Common Core State Standards
Mathematics

RESOURCES

THE STANDARDS

www.corestandards.org Official site for CCSS

The Common Core State Standards (CCSS) for K-12 English Language Arts and Mathematics were developed by a state-led coordinated effort in collaboration with teachers, school administrators, and experts to provide a clear and consistent framework to prepare our children for college and the workforce.

National Governors Association Center for Best Practices (NGA)
Council of Chief State School Officers (CCSSO)

SUPPORT TOOLS AND UNDERSTANDING THE STANDARDS

http://maccss.ncdpi.wikispaces.net/home

The North Carolina Mathematics Wiki contains the new Common Core Standards for Mathematics (CCSS-M), grade-level unit plans, unpacked content, crosswalks, updates on testing information, NCDPI presentation slideshows, and much more! North Carolina adopted the Common Core on June 2, 2010 and implementation began 2012-13.

North Carolina Department of Education (NCDPI)

www.ncpublicschools.org/acre/standards/common-core-tools/

NCDPI Instructional Toolkit helps K-12 math teachers pattern their instruction and classroom student assessments to the Common Core State Standards. The "unpacking standards" assists teachers in understanding each standard by providing example math problems. The "crosswalks" compare the 2003 NCSCOS to the new 2010 CCSS.

North Carolina Department of Education (NCDPI)

http://www.robeson.k12.nc.us//Domain/27

SREC Curriculum Maps, developed by North Carolina Region IV educators, provide the mathematical practice, level of thinking, clarifying objective, task analysis, essential vocabulary, time and sequence, instructional tools, and resources for each K-12 CCSS.

Sandhills Regional Educational Consortium (SREC)

http://www.azed.gov/standards-practices/mathematics-standards/

Grade Level Explanations and Examples for K-12 math teachers give deeper understanding of what the student is expected to learn in each Common Core State Standard for Mathematics. (click on the grade level PDF or Word file).

Arizona Department of Education

http://schools.utah.gov/CURR/mathelem/Core-Curriculum.aspx

Utah Curriculum Maps provides K-6 mathematics teachers with patterns of reasoning (conceptual, procedural, representational), critical background knowledge, academic vocabulary and notation, instructional strategies, resources, and assessment tasks for each Common Core State Standard for Mathematics.

Utah State Office of Education

http://www.livebinders.com/play/play/187117

Common Core State Standards Mathematics Live binder keeps math educators up-to-date on CCSS-M information and math resources for curriculum, instruction, and assessment. This regularly updated well-organized binder has an excellent collection of websites containing unpacked and clarified standards, mathematical tasks, unit and lesson planning resources, SBAC assessment updates, and much more!

Danielle Seabold

www.commoncoretools.me

Tools for the Common Core Standards is a blog maintained by the lead writer of the Common Core Standards for Mathematics to support CCSS-M implementation. Dr. Bill McCallum answers your questions regarding the K-12 learning progression of the math standards, the illustrative mathematics project, and helps educators understand the Common Core State Standards.

William McCallum

www.achievethecore.org

Useful Tools, Resources, and Articles, developed by three of the contributing authors of the Common Core State Standards, are practical, well-researched and organized for easy access for implementing the CCSS-M.

Student Achievement Partners
David Coleman, Jason Zimba, Susan Pimentel

THE EIGHT MATHEMATICAL PRACTICES FOR COMMON CORE

http://wsesucoachescorner.files.wordpress.com/2012/05/mathematical-practices-posters-from-utah.pdf

Mathematical Practices Posters visually describe each of the eight Common Core State Standards mathematical practices and may be enlarged, printed and laminated to be displayed in the math teacher's classroom.

http://thinkmath.edc.org/index.php/CCSS_Mathematical_Practices

Think Math interprets and illustrates each of the eight Mathematical Practices as they might be exemplified in grades K–5. The intent is that these essential mathematical habits of mind and action pervade the curriculum and pedagogy of mathematics in age-appropriate ways.

RIGOROUS MATH TASKS AND LESSON PLANS ALIGNED TO COMMON CORE

K-12th MATHEMATICS

www.illustrativemathematics.org

Illustrative Mathematics Project provides guidance to states, assessment consortia, testing companies, curriculum developers, teachers, and administrators. The project has high quality, rigorously math tasks to illustrate the range and type of mathematical work that students will experience in a faithful implementation of the Common Core State Standards.

Institute for Mathematics & Education

http://www.insidemathematics.org/

Inside Mathematics supports CCSS implementation by providing K-12 classroom examples of innovative teaching methods and insights into student learning; rich mathematical tasks; reflective videos demonstrating each of the eight Mathematical Practices; demonstration lessons; and math teaching tools.

Noyce Foundation's Silicon Valley Mathematics Initiative

http://www.mathedleadership.org/ccss/materials.html

NCSM Great Tasks for Mathematics is a collection of tasks that can be easily used in the teacher's math lesson plan (K-12). Each task includes teacher notes, the Common Core State Standards and Mathematical Practices alignment, an activity launch, a core task, and extension activities. All tasks are expected to be completed by the end of 2012.

National Council of Supervisors of Math

http://nsdl.org/commcore/math

The National Science Digital Library (NSDL) Math Common Core collection features digital learning resources that address concept and skills components of the CCSS-M. The regularly updated collection is organized by grade level and domain, as defined within the Common Core, and contains lesson plans, simulations, problem sets with explanations, student activities that provide feedback, and other interactives.

www.thinkfinity.org

Thinkfinity provides K-12 math lesson plans and materials aligned to the Common Core. On the State Standards search engine stroll down to"North Carolina Common Core State Standards" on the pull-down menu; and then select your grade level and mathematics.

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http://engageny.org/resource/curriculum-exemplars/

Curriculum Exemplars for Mathematics is aligned with the Math Common Core for teachers to use in the class for the following grade level topics: Grade 1-Adding and Subtracting Single-Digit Numbers; Grade 2-Place Value; Grade 7- Addition and Subtraction of Rational Numbers; and High School-Arithmetic Operations on Polynomials.

New York State Education Department

http://caccssm.cmpso.org

California Common Core State Standards for Mathematics Resources (CaCCSS-M) strengthens teachers' content knowledge to teach the standards by focusing on the following five domains: K-2 Number Sense and Place Value, Fractions from a Number Line Approach, Model with Mathematics, Transformational Geometry, and High School Mathematical Modeling. These high-quality resources (e.g., articles, books, videos, technology, problems, existing curriculum, presentation outlines) are regularly updated.

California Mathematics Project
California Department of Education
California Mathematics Counsel
Curriculum and Instruction Steering Committee
California Association of Mathematics Teacher Educator

http://www.education.ohio.gov/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=1696&ContentID=126041&Content=127896

Mathematics Model Curricula provide K-12 instructional strategies and resources aligned to the Common Core math standards, and identify misconceptions and connections related to the clusters and standards. These documents will grow and change over time and will be noted by revision dates.

Ohio State Department of Education

http://illuminations.nctm.org

Illuminations is designed to provide K-12 standards-based resources and lesson plans that improve the teaching and learning of mathematics for all students.

National Council of Teachers of Mathematics

www.commoncoremathlessons.com

Common Core Math Lessons are to be a resource for K-12 math teachers implementing the Common Core State Standards for Mathematics. New lessons are added regularly.

http://nlvm.usu.edu/en/nav/vlibrary.html

The National Library of Virtual Manipulatives (NLVM) is a National Science Foundation supported project to develop a library of uniquely interactive, web-based virtual manipulatives or concept tutorials, mostly in the form of Java applets, for mathematics instruction (K-12).

Utah State University

http://www.nctm.org/catalog/productsview.aspx?id=110

The **Navigations** book series focuses on topics that emphasize the importance of incorporating the Principles and Standards into your mathematics curriculum. Each book includes activities, lessons, worksheets, and a CD-ROM with additional resources. Each lesson uses the 5-E lesson format (engage, explore, explain, elaborate, evaluate).**

National Council of Teachers of Mathematics

K-5th MATHEMATICS

http://www.k-5mathteachingresources.com

K-5 Math Teaching Resources provide an extensive collection of free resources, math games, and hands-on math activities aligned with the Common Core State Standards for Mathematics. Our math printables are suitable for use in math centers, small group or whole class settings. Instructions for each activity on a task card in child-friendly language enable students to work independently after a brief introduction to the task.

3rd-12th MATHEMATICS

http://www.shodor.org/interactivate/

Shodor, a national resource for computational science education, strives to improve math and science education through the effective use of modeling and simulation technologies. Shodor provides interactive models, simulations, educational tools (eg., CCSS lesson plans, Java-based online activities, I-pad apps)and professional development.

National Computational Science Institute (NCSI)

www.mathilicious.com/lessons/

Mathalicious lessons, aligned with CCSS-M and the Mathematical Practices, teach standards-based math through real-world topics that students care about. It isn't just about learning math but about using math to understand how the world works.**

6th -12th MATHEMATICS

http://map.mathshell.org

The Mathematics Assessment Project (MAP), funded by the Bill and Melinda Gates Foundation, designed and developed well-engineered assessment tools to support CCSS implementation. MAP provides rich math tasks for middle and high school lesson plans, formative and summative assessments, and professional development modules.

Shell Centre for Mathematics Education at the University of Nottingham
University of California at Berkeley

http://www.ccsstoolbox.org/

The Mathematics Common Core Toolbox provides algebra and geometry tasks, sample scope and sequence documents, interactive visualizations, and animations for grades 6-12 Common Core lesson plans on functions, volume, rate, and proportionality.

http://www.nctm.org/resources/coremathtools

Core Math Tools are downloadable interactive software tools for the Common Core State Standards conceptual categories of number and quantity, algebra, functions, geometry, and statistics. Lesson plans are included which employ Core Math Tools and are appropriate for use with any high school math curriculum. Java required.

National Council of Teachers of Mathematics

http://educore.ascd.org/

The EduCore platform is specifically dedicated to providing middle and high school teachers with high-quality teaching and learning resources aligned to the Common Core. The Math and Literacy Tools contain current, relevant, evidence-based tools and professional development to smooth the transition into a new era of teaching and learning.

ASCD (formerly the Association for Supervision and Curriculum Development)

http://www.thirteen.org/get-the-math/teachers/overview-of-the-lessons/26/

Get the Math is designed to help middle and high school students understand real-world applications of algebra. Interrelated video segments, lesson plans with student handouts, and interactive tools support student learning of algebraic math concepts related to music, fashion, videogames, restaurants, basketball, and special effects.

MATH I, II, and III

Core-Plus Mathematics Course 1-3 textbook (Glencoe-McGraw Hill): 8th – 12th grade

http://www.wmich.edu/cpmp/

The Core-Plus Mathematics Project (CPMP) has developed, field-tested, and evaluated a major update and revision of its texts for college-preparatory high school mathematics. *Core-Plus Mathematics* 2nd edition builds on the strengths of the first edition that was cited as Exemplary by the U.S. Department of Education.

www.wmich.edu/cpmp/pdfs/Correlation-CPMP&CCSS.pdf

Common Core State Standards for Mathematics Correlated to *Core-Plus Mathematics*: lists the page numbers in the Glencoe-McGraw Hill textbooks *Core-Plus Mathematics Courses 1-3 (Math I, II, and III)* that align with each of the CCSS math standards. By design, the *Core-Plus Mathematics* curriculum introduces topics in a developmentally-appropriate manner. Thus, some of the content expectations are introduced in Course 1 and treated at increasing depth in Course 2 and 3.

www.wmich.edu/cpmp/CPMP-Tools/

CPMP-Tools is for general purpose and has customed software tools designed to support student investigation and problem solving in the 2nd edition *Core-Plus Mathematics* textbook. Java required. (I-Pads, tablets, and cell phones not compatible)

http://coreplus1.wikispaces.com

Resources from *Core-Plus Mathematics* Course 1 training at Scotland County High School from June 25-28, 2012 support math teachers using the *Core-Plus Mathematics Course 1* textbook. It includes correlation documents that align Course 1 to the Common Core State Standards, resources related to group work (such as role cards), SBAC information, and supplemental material for each Unit within the text.

http://www.livebinders.com/play/play_shared_binder/434423

Livebinder resources from *Core-Plus Mathematics* Course 2 training at Scotland County High School from June 25-28, 2012. The training focused on teaching from the *Core*-Plus *Mathematics Course 2* textbook using cooperative learning, student-centered learning, and aligning the curriculum with the Common Core. (Access Key: CPMP2)

Karen McPherson

www.buncombe.k12.nc.us/page/20740

Stephanie Buckner's teacher webpage for *Core-Plus Mathematics Courses 2 and 3* has resources that have been shared in various workshops statewide. In summer 2011, Buckner trained Robeson County Integrated Math teachers in Course 2 and was a Course 3 facilitator at the summer 2012 Integrated Math Training at Scotland County High. Buckner teaches Integrated Mathematics at Early College in Buncombe County.

http://www.buncombe.k12.nc.us//Domain/1863

Karen McPherson's Integrated Math webpage includes handouts and pacing guides for *Core-Plus Mathematics Courses 1, 2 and 3*. These resources have been shared in various workshops statewide. In the summer of 2011, Karen McPherson, a math coach in Buncombe County, trained Robeson County's Integrated Math in Course 1 and was a Course 2 trainer at the summer 2012 Integrated math workshops at Scotland County High.

COMMON CORE FLIP BOOKS

http://www.swprsc.org/vnews/display.v/ART/4fa7dc33f3e82

The Common Core Flip Books, for grades K-8, "unpack" the new standards, provide instructional strategies and example math problems for each standard, show the connections to the Standards of Mathematical Practices and is intended to help teachers understand what each standard means in terms of what students must know and be able to do. (Suggestion: print your grade level on cardstock and place in a binder)

Kansas State University

http://www.mentoringminds.com/products/categories/flip-charts-and-guides.html

Mentoring Minds' Flip Charts for the Common Core provide strategies and interactive activities needed to deliver effective instruction for K–12 classroom teachers. Within each chart or guide, there are a series of tabbed pages that cover a variety of topics in both breadth and depth.**

http://www.qualityinstruction.org/common-core-and-formative-assessment-products/common-core-books

The Common Core: Clarifying Expectations for Teachers & Students flip books are an excellent rich resource to help K-12 ELA and Mathematics teachers understand each Common Core standard. Listed beneath each standard are essential questions, enduring understandings, learning targets, and key vocabulary terms.**

**Purchase required

LEARNING PROGRESSION OF THE CCSS-M from Kindergarten to 12th grade

http://ime.math.arizona.edu/progressions/

Progressions Documents for the Common Core Math Standards are narratives that describe the progression of a topic across grade levels, based on the structure of mathematics and on research on cognitive development. This project is lead by Dr. Bill McCallum, the lead writer of the Common Core State Standards for Mathematics.

http://www.wirelessgeneration.com/posters

The Learning Trajectory Posters helps familiarize educators about the progression of learning in the Common Core State Standards for Math from Kindergarten to 12th grade.

http://commoncoretools.me/wp-content/uploads/2011/11/ccssm-hyperlinked-map1.ppsx

CCSSM Clickable Map consists of 7 streams which trace topics across different grade levels (K-12). Click on the highlighted red domains to get detailed information about the math focus of each domain and grade level.

www.turnonccmath.com

The Learning Trajectories Hexagon Map of the Common Core Mathematics Standards is designed to elaborate the "scientific basis" of learning trajectories research and to link to the CCSS. Unpacked descriptors describe students' movement from naive to sophisticated ideas by identifying bridging standards; underlying cognitive principles; student misconceptions, strategies and inscriptions; and models, representations and contexts.

Friday Institute for Educational Innovation
North Carolina State University

SUMMATIVE ASSESSMENTS

North Carolina will begin assessing the Common Core State Standards in English Language Arts & Mathematics and the new NC Essential Standards beginning 2012-2013 using NCDPI EOGs and EOCs. Beginning 2014-15, NC plans to use the SBAC assessments for ELA and Mathematics. States can choose either the Smarter Balanced Assessment Consortium (SBAC) or the Partnership of Assessment of College and Careers (PARCC) consortium. NCDPI's goal is to have all assessments online by the 2014-15 school year.

NC DEPARTMENT OF EDUCATION

http://www.ncpublicschools.org/acre/assessment/online/

NCDPI comprehensive, balanced assessment system is focused on using assessments to improve instruction and fairly assess learning and instructional effectiveness. This site includes the test specifications on the prioritization of the standards, cognitive rigor, item complexity, item types, and assessment delivery modes for the EOGs and EOCs.

http://www.ncpublicschools.org/accountability/testing/releasedforms

NCDPI Sample Released Forms of the new READY End of Course (EOC) assessments for English II, Algebra I/Math I, and Biology will be available on the web early fall 2012. Sample forms of the new READY End of Grade (EOG) assessments in English Language Arts, Mathematics, and Science will be available on the web late winter 2013.

North Carolina Department of Education

http://www.ncpublicschools.org/docs/ready/resources/assessment.pdf

NC READY Learning and Accountability: A Balanced Assessment presentation discusses the changes with Summative Assessments, the assessment time line, SBAC, and the new school Accountability Model.

SMARTER BALANCED

www.smarterbalanced.org/

Smarter Balanced Assessment Consortium (SBAC), funded by the U.S. Department of Education, is a state-led consortium developing assessments aligned to the Common Core State Standards in English Language Arts/Literacy and Mathematics that are designed to help prepare all students to graduate high school college- and career-ready.

http://www.k12center.org/rsc/pdf/SBAC_System_5-2-11.pdf

SBAC one-page summary describes the core components of The Smarter Balanced Assessment Consortium (SBAC) to develop an assessment system based on the new Common Core State Standards (CCSS).

http://www.smarterbalanced.org/wordpress/wp-content/uploads/2012/05/TaskItemSpecifications/ItemSpecifications/GeneralItemSpecifications.pdf

The General Item Specifications Draft for SBAC and its companion documents are designed to provide item developers specific guidance in creating items that meet the expectations of the Common Core State Standards according to the criteria outlined by Smarter Balanced.

21ST CENTURY SKILLS AND THE COMMON CORE

http://p21.org/tools-and-resources/publications/p21-common-core-toolkit

P21 Common Core Toolkit is a comprehensive guide to aligning the Common Core State Standards with the Framework for 21st Century Skills. The toolkit helps states, districts and schools implement Common Core State Standards and supports ongoing 21st century skills initiatives, responding to the needs of state education leaders. (free download)