <http://www.sde.ct.gov/sde/guestaccount/modifyaccount.asp>. Do not respond to this e-mail. This alert is provided for your information only. Please contact charlene.tate.nichols@ct.gov or Jennifer.michalek@ct.gov with questions.

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