



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

2014 NCTM REGIONAL CONFERENCE & EXPOSITION

Richmond • November 12–14

THE NATION'S PREMIER MATH EDUCATION EVENTS

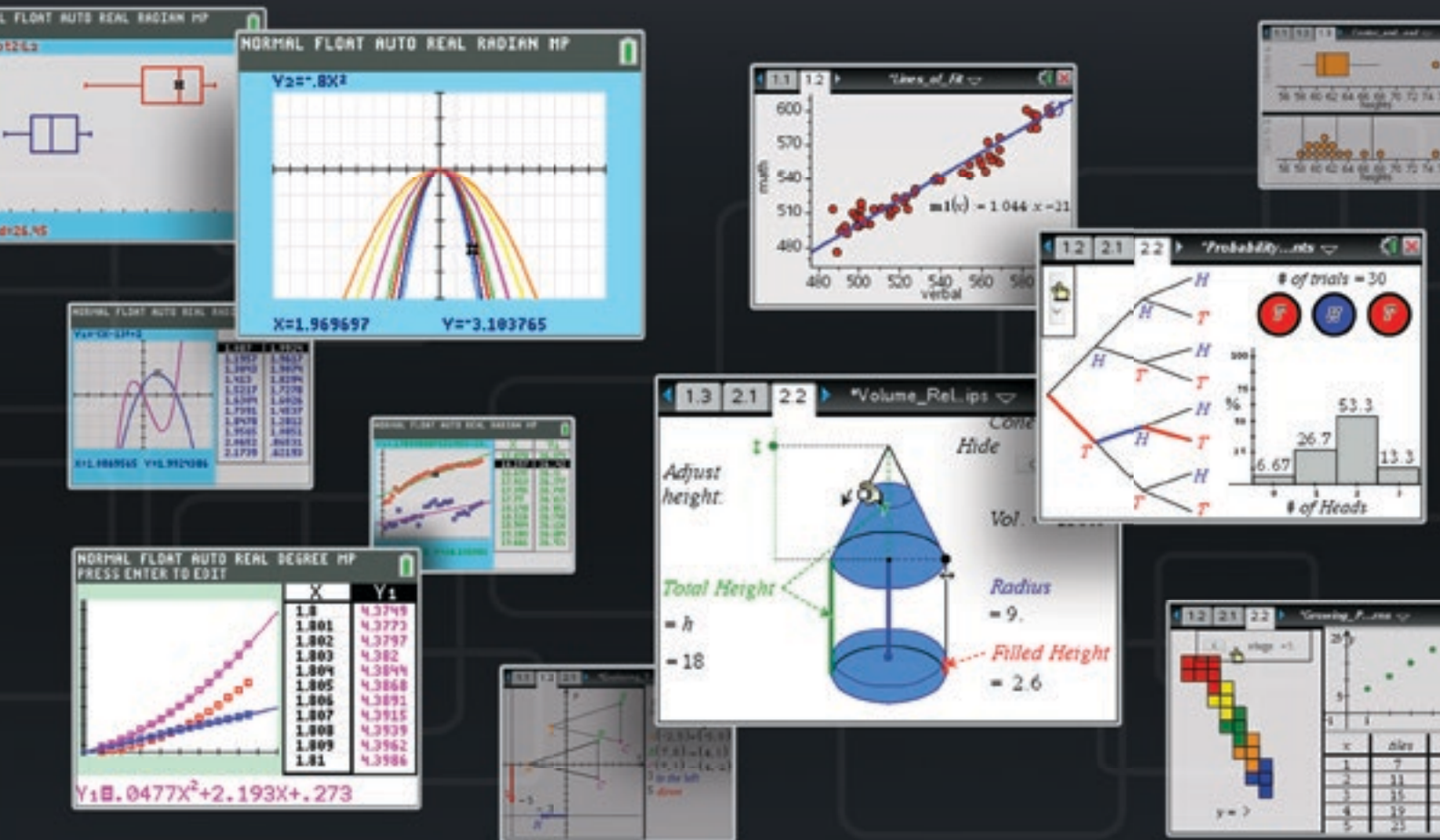
See Valuable
COUPONS
beginning
page 97

Program Book



www.nctm.org/richmond

THOUSANDS OF STANDARDS-ALIGNED MATH ACTIVITIES



TI-Nspire CX™



TI-84 Plus C Silver Edition

Enhance your math curriculum with our free, ready-to-use, standards-aligned classroom activities for middle grades through high school. Activities include student worksheets and teacher notes to support standards.

Developed by educators for educators, these activities allow students to visualize concepts clearly and make faster, stronger connections. Use "as is" or customize to meet your curriculum needs, it's completely up to you.

Download activities now at education.ti.com/activities or stop by the TI Booth #319 for a live demonstration.



2014 REGIONAL CONFERENCE & EXPOSITION

Richmond, VA • November 12–14

HOSTS

Virginia Council of Teachers of Mathematics
Greater Richmond Council of Teachers of Mathematics

MEETING FACILITY

All Regional Conference presentations will be held at the Greater Richmond Convention Center and Richmond Marriott Downtown. See pages 80–84 for floor plans.

REGISTRATION

Wednesday	5:00 p.m.	–	7:30 p.m.
Thursday	7:00 a.m.	–	3:00 p.m.
Friday	7:00 a.m.	–	3:00 p.m.

EXHIBITS

Thursday	8:00 a.m.	–	5:00 p.m.
Friday	8:00 a.m.	–	4:00 p.m.

NCTM CENTRAL

Wednesday	5:00 p.m.	–	7:30 p.m.
Thursday	7:00 a.m.	–	5:00 p.m.
Friday	8:00 a.m.	–	4:00 p.m.

Advertisers Guide	96
Coupons	97
Affiliates	76
Apps	7
Certificate of Attendance	73
Committees	79
Exhibits	7
Directory	85
Exhibit Hall Floor Plan	84
Exhibitor Workshops	7
First Aid	6
Floor Plans	80–84
General Information	6
Information Booth	6
Membership Application	75
NCTM Central	
Bookstore	7
Member Services	7
Networking Lounge	7
NCTM Board of Directors	79
Online Conference Planner	7
Presentation Handouts	7
Program Information	3
Opening Session	10
Thursday Presentations	11
Friday Presentations	43
New and Preservice Teachers Workshop	3
Program Updates	3
Regional Conference Overview & Orientation	3
Strands	4
<i>Principles to Actions</i> Presentations	5
Types of Presentations	3
Registration and Access to Presentations	6
Shuttle Service	6
Speaker Index	93
Sponsors	78

©PHOTO COURTESY OF RICHMOND CVB



The publications and programs of the National Council of Teachers of Mathematics present a variety of viewpoints. The content, affiliations, and views expressed or implied in this publication, unless otherwise noted, should not be interpreted as official positions of the Council. References to particular commercial products by a speaker should not be construed as an NCTM endorsement of said product(s). NCTM reserves the right to change speakers, change facilities, or modify program content.

Some speakers on this program have elected to print their e-mail addresses as a means for individual correspondence with conference attendees. Unsolicited commercial e-mail or unsolicited bulk e-mail, whether or not that e-mail is commercial in nature, is expressly prohibited. Any use of e-mail addresses beyond personal correspondence is not authorized by NCTM.

National Council of Teachers of Mathematics, 1906 Association Drive, Reston, VA 20191-1502; Telephone (703) 620-9840; Fax (703) 476-2970; E-mail nctm@nctm.org; Web www.nctm.org

Printed in U.S.A.

Welcome to Richmond!



©PHOTO COURTESY OF RICHMOND CVB

Welcome to the NCTM 2014 Richmond Regional Conference & Exposition! In addition to attending a wonderful conference, please take time to enjoy the many things Richmond has to offer: historic attractions, world-class food, and outdoor adventures on the James River or Brown's Island. During the evening, venture into the Shockoe Slip and eat at one of its historic restaurants or stroll along the Canal Walk. Take time to visit the home of Edgar Allan Poe or one of the many museums such as the Virginia Museum of Fine Arts, the Museum of the Confederacy, or the Virginia Holocaust Museum. No matter if your interest is mathematics, food, culture, or adventure—Richmond will have something for you!



Carolyn Williamson
*Program Committee Chair
The Carmel School
Ruther Glen, Virginia*



Ian Shenk
*Volunteer Committee Chair
Hanover County Public Schools
Ashland, Virginia*

The NCTM 2014 Regional Conference & Exposition officially begins with the Opening Session, starting at 5:30 p.m. on Wednesday. Presentations on Thursday and Friday begin at 8:00 a.m. each day and are scheduled concurrently throughout the day.

We have made every attempt to provide adequate seating for participants at the Regional Conference & Exposition. The room capacity for each presentation is listed on all meeting room signs. For your safety and due to fire regulations, only those with seats will be allowed to stay in meeting rooms.

Please remember:

- All meeting rooms will be cleared between presentations.
- All seats are available on a first-come, first-served basis.
- Reserving spaces in line or saving seats is not permitted.
- In compliance with fire codes, sitting on the floor or standing is not permitted.
- As a courtesy to the speakers and your colleagues, please silence your cell phone during all presentations.

New and Preservice Teachers Workshop

Wondering how to manage your classroom, work with parents, find engaging lessons, and handle homework—all while keeping your sanity? You're not alone! A must for every new teacher, this interactive workshop is your chance to ask questions on topics of your choice. Plus, you will connect with other new and early-career teachers. If you are in the first five years of teaching or are seeking certification, come get resources, materials, and fun prizes to encourage you and give you insight along your journey.

Thursday and Friday
9:45 a.m.–11:00 a.m.
E21A (Greater Richmond Convention Center)

Regional Conference Overview & Orientation

Whether you are new to NCTM or a seasoned veteran, every conference has something new for everyone! Hosted by members of the Board of Directors, this session will help you to maximize your overall conference experience. Learn what's new or discover something you've missed in the past, how to navigate presentations, use the Conference App, and network with other attendees. Meet other first-time attendees and join up with conference mentors who share your particular interests!

Thursday and Friday
7:15 a.m.–7:45 a.m.
E10AB (Greater Richmond Convention Center)


Types of Presentations

All presentations are open to all conference participants. Admission is on a first-come, first-served basis. Reserving spaces in line or saving seats is not permitted.

Sessions (60 minutes) are set theater style and represent a common format where the speaker relates his or her ideas to an audience.

Gallery Workshops (75 minutes) are set with round tables for hands-on work and have additional gallery seating around the perimeter of the room. The gallery participants will receive the print materials and observe the workshop in a fashion similar to that of a classroom observer.

Bursts (30 minutes) are set with round tables and have additional gallery seating around the perimeter of the room. These concise presentations focus on a specific topic or idea. The goal is information sharing, conveyed quickly and succinctly.

Exhibitor Workshops (60 minutes) are set theatre style for at least 100 people. Exhibitors showcase their products and services away from the Exhibit Hall. Look for the symbol  indicating exhibitor workshops in the program book.

Grade Bands

To assist attendees in finding appropriate presentations to attend, each presentation lists the presentation's target grade-band audience. The grade bands are:

- **Pre-K–2**
- **Grades 3–5**
- **Grades 6–8**
- **Grades 9–12**
- **Higher Education**—university- and college-level issues including both two-year and four-year institutions
- **Preservice and In-Service**—content and techniques for providers of preservice teacher education and professional development for practicing teachers, supervisors, specialists, coaches, and mathematics educators
- **General Interest**—Issues of interest to multiple grades and audiences
- **Research**

Program Updates

Don't forget to pick up your copy of the Program Updates, which includes speaker and presentation updates, and additional exhibitor workshop listings. Program Updates are available in the Registration Foyer.

Program Information

Focus Strands

COMMON CORE STRAND **CC**

The Common Core State Standards are having an impact on most states in the United States. Regardless of whether a state is adopting the Common Core or not, all teachers are committed to teaching the Common Core subjects by using the best pedagogy available. Venture beyond assessment guided by multiple-choice exams, and attend these sessions focused on best practices and sound ways to adjust instruction by making connections through the Common Core that will lead to sustained student success. Look for the symbol above for sessions that will elaborate on content and pedagogy involved in teaching the Common Core State Standards.

Strand Speakers

Alan P. Maloney, 33
Anna E. Bargagliotti, 37
Francis (Skip) Fennell, 43
Lisa Anne Palacios, 56
Lina Sanchez-Leal, 113
James Larocco, 136
Oliver F. Jenkins, 143

DIVERSE LEARNERS STRAND **DL**

Diverse learners include students who are culturally, intellectually, and socially diverse. The sessions in this strand will highlight ways to use a variety of instructional techniques based on research. By targeting specific cultural needs and learning characteristics, teachers will begin to recognize specific barriers to learning mathematics and determine ways to close the achievement gap. Look for sessions marked with the symbol above to learn how to use best practices to teach math for understanding, although it may be learned differently in a diverse classroom.

Strand Speakers

Ana Lado, 150
Jessica Pfeil, 182
Marilyn Zecher, 190
Rebecca J. Darrough, 191
Charles P. Funkhouser, 234
Melinda Griffin, 241
Beth Kobett, 251
Susan James, 263
Marilyn L. Zecher, 277

ELEMENTARY STRAND **EL**

Elementary mathematics in the 21st century is no longer the arithmetic-driven curriculum of the past. Sessions in this strand explore various ways that mathematics content taught in the early years can be integrated into a continuum of learning. Sessions will offer a variety of strategies and activities that promote innovative teaching strategies based on sound pedagogy. Look for the symbol above for topics that include successful strategies using hands-on activities, formative assessments, and technology geared toward early learners.

Strand Speakers

Stuart J. Murphy, 6
Latrenda Knighten, 15
Kim Sutton, 29
Ruth Harbin Miles, 42
Brenda P. Barrow, 101
Jean B. Crawford, 123

STEM STRAND **ST**

This strand focuses on how the critical role that science, technology, engineering, and mathematics (STEM) education plays can be supported through innovative classroom strategies. The inclusion of science and engineering applications in core mathematics is the target of these sessions.

Strand Speakers

Christina Farrell, 5
Kristine A. Vester, 44
Marilyn Suiter, 76
Donald Goodman, 104
Tammy Worcester Tang, 115
Mike Long, 134

TECHNOLOGY STRAND **TG**

The role of technology in the mathematics classroom continues to evolve. Discussions that originally revolved around the use of calculators have broadened to include the use of computers, tablets, and SMART boards. Select sessions marked with the symbol above to learn how virtual manipulatives, video, and virtual classrooms are providing teachers with an abundance of ways to use technology to enhance their classrooms. Topics will include many ways that technology is helping students see meanings and relationships in mathematics in ways that improve understanding.

Strand Speakers

Kara K. Carpenter, 160
Eric Milou, 179
Tom Reardon, 192
Chip F. McNamara, 203
Ann Kong, 255
Mandy Collier, 258
William C. Tozzo, 281
Sue M. Garner, 289

Principles to Actions: Ensuring Mathematical Success for All

NCTM'S NEW SIGNATURE PUBLICATION

NCTM continues its tradition of mathematics education leadership by defining and describing the principles and actions that are essential to strengthen mathematics learning and teaching for all students. *Principles to Actions* offers guidance to teachers, specialists, coaches, administrators, policymakers, and parents. Building on NCTM's *Principles and Standards for School Mathematics*, this document presents six updated Guiding Principles for School Mathematics and eight essential Mathematics Teaching Practices.

Be sure to check out these sessions that address one or more of the teaching practices and/or guiding principles for mathematics education described in *Principles to Actions*.



THURSDAY, NOVEMBER 13

Session #	Session title
6	Great Early Math Attitudes = Later Successful Math Learners!
7	Mathematics Mentorship Project: Developing Mathematical Writing
12	Modeling Polynomial Functions: From Grid Paper to Graphing Calculator
18	Linking the Learning: Domino Games for Upper Elementary Students
23	You Gotta Know When to Fold: Paper Folding and Geometry
28	Using Student Growth Data to Improve Math Instruction
30	Math Matters: Using Math Games to Develop Number Sense
38.2	Using Technology to Reason Mathematically
45	Apportionment: Seven Roads to Fairness
46	Break the Cycle of Failure: Save Struggling Students with RtI
51	President's Session: Turning College and Career-Ready Standards into Student Learning: What It Takes
52	School Principals and Teacher Leaders Teaming to Improve Student Achievement
57	High Impact Techniques for Asperger's in the Classroom
59	Understanding Linear Functions Using Manipulatives
60	Using Formative Assessment to Improve Student Understanding
68	A Sixth Grader Reinvents the Pythagorean Theorem
73	Math Specialists: Working with High School Teachers on Collaboration
78	Four Types of Addition Facts That Help Develop All Others
92	Fractions as Numbers
97	A FUNDamental Approach to Connecting Families of FUNctions
98	Using Good Tasks
99	Making Sense of Student Reasoning
100	Shuffling into Math: Primary Games for the Common Core
102	Taking Primary Math Journals to a New Dimension
121	Animation and Mathematics: What They Share in Common
145	Avatars: Where Mathematics Meets Audio and Video

FRIDAY, NOVEMBER 14

Session #	Session title
149	Strategies for Fostering the CCSS Mathematical Practices
150	Strategies for Teaching Beginner ELLs with Picture Books
161	What's the Situation Got to Do with It?
163	A Clever Approach to Teaching and Solving Word Problems
176	Meaningful and Motivating Alternative Algorithms
177	Singin' and Signin' Teaches the Way Kids Learn!
178	Developing Students' Abilities to Describe and Reason about Data
191	Strategies to Teach Fractions to Students Who Struggle
197	Math Workshop: A Differentiated Approach to Teaching Mathematics
200	More or Less: Developing the Concepts of Comparison
209	Creating Growth Trajectories with Quantile Measures from Scholastic Math Inventory
210	Students Reveal How Ongoing Assessments Helped Them Learn Math
211	Find the Math in a Children's Book!
215	Design & Build Your Dream House
220	Bringing STEM into the Middle School Mathematics Classroom
230	How to Teach When You Can't Talk: Developing Learning Communities
233	National Assessment of Educational Progress: A Treasure Trove of Mathematics Problems
244	Board Hot Topic: Assessing Your Assessment Practices: Do They Measure Up to Support Student Learning?
245	Building a Solid Foundation in Number Sense
264	"An Innovative, Practical Approach to Formative Assessment Using Student Work"
280	Modeling as Both Means and Ends to Learning Valued Mathematics
285	Common Core Mathematics Instruction and Assessment: Making the Connection
288	EXCELlent Instructional Strategies for Teaching Common Core Math Standards
290	Once Upon a Circle

General Information

Tips for a Rewarding Regional Conference & Exposition

- Access the Conference App for conference alerts and up-to-the-minute information. Visit www.nctm.org/confapp.
- Access available speaker handouts at www.nctm.org/plan.
- Become familiar with the layout of the Greater Richmond Convention Center and Richmond Marriott Downtown by reviewing the floor plans on pages 80–84.
- Visit the **NCTM Bookstore** for the latest NCTM educational resources and **Member Services** to learn more about how NCTM can help you professionally and pick up free resources.
- Stop by the Information Booth for information on the local area.
- If attending the conference with colleagues, attend different presentations and share your learned knowledge after the conference.
- Silence cell phones during presentations.
- Be safe! Remove your name badge when you leave the conference facilities at the end of the day.

Registration and Access to Presentations

You must wear your badge to enter all presentations and the NCTM Exhibit Hall. Please be aware that the fee for a replacement badge is **\$10**.

By registering and attending an NCTM conference, meeting, or other activity, participants grant NCTM the right to use their likeness or voice as recorded on, or transferred to, video, photographs, websites, electronic reproductions, audio files, and/or other media of such events and activities.

For Your Child's Safety

Due to the size and nature of the NCTM 2014 Regional Conference & Exposition, this event is not an appropriate setting for children under 16 years of age. Children under age 16 will not be permitted in the Exhibit Hall. We appreciate your understanding and cooperation. Children 16 years and over will need to register as nonteaching guests. To register a nonteaching guest, please visit Registration.

Information Booth

The NCTM Information Booth will be in the B15 and Marshall Street Lobby of the Greater Richmond Convention Center. Friendly staff can answer your questions about Richmond. They will also assist you with directions and local information, from transportation and historical sites to shopping and entertainment.

Lost-and-Found

You may retrieve or turn in lost-and-found items at the NCTM Information Booth. Unclaimed items will be turned over to the Greater Richmond Convention Center Security.

First-Aid Station

There will be a first-aid station at the Greater Richmond Convention Center during the NCTM conference. If you need medical services while in Richmond, please check with the hotel concierge for the closest medical facilities. For any medical emergency, call 911 without hesitation.

Your Opinion Counts

Thank you for attending the NCTM 2014 Regional Conference & Exposition. In the days following the Regional Conference, you will receive an e-mail asking for an evaluation of your meeting experience. Please take a moment to complete the survey. Use the Conference App to rate specific presentations you attend. Your feedback is important to us and will be instrumental in planning future meetings.

Don't Miss THIS Session:

The Power of Multiple Strategies in Mathematics



Presented by National Math Expert and Coauthor of *NUMBERS* Professional Development,

MICHELE DOUGLASS, Ph.D.

Thursday, November 13, 2014
2:00 – 3:00 p.m.
Convention Center, Room E11C

VISIT OUR BOOTH FOR EVIDENCE-BASED MATHEMATICS SOLUTIONS

BOOTH 111


 VOYAGER SOPRIS
LEARNING™

www.voyagersopris.com / 800.547.6747

Exhibits

Make time to visit the NCTM Exhibit Hall. The hours allow ample opportunity to explore, try out, and purchase products and services for your classroom or to help you meet your career goals. You'll also be able to meet the people who produce these products, get fresh ideas, and see demonstrations of how products work. To give you dedicated time to visit the exhibits, no presentations will take place from 4:00 p.m. to 5:00 p.m. on Thursday. Check out the list of exhibits and a map of the Exhibit Hall on pages 84–92.

Exhibitor Workshops

Do you want more in-depth, personal interaction with exhibitors? If so, plan to attend the Exhibitor Workshops. These workshops are held on Thursday and Friday and offer a wide variety of topics. For exhibitor workshop offerings, look for presentations in this program book marked with the symbol  or see the Program Updates.

Conference App

The NCTM Conference App keeps you connected with the Regional Conference's every aspect. The free app allows you to search sessions, speakers, and exhibits; view the Exhibit Hall floor plan; highlight your favorite presentations; rate presentations; and interact with your colleagues! Visit www.nctm.org/confapp for more information.

Presentation Handouts

Attendees can access available electronic presentation handouts through the NCTM Conference App and online planner. Handouts will be available until March 2015.

Online Conference Planner

The Online Conference Planner is a great way for you to search the conference program book, set up your personal schedule, and download available presentation handouts. The Online Conference Planner is continually updated with the latest presentation changes and information. Visit www.nctm.org/plan to check it out.

NCTM App

When you return home, don't forget to download NCTM's Android or iOS app for free. The NCTM app gives users easy, efficient access to timely NCTM information throughout the year—from updates on new publications and best sellers to the latest information on upcoming conferences and professional development opportunities. Users can be up to the minute on NCTM activities, teaching tips, and classroom resources. The conference app also includes Facebook and Twitter feed updates. Visit www.nctm.org/nctmmobile for more information and to download the app.

NCTM Central

Check out NCTM Central. This exciting area has everything "NCTM" all in one convenient location, right at the entrance of the Exhibit Hall.

Wednesday	5:00 p.m.–7:30 p.m.
Thursday	7:00 a.m.–5:00 p.m.
Friday	8:00 a.m.–4:00 p.m.

- Whether you are a new or a longtime NCTM member, you can learn more about what your membership can do for you at **Member Services**. We can walk you through your benefits, including your online access to lessons, classroom-ready activities, online journal articles, and more. Make sure to stop by and pick up sample journals and other materials! Not a Member or wish to renew your membership? Make sure to sign up on-site and receive a free Boston Annual Meeting T-shirt! While supplies last.
- Browse the **NCTM Bookstore** and **save 25% off the list price** on all purchases! View firsthand all the publications that NCTM has to offer. You will also find a variety of specialty products that you can use as gifts, prizes, and incentives to spread the word about the importance of mathematics. Start your wish list today by previewing NCTM's wealth of resources at www.nctm.org/catalog. The NCTM Bookstore is not equipped to handle shipping; the business center can assist you with your shipping needs.

***Note on Sales Tax Exemptions:** To be considered exempt from sales tax in the NCTM Bookstore, you must provide a copy of an Virginia tax exemption certificate at the time of purchase. NCTM is required by law to keep a copy of the certificate, so we cannot return it to you. To qualify, you must make payment with a purchase order, check, or credit card from the school to which the Virginia exemption certificate is issued. NCTM cannot accept personal checks, personal credit cards, or cash in conjunction with tax exemption certificates. Tax exemption certificates for states other than Virginia are not valid for this Regional Conference.*
- The **Networking Lounge** is a prime location to meet up with colleagues between presentations! Whether you want to make connections with fellow conference goers, exchange teaching tips, or catch up with friends, you'll find a comfortable spot in the Networking Lounge to do so. Download the Conference App to receive alerts for scheduled networking meet-ups and check out the program updates for more information!

Shuttle Service

Attendees who reserved their hotel room through NCTM's official housing company will receive complimentary shuttle service from hotels in the NCTM housing block to the Greater Richmond Convention Center. Some hotels are within walking distance of the convention center and will not have shuttle service. Routes and schedules will be posted in your hotel lobby. The schedule will be followed as closely as possible. If you have questions, please visit the Information Booth located in the B15 & Marshall Street Lobby of the Greater Richmond Convention Center.

Bedtime Math's[®] Crazy 8s

club[™]



Build Your Own Fun Math Club!

HANDS-ON GAMES
that get kids fired up about math

THE COOL THING
to do after school

CHECK IT OUT!
Come see Crazy 8s in action
Thursday 9:30am ★ Room E21C

Start a
free club
at your
school!



www.bedtimemath.org

Visit Booth 315 for more info



©PHOTO COURTESY OF RICHMOND CVB

Highlight

Opening Session (Presentation 1):
Beyond Relevance & Real World: Stronger Strategies for Student Engagement



Conference App

Network onsite with attendees!
www.nctm.org/confapp



Facebook

Interact with your colleagues!
www.nctm.org/facebook



Twitter

Want to stay informed? Follow us!
www.twitter.com/nctm
#NCTMRichmond

Registration Hours

5:00 p.m.–7:30 p.m.

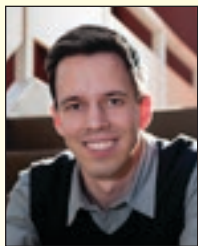
NCTM Central Hours

5:00 p.m.–7:30 p.m.

Fire Codes

We have made every attempt to provide adequate seating for participants at the conference, but for your safety and because of fire regulations, only those with seats will be allowed in meeting rooms. To comply with fire codes, we will have to ask persons sitting on the floor or standing to leave the room.

1



Beyond Relevance & Real World: Stronger Strategies for Student Engagement

(General Interest) Session

Relevance and the real world are often seen as the most effective strategies for engaging students in difficult mathematics, but both strategies are limited and can fail in crucial ways. We'll add strategies to our repertoire, looking at research-based methods for creating need and developing a question instead.

Dan Meyer
Stanford University, California

B21 (GREATER RICHMOND CONVENTION CENTER)

Orion TI-84 Plus Talking Graphing Calculator

Use this revolutionary **talking *graphing* calculator** to gain an academic edge in pre-algebra through calculus, as well as biology, chemistry, and physics.



<http://shop.aph.org>







American Printing House for the Blind, Inc.
800.223.1839 • info@aph.org • www.aph.org

Highlights

- Regional Conference Overview and Orientation, **2**
- Great Early Math Attitudes = Later Successful Math Learners!, **6**
- 1, 2, 3, 4—Math, Engagement, and Common Core!, **15**
- Mathematical Habits of Mind: Helping Students Become Doers of Mathematics, **27**
- Good Questions That Promote Student Understanding, **31**
- Revitalizing Statistics Using Videos, Applets, and Projects, **36**
- Common Core Mathematics Upside Down: Flipping PD and Engaging Teachers!, **43**
- New and Preservice Teachers Workshop, **50**
- President’s Session: Turning College and Career-Ready Standards into Student Learning: What It Takes, **51**
- How to Shift Mind-Sets from Remembering How to Understanding Why, **87**
- What Is Good Mathematics? How Do We Teach It Well?, **96**

Icon

Presentation Numbers

 Common Core	33, 37, 43, 56, 122.1, 136, 143
 Elementary	6, 15, 29, 42, 101, 123
 Exhibitor Workshops	14.1, 14.2, 38.1, 38.2, 38.3, 62.1, 62.2, 62.3, 98.1, 98.2, 98.3, 122.2, 122.3, 122.4
 STEM	5, 44, 76, 104, 115, 134



Conference App

Network onsite with attendees!
www.nctm.org/confapp



Facebook

Interact with your colleagues!
www.nctm.org/facebook



Twitter

Want to stay informed? Follow us!
www.twitter.com/nctm
 #NCTMRichmond

Registration Hours

7:00 a.m.—3:00 p.m.

Exhibit Hours

8:00 a.m.—5:00 p.m.

NCTM Central Hours

7:00 a.m.—5:00 p.m.

Fire Codes

We have made every attempt to provide adequate seating for participants at the conference, but for your safety and because of fire regulations, only those with seats will be allowed in meeting rooms. To comply with fire codes, we will have to ask persons sitting on the floor or standing to leave the room.

7:15 A.M.–7:45 A.M.

2 Regional Conference Overview & Orientation

(General Interest) Session

Whether you are new to NCTM or a seasoned veteran, every conference has something new for everyone! Hosted by members of the Board of Directors, this session will help you to maximize your overall conference experience. Learn what's new or discover something you've missed in the past, find out how to navigate presentations, use the Conference App, and network with other attendees. Meet other first-time attendees and join up with conference mentors who share your particular interests!

Rose Mary Zbiek

Board of Directors, National Council of Teachers of Mathematics;
Pennsylvania State University, University Park

E10AB (GREATER RICHMOND CONVENTION CENTER)

8:00 A.M.–9:00 A.M.

3 Adventures with Mathematics: Engaging Families in Mathematics Learning

(General Interest) Session

What to do when kids are out of school? Play with mathematics! Participants will play games and engage in activities suitable for families. Activities give hints, help parents ask good questions, and help learners develop strategies. Participants will learn how to share information with home and how to run a family math night.

Charlene E. Beckmann

Grand Valley State University, Allendale, Michigan

Megan B. Frame

Eastern Michigan University, Ypsilanti

B21A (GREATER RICHMOND CONVENTION CENTER)

4 NCTM's Mathematics Education Trust Provides Grants and Awards: Apply! Apply!

(General Interest) Session

The Mathematics Education Trust (MET) is a resource for mathematics teachers (and students) at all levels. Come and experience what others have used money for and learn how to apply for yourself or your school. Sixty minutes of conference time could be beneficial for your mathematics future.

Johnny Lott

Past President, National Council of Teachers of Mathematics;
Retired, University of Montana, Missoula

CAPITAL BALLROOM 5 (MARRIOTT)

5 **ST** Count Me In! Teacher-in-Role Strategies for STEM Exploration

(Pre-K–2) Session

Discover how to take a more active role in dramatic play scenarios in your early childhood classroom! During this highly interactive workshop, led by a Wolf Trap Master Teaching Artist, participants will learn how to tap children's love of imaginative play to spark meaningful explorations of math concepts by using teacher-in-role techniques.

Christina Farrell

Wolf Trap Institute for Early Learning Through the Arts, Vienna, Virginia

B15B (GREATER RICHMOND CONVENTION CENTER)

6 **EL** Great Early Math Attitudes = Later Successful Math Learners!

(Pre-K–5) Session

Principles to Actions

Let's help our students develop positive attitudes about math. They need to be fully engaged in creating math models, persistent in completing their work, and motivated to advance their mathematical skills. This session will demonstrate how we can work with children to focus their behaviors and develop productive dispositions toward mathematics.

Stuart J. Murphy

Self-Employed Consultant, Boston, Massachusetts

E10AB (GREATER RICHMOND CONVENTION CENTER)

7 Mathematics Mentorship Project: Developing Mathematical Writing

(3–8) Session

Principles to Actions

The Mathematics Mentorship Program was developed to provide ongoing mathematics enrichment for gifted children in grades 5 and 6. The pilot study analyzes written mathematical communication to understand aspects of mathematical communication and to understand how this communication changes over time and what mentor feedback is useful to students.

Matthew D. Reames
University of Virginia, Charlottesville

B10 (GREATER RICHMOND CONVENTION CENTER)

8 Using Formative Assessment Techniques in K–8 Classrooms

(3–8) Session

Participants will examine the FACTs model to learn how to link instruction, assessment, and learning to make mathematics accessible for all students. We will focus on different purposes for using FACTs and consider ten different FACTs categories for selecting, implementing, and using data to inform instruction and improve student achievement.

Maria A. Timmerman
Longwood University, Farmville, Virginia
Leah Shilling-Traina
Longwood University, Farmville, Virginia
Virginia Vimpeny Lewis
Longwood University, Farmville, Virginia

B15C (GREATER RICHMOND CONVENTION CENTER)

9 Keeping It Real: Teaching Math through Real-World Lessons

(6–8) Session

How long does it take to burn off a Big Mac? Is it ever a good idea to foul at the buzzer? We'll explore real-world lessons and projects that teachers can use to address Common Core standards, foster a rigorous understanding of math, and challenge students to think critically about the world.

Karim K. Ani
Mathalicious, Charlottesville, Virginia
Matt Lane
Mathalicious, Charlottesville, Virginia
Chris Lusto
Mathalicious, Charlottesville, Virginia

GRAND BALLROOM CD (MARRIOTT)

10 How Do We Know What Students Know? Assessment Techniques

(6–8, Preservice and In-Service) Session

The tasks we use on assessments determine what we learn about what students know. This session focuses on a questioning framework that can be used to develop assessment tasks that emphasize conceptual understanding.

Barbara J. Dougherty
University of Missouri, Columbia
William W. Deleeuw
University of Missouri, Columbia
Rebecca J. Darrough
University of Missouri, Columbia

B21C (GREATER RICHMOND CONVENTION CENTER)

11 QR Codes for IRL Math Instruction to Diminish IDK Syndromes

(6–12) Session

Jazz up your formative assessments, guided or independent practice, and classroom instruction. Learn how to use QR codes and the smart phone to create activities that get students out of their seats and engaged in their own learning. You will leave with activities that you can use immediately in your classroom and the ability to create many more!

Virginia A. Fraser
Indiana University Southeast, New Albany

GRAND BALLROOM E (MARRIOTT)

NCTM newbie? Attend the **Regional Conference Overview & Orientation** to learn how to enhance your conference experience and maximize your membership's benefits. See page 3 for details.



8:00 A.M.–9:00 A.M.

12**Modeling Polynomial Functions: From Grid Paper to Graphing Calculator**

(9–12) Session

Principles to Actions

Using a single sheet of grid paper and handheld technology, participants collect data and create models for polynomial functions. They leave the session with hands-on activities that lead students from the concrete to the abstract, and that make connections among the functions, statistics, and modeling strands of the Common Core State Standards.

Tom Beatini

Glen Rock High School, New Jersey

CAPITAL BALLROOM 4 (MARRIOTT)

13**Taking Your Textbook to the Next Level**

(9–12) Session

We will take standard textbook problems and demonstrate turning them into challenging tasks that require problem solving, reasoning, communicating mathematical thinking, looking for patterns and structure, and more. Our samples will include functions, the Pythagorean theorem, transformations, and probability.

Kieran Flahive

Urban Assembly Gateway School for Technology, New York, New York

Fred Dillon

Ideastream, Cleveland, Ohio

B21B (GREATER RICHMOND CONVENTION CENTER)

14**Math Machines and Algebraic Thinking**

(9–12, Higher Education) Session

With Math Machines, students design, test, and revise mathematical functions to complete dynamic physical tasks such as making a laser follow an object (quadratic functions), simulating earthquakes (logarithms), and making colored lights oscillate in various combinations (periodic functions). Free software provided.

Robert A. Chaney

Sinclair Community College, Dayton, Ohio

Frederick J. Thomas

Learning with Math Machines, Englewood, Ohio

B15A (GREATER RICHMOND CONVENTION CENTER)

14.1 ew**Mathspace: Why You'll Never Grade Math Assignments Again—Seriously!**

(6–12) Exhibitor Workshop

You've seen it all, right? Adaptive learning? Check. Handwriting recognition? Hmm. Every math question graded step-by-step? Wait, that's new! Imagine: automatic grading, so you focus on teaching; students hand-writing fully worked answers, with realtime feedback; and no more multiple choice! Come see why Mathspace is like nothing you've ever seen!

Mathspace

New York, New York

E21C (GREATER RICHMOND CONVENTION CENTER)

14.2 ew**CCSS Math Practices? Trust CPM's 25 Years of Writing Experience!**

(6–12) Exhibitor Workshop

Experience the mathematical practices embedded in lessons that include problem solving and discourse. The Core Connections series embeds the practices daily in a problem-based, student-centered CCSS-aligned curriculum for grade 6–algebra 2 (with an option for high school Integrated I-III). Receive free copies of CPM's entire Core Connections series.

CPM Educational Program

Sacramento, California

E11C (GREATER RICHMOND CONVENTION CENTER)

Pick up your copy of the **Program Updates** for additional presentations, cancellations, and other important information.



15 **EL****"1, 2, 3, 4—Math, Engagement, and Common Core!"****(Pre-K–2) Gallery Workshop**

Attend this workshop to experience hands-on, standards-based activities that facilitate early mathematics concepts and learn strategies to encourage student engagement. Participants will engage in interactive activities that explore geometry, measurement, and operations and algebraic thinking while correlating with the Common Core State Standards.

Latrenda Knighten

East Baton Rouge Parish School System, Louisiana

GRAND BALLROOM F (MARRIOTT)**16****Linking Mathematics and Early Literacy in Core Subjects Using Themes****(Pre-K–2) Gallery Workshop**

When math and literacy are linked, students can make sense of the world around them. Explore vital resources on key concepts in math and early literacy. Receive an extensive list of math and literacy resources plus a home-school connection packet on making math and literacy fun.

Teresa W. Hicks

Richmond City Public Schools, Virginia

Ida M. Jones

Richmond City Public Schools, Virginia

E21A (GREATER RICHMOND CONVENTION CENTER)**17****Radically Real: Manipulatives as a Vehicle for Developing Number Sense****(Pre-K–2) Gallery Workshop**

Multiple representations help support number sense in the preschool and kindergarten classroom. Hands-on activities focus on ways teachers can cement ideas including ten-frames, open-ended problems, literature, and much more. Video clips look deeper into student understanding with number sense and pave the way to a solid foundation in math.

Katie M. Isaac

Math Solutions, Sausalito, California

GRAND BALLROOM AB (MARRIOTT)**18****Linking the Learning: Domino Games for Upper Elementary Students****(3–5) Gallery Workshop****Principles to Actions**

Come prepared to play games that incorporate the use of standard dominoes that teach the following Common Core standards: operations, patterns, fractions, place value, problem solving, and data management. This manipulative is easy to use and integrate into your program and is motivating for all learners. Game boards, student samples, and more will be shared.

Jane Felling

Box Cars and One-Eyed Jacks, Edmonton, Canada

E21B (GREATER RICHMOND CONVENTION CENTER)**19****Multiply or Divide? What Do I Do?****(3–5) Gallery Workshop**

Children learn operations through context to build their understanding. The actions and relationships described in word problems influence the way children think and solve problems. Examining, modeling, and working through different multiplication and division situations will help us understand children's thinking and problem-solving methods.

Bethany Farmer

Somerset Academy, Las Vegas, Nevada

Beckie Dehner

Clark County School District, Las Vegas, Nevada

E24 (GREATER RICHMOND CONVENTION CENTER)**20****Powerful Peers Promote Problem Solving****(3–5) Gallery Workshop**

All students deserve engaging and focused experiences that amplify their brains and hearts. In this hands-on, bodies-moving workshop we explore five novel, structured ways to have students construct viable arguments and critique reasoning. The result: improved thinking skills and problem solving. Leave ready to easily implement a dozen new ideas.

Rob Jutras

Kagan Publishing and Professional Development, San Clemente, California

E11AB (GREATER RICHMOND CONVENTION CENTER)

21**Developing Fraction Sense by Considering Three Models (Area, Length, Set)**

(3–5, Preservice and In-Service) Gallery Workshop

This session focuses on the three models for fractions. Models can help students clarify ideas that are confused using only procedural methods. Different models offer different opportunities to learn. Differentiating among the three models (area, length, and set) will broaden and deepen students (and teachers) understanding of fractions.

Ann Wallace

James Madison University, Harrisonburg, Virginia

CAPITAL BALLROOM 6/7/8 (MARRIOTT)

22**Go for the Gold!**

(6–8) Gallery Workshop

Explore the golden ratio and golden rectangle by discovering its existence in: the human body, nature (Fibonacci sequence), everyday objects (credit cards, cereal boxes), art (the *Mona Lisa*, *The Last Supper*), architecture (the Parthenon, pyramids), music (violin construction), and more.

Sandra Marie Miller

Pennridge School District, Perkasie, Pennsylvania

Deanna Januzzi

Pennridge School District, Perkasie, Pennsylvania

E23 (GREATER RICHMOND CONVENTION CENTER)

23**You Gotta Know When to Fold: Paper Folding and Geometry**

(6–8) Gallery Workshop

Principles to Actions

Participants will make several items by paper folding. The speakers will discuss and demonstrate ways to use paper folding to introduce, review, enhance, or facilitate geometric topics. The topics include geometric shapes, parallel and perpendicular lines, area, and perimeter. Handouts will be provided.

Deborah A. Crocker

Appalachian State University, Boone, North Carolina

Betty B. Long

Appalachian State University, Boone, North Carolina

E25 (GREATER RICHMOND CONVENTION CENTER)

24**Construction Junction, What's Your Function?**

(9–12) Gallery Workshop

Geometric constructions should be much more than the memorization of meaningless steps! Come learn how to teach your students the process of constructions while making connections to geometric concepts. Hands-on activities and digital resources will be presented. Please bring a laptop.

Sharon B. Hoffert

Chesterfield County Public Schools, Virginia

Melody S. Bushley

Chesterfield County Public Schools, Virginia

Michele Giglio

Chesterfield County Public Schools, Virginia

E10CD (GREATER RICHMOND CONVENTION CENTER)

25**Removing the Mystery from Distance and Midpoint Formulas**

(9–12) Gallery Workshop

Teachers will learn to manage a lesson where students compare their own relative locations in space to their peers in order to calculate distance and midpoint. Teachers will learn to pose structured higher order questions, encouraging students of all levels to engage in a discussion that allows them to derive the formulas for distance and midpoint.

Stephanie L. Brady

Hanover County Public Schools, Ashland, Virginia

Gretchen C. Shaw

Hanover County Public Schools, Ashland, Virginia

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

26**Traditional Topics with a "New Look" in Algebra 2**

(9–12) Gallery Workshop

As we implement the Common Core, we do not need to change *what* we teach—we need to change *how* we teach. We will share lessons and activities that we have used in our algebra 2 classes that focus on the Standards of Mathematical Practice. Projects, activities, and student discovery lessons will be shared.

Wendy E. Bartlett

Parkland Magnet High School, Winston-Salem, North Carolina

Gregory S. Fisher

Mount Tabor High School, Winston-Salem, North Carolina

GRAND BALLROOM GHJ (MARRIOTT)

Visit the NCTM Bookstore to Find Best-Selling Books by and for Mathematics Educators!

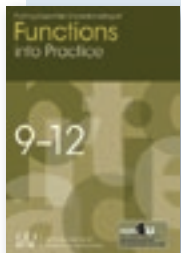
Save 25%! Conference attendees receive a 25% discount off the NCTM list price on all purchases made in the Bookstore, including Special Products!*

MATH IS ALL AROUND US | MATH IS ALL AROUND US | MATH IS ALL AROUND US | MATH IS ALL AROUND US | MATH IS ALL AROUND US

NEW SERIES!

Putting Essential Understanding into Practice—Based on NCTM's Best-Selling Developing Essential Understanding Series

You have essential understanding. It's time to put it into practice.



NEW | Putting Essential Understanding of Functions into Practice in Grades 9–12

BARBARA DOUGHERTY, SERIES EDITOR

BY ROBERT RONEAU, DAN MEYER, AND TERRY CRITES

©2014, Stock # 14346



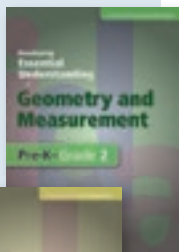
Best-Selling Titles in the Essential Understanding Series

ROSE MARY ZBIEK, SERIES EDITOR

NEW | Geometry for PreK–Grade 2

BY E. PAUL GOLDENBERG AND DOUGLAS CLEMENTS

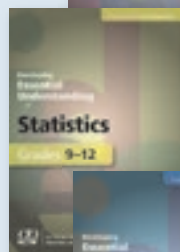
©2014, Stock # 13793



Statistics, Grades 9–12

BY ROXY PECK, ROBERT GOULD, AND STEPHEN MILLER

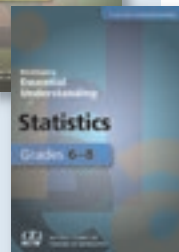
©2013, Stock # 13804



Statistics, Grades 6–8

BY GARY KADER AND TIM JACOBBE

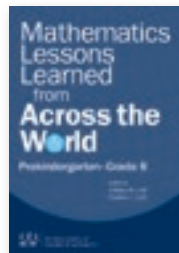
©2013, Stock # 13800



Find more titles in both these series at the bookstore and online.

MATH AROUND THE WORLD—

New books that bring the world to your classroom



NEW | Lessons Learned from Across the World—PK–8

BY JOHNNY W. LOTT AND CAROLYN J. LOTT

©2014, Stock # 14574

NEW | Math Is a Verb: Activities and Lessons from Cultures Around the World

BY JIM BARTA, RON EGLASH, AND CATHY BARKLEY

©2014, Stock # 14326

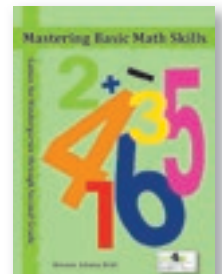


MORE NEW BOOKS

NEW | Mastering Basic Math Skills: Games for Kindergarten through Second Grade

BY BONNIE BRITT

©August 2014, Stock # 14307



NEW SERIES!

Implementing the Common Core State Standards through Mathematical Problem Solving

FRANCES CURCIO, SERIES EDITOR

Connect the Process of Problem Solving with the Content of the Common Core



Kindergarten–2

BY SYDNEY SCHWARTZ

©2013, Stock # 14445

NEW | Grades 3–5

BY MARY FOOTE, DARRELL EARNEST, AND SHIULI MUKHOPADHYAY

©2014, Stock # 14446

Grades 6–8

BY THERESA GURL, ALICE ARTZT, AND ALAN SULTAN

©2013, Stock # 14328

High School

BY THERESA GURL, ALICE ARTZT, AND ALAN SULTAN

©2012, Stock # 14329

NEW SERIES: Success from the Start

The Essential Guide to Succeeding in Your First Years of Teaching Mathematics

NEW | Success from the Start: Your First Years Teaching Elementary Mathematics

BY KATHY ERNST AND SARAH RYAN

©2014, Stock # 13954



NEW | Success from the Start: Your First Years Teaching Secondary Mathematics

BY ROB WIEMAN AND FRAN ARBAUGH

©2014, Stock # 13952



Pick up free copies of the authors' **Top Ten Tips for New Mathematics Teachers** in the bookstore.



NEW | MET Cookbook

With recipes from MET volunteers, NCTM board members, members, staff and more, this book adds up to a tasty serve.

©2014, Stock # 14784

All books available as eBook.

*This offer reflects an additional 5% savings off list price, in addition to your regular 20% member discount.



NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

Visit www.nctm.org/catalog for tables of content and sample pages.

For more information or to place an order, please call (800) 235-7566 or visit www.nctm.org/catalog.

27**Mathematical Habits of Mind: Helping Students Become Doers of Mathematics****(General Interest) Session**

If students are to be prepared for their future, how they think is at least as important as what they know. So how we teach is at least as important as what we teach. With a new generation of assessments focused on mathematical thinking, we have an opportunity to help students learn to think, reason, solve problems, and become Doers of Mathematics.

Cathy L. Seeley

Past President, National Council of Teachers of Mathematics; Senior Fellow (Emeritus), Charles A. Dana Center, University of Texas, Austin

B21C (GREATER RICHMOND CONVENTION CENTER)**28****Using Student Growth Data to Improve Math Instruction****(General Interest) Session****Principles to Actions**

Making every student better gets at the core of why we are in education: to help students grow. This presentation focuses on how educators can choose or create quality assessment sets of mirrored form, content, and cognitive demand; get useful student growth data; and easily make that data drive your instructional choices.

Anne F. Weerda

Winnebago School District, Illinois

B10 (GREATER RICHMOND CONVENTION CENTER)**29** **EL****Addition and Subtraction Fact Fluency! What Does It Take?****(Pre-K–2) Session**

This session by Kim Sutton will share strategies for achieving addition and subtraction fact fluency by using a teach for understanding model. Participants will learn the order of the strategies to be taught and practiced. Kim will share her motivating style of using games, songs, dances, and drills that thrill all learners!

Kim Sutton

Consultant, Arcata, California

E10AB (GREATER RICHMOND CONVENTION CENTER)**30****Math Matters: Using Math Games to Develop Number Sense****(Pre-K–2) Session****Principles to Actions**

Broaden your repertoire and learn how to use specific games to help your students develop a visual understanding of whole number operations, place value, number principles, and number sense. Participants in this hands-on workshop will become acquainted with math games that can help students develop number concepts and build analytic reasoning.

John Hinton

Retired, Long Island University (C.W. Post), Brookville, New York

GRAND BALLROOM E (MARRIOTT)**31****Good Questions That Promote Student Understanding****(3–5) Session**

The Common Core mathematical practices call for students to reason and construct mathematical arguments. Good questions probe student thinking, lead to deeper understanding, and help to differentiate instruction. What to ask and when to ask it is the key. Let's look at a some elementary concepts and great questions to go with them!

Linda M. Gojak

Past President, National Council of Teachers of Mathematics; John Carroll University, University Heights, Ohio

B21A (GREATER RICHMOND CONVENTION CENTER)**32****Geometry in the Upper Elementary and Middle Grades****(3–8) Session**

Geometry is important for all grade levels, and especially for the middle grades. Learn how geometry supports big ideas from number and operations, and from equations and expressions. Let's take a vertical look at how geometry flows from elementary to high school, and use classroom-ready lessons to showcase important teaching and learning strategies.

Paul D. Gray

Triumph Learning, Houston, Texas

CAPITAL BALLROOM 4 (MARRIOTT)

33 **Learning Trajectories: Making Sense and Improving Continuity of the Common Core**

(3–8) Session

Learning trajectories in TurnOnCCMath.net describe students' conceptual growth based on research and provide coherent cross-grade continuity for CCSSM. We introduce a five-element framework and new free PD MOOCs for individual trajectories, designed to enhance teachers' insight into student learning over time and into instructional planning.

Alan P. Maloney

North Carolina State University, Raleigh

B15B (GREATER RICHMOND CONVENTION CENTER)**34****Where Did That Answer Come From? Responses to Conceptual Measures**

(6–8, Preservice and In-Service) Session

Responses to conceptual assessments provide insights into student understanding. Sometimes, students perform well on skill-based tasks but their responses on conceptual measures are not as robust. This session focuses on interpreting student responses to tasks found on a conceptual progress monitoring tool aligned with the Common Core State Standards.

William W. Deleeuw

University of Missouri, Columbia

Rebecca J. Darrough

University of Missouri, Columbia

Barbara J. Dougherty

University of Missouri, Columbia

B21B (GREATER RICHMOND CONVENTION CENTER)**35****Electric Vehicle Mathematics**

(9–12) Session

In this talk we'll explore some simple mathematics related to the operation and efficiency of electric and hybrid vehicles. The relevant mathematics will be mostly ratios, linear functions, and graphs of real data, as well as one application to simple calculus concepts.

Philip A. Rash

North Carolina School of Science and Mathematics, Durham

B15A (GREATER RICHMOND CONVENTION CENTER)**36****Revitalizing Statistics Using Videos, Applets, and Projects**

(9–12, Higher Education) Session

Guidelines for Assessment and Instruction in Statistics Education suggest that statistics courses emphasize statistical literacy, stress conceptual understanding, and use real data. We explore how videos introduce concepts in context, applets allow for exploration, and data-centered projects enliven statistics.

Marsha J. Davis

Eastern Connecticut State University, Willimantic

CAPITAL BALLROOM 5 (MARRIOTT)**37** **Common Core, NCTM, and GAISE: High School Teacher Preparation**

(9–12, Preservice and In-Service) Session

We will present the Common Core, NCTM, and Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report recommendations at the high school level. We will discuss how preservice high school teachers should be prepared in statistics and provide specific examples of teacher materials that exemplify best practices.

Anna E. Bargagliotti

Loyola Marymount University, Los Angeles, California

Mary McNelis

St. Agnes Academy School, Memphis, Tennessee

Jeanie Gibson

Hutchinson School, Memphis, Tennessee

GRAND BALLROOM CD (MARRIOTT)**38****Explorations, Investigations, Applications: It's Why We Study and Teach Mathematics**

(9–12, Preservice and In-Service) Session

Discover the relationship between the area and perimeter of rectangles and their graphical bounds. Examine geometric, statistical, and graphical models incorporating three of the CCSSM mathematical practices. Learn to easily explain the correlation coefficient. Extensive handouts provided.

David Kapolka

Emeritus, Forest Hills Public Schools, Grand Rapids, Michigan

B15C (GREATER RICHMOND CONVENTION CENTER)

9:30 A.M.–10:30 A.M.

38.1 ew**Crazy 8s:
It's Not Your Ordinary Math Club**

(Pre–K–5) Exhibitor Workshop

Have you heard about Bedtime Math's Crazy 8s? It's the new after-school club designed to get kids fired up about math. Every week kids get to build stuff, run and jump, make music, make a mess . . . and make friendships at the same time. Crazy 8s makes math a blast for any kid, and the club kit is free. Join us to see Crazy 8s in action!

Bedtime Math Foundation
Summit, New Jersey

E21C (GREATER RICHMOND CONVENTION CENTER)**38.2 ew****Using Technology to Reason
Mathematically**

(6–12) Exhibitor Workshop

Principles to Actions

NCTM's Principles to Actions document focuses on how teachers can create effective learning environments for all students. We will address its Mathematics Teaching Practices through the use of coherent activities and investigations with TI technology. Learn how to integrate technology into your lessons to help students make stronger connections in mathematics.

Texas Instruments
Dallas, Texas

E22 (GREATER RICHMOND CONVENTION CENTER)**38.3 ew****Transform Teaching and Learning
with MathXL® for School**

(9–12) Exhibitor Workshop

MathXL® for School allows middle and high school teachers to focus on important aspects of teaching, such as measuring learning outcomes, while students receive a personalized learning experience with immediate feedback, interactive learning aids, and practice, practice, practice! NEW—Mobile compatibility!

Pearson
Boston, Massachusetts

E11C (GREATER RICHMOND CONVENTION CENTER)

9:45 A.M.–11:00 A.M.

39**Making Sense of Addition and
Subtraction: Manipulatives Matter**

(Pre–K–2) Gallery Workshop

Students must understand the meaning of operations, and not just memorize facts. Explore hands-on strategies for helping students understand operations as verbs in mathematical sentences. Learn research-informed methods for building understanding and fluency while exploring manipulatives, both new and familiar favorites, to support student learning.

Sara Delano Moore
ETA hand2mind, Vernon Hills, Illinois

GRAND BALLROOM GHJ (MARRIOTT)**40****Explain, Justify, and Critique—Oh My!**

(Pre–K–5) Gallery Workshop

How can you support your students' ability to explain and justify their thinking and critique the reasoning of others? This can seem difficult to develop, especially at the primary level. It doesn't need to be! Come see what this looks like in the elementary classroom and get ideas and tools to support your own students' work in this area.

Gina Kilday
Exeter-West Greenwich Regional School District, Exeter,
Rhode Island

E11AB (GREATER RICHMOND CONVENTION CENTER)**41****Literature and Games: Great Ways to
Teach Fractions**

(3–5) Gallery Workshop

Fractions are tough for students to learn and for teachers to teach. Learning should engage students in both hands-on and minds-on experiences. Teachers can use books and games that give numerous chances to connect their thinking and reasoning while building their understanding. Come read, play, learn, and walk away with ways to engage your students.

Rebecca D. Rappaport
Centronia/DC Bilingual Public Charter School, Washington, D.C.
Heather E. Kurtz
Centronia/DC Bilingual Public Charter School, Washington, D.C.
Jan Scott
Scholastic, Inc., New York, New York

E23 (GREATER RICHMOND CONVENTION CENTER)

42 **EL**

Mathematical Rigor through Core Practices and Classroom Games

(3–5) Gallery Workshop

The CCSSM content, as reinforced by the Standards for Mathematical Practice, is taught through a conceptual approach that demands understanding and rigor. This means students need to be highly engaged in mathematics lessons. Come see how games can provide motivation, make student thinking visible, and help students to build connections and conceptual knowledge.

Ruth Harbin Miles

Board of Directors, National Council of Teachers of Mathematics; Mary Baldwin College/Falmouth Elementary School, Staunton/Stafford, Virginia

Don S. Balka

TODOS: Mathematics for All; Saint Mary’s College, Notre Dame, Indiana

E10CD (GREATER RICHMOND CONVENTION CENTER)

43 **CC**

Common Core Mathematics Upside Down: Flipping PD and Engaging Teachers!

(3–8) Gallery Workshop

This session will involve math leaders using several “flipped” classroom activities for professional learning. It will include suggested use of digital resources that can be used anywhere or anytime, as well as onsite professional development (PD) activities, all reflecting the CCSSM content domains and its Standards for Mathematical Practice.

Francis (Skip) Fennell

Past President, National Council of Teachers of Mathematics; McDaniel College, Westminster, Maryland

Beth Kobett

Stevenson University, Baltimore, Maryland

Jon Wray

Howard County Public Schools, Ellicott City, Maryland

GRAND BALLROOM AB (MARRIOTT)

44 **ST**

“STEMifying” Your Math Class

(6–8) Gallery Workshop

Engineering isn’t just for graduate students! Come experience STEM activities using the engineering design process and standard-based mathematics objectives. Motivate your students with the real-life applications of engineering, and leave with activities to implement in your classroom tomorrow.

Kristine A. Vester

MathScience Innovation Center, Richmond, Virginia

GRAND BALLROOM F (MARRIOTT)

45

Apportionment: Seven Roads to Fairness

(6–12) Gallery Workshop

Principles to Actions

Learn how the U.S. Constitution dictates how U.S. House seats are apportioned. Seven apportionment methods are discussed and include the geometric and harmonic mean. Graphing calculator technology is incorporated. Math mixes with history!

William Bowdish

Retired, Sharon Public Schools, Massachusetts

CAPITAL BALLROOM 6/7/8 (MARRIOTT)

46

Break the Cycle of Failure: Save Struggling Students with RtI

(6–12) Gallery Workshop

Principles to Actions

Learn why an urban middle school math RtI program measurably improves students’ mathematics skills and outlook. See how students are selected, taught targeted skills, and have their progress monitored. Replace ad hoc efforts with an RtI that justifies resources and boosts math department morale, student attitudes, and mathematics assessment scores.

Dana Schreiber

East Hartford Schools, Connecticut

E24 (GREATER RICHMOND CONVENTION CENTER)

9:45 A.M.–11:00 A.M.

47

“What’s Fair?”: Using Mathematics to Examine Issues of Fairness

(6–12) Gallery Workshop

Experience the highlights of a unit where students have explored the mathematics of fair division in real-world situations, game theory (how our decisions affect others and their decisions affect us), and equal chances and distribution of resources (how mathematics can help us develop our own model of a fair society).

Steve Starr

Retired, Chicago Public Schools, Illinois

E21B (GREATER RICHMOND CONVENTION CENTER)

48

Reviewing for an Assessment with Games of Memory and Aptitude

(6–12) Gallery Workshop

Our goal is to provide group review games which are stimulating and fast-paced. These games are made off of “old” favorites such as Memory with a Steal, Words of Fortune, “I Have . . . Who Has . . .,” and King of the Hill. We will also discuss utilizing the March Madness tournament in your classroom.

Christine K. Smith

Edison State College, Punta Gorda, Florida

Joan VanGlabek

Edison State College, Naples, Florida

E25 (GREATER RICHMOND CONVENTION CENTER)

49

Transforming the Geometry Curriculum—Literally Transforming!!

(9–12) Gallery Workshop

The foundational delivery for the Common Core standards has changed to a transformational approach. Through activities and discussions we will connect transformational geometry to the essential concepts of congruence and similarity. We will also discuss what proof looks like in this newly “transformed” world!

Mike Patterson

Clark County School District, Las Vegas, Nevada

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

50

New and Preservice Teachers Workshop

(Preservice and In-Service) Gallery Workshop

Find answers to your questions on topics such as classroom management, parents, motivation, and keeping your sanity. Connect with other new teachers, learn from experienced professionals, and find resources to engage you and your students. You might even win a prize.

David Barnes

National Council of Teachers of Mathematics, Reston, Virginia

E21A (GREATER RICHMOND CONVENTION CENTER)

11:00 A.M.–12:00 P.M.

51

President’s Session: Turning College and Career-Ready Standards into Student Learning: What It Takes

(General Interest) Session

Principles to Actions

High-quality standards are necessary, but not sufficient, to support high levels of students learning in mathematics. Teaching matters! Learn the most effective teaching practices to support students’ development of conceptual understanding, procedural fluency, and habits of mind required for high-level mathematics learning, along with the supports required to implement them, as described in NCTM’s new publication, *Principles to Actions: Ensuring Mathematical Success for All*.

Diane J. Briars

President, National Council of Teachers of Mathematics, Reston, Virginia

B21C (GREATER RICHMOND CONVENTION CENTER)



Access the **Conference App** for program updates, conference networking, and exhibit info. Download it at www.nctm.org/confapp

52

School Principals and Teacher Leaders Teaming to Improve Student Achievement

(General Interest) Session

How can principals and teacher leaders collaborate to create a school mathematics program focused on the NCTM Process Goals? An initiative in Virginia has helped over 350 principals address this issue. Resources developed for these principal workshops will be shared including suggestions for adapting the materials for work with teachers.

Vandivere Hodges

Virginia Commonwealth University, Richmond

Patricia Robertson

Virginia Commonwealth University, Richmond

B21B (GREATER RICHMOND CONVENTION CENTER)

53

Making Math Count: Assessing for the Good of Students

(Pre-K–2) Session

It is easy to become overwhelmed by assessments and data. We will share how we made assessment meaningful by using Kathy Richardson’s Assessing Math Concepts (AMC). This formative assessment series provides timely data on students’ understanding of critical math stages. Data is then matched with engaging and purposeful instructional strategies.

Katherine A.G. Phelps

Orange County Schools, Hillsborough, North Carolina

Alexandra Humphries

Wake County Public Schools, Raleigh, North Carolina

Christina Lowman

Chatham County Schools, North Carolina

B15A (GREATER RICHMOND CONVENTION CENTER)

54

Excite Your Students with a Classroom Economy

(Pre-K–5) Session

Learn how to engage your elementary students in a classroom economy, where they learn basic economic principles and practice mathematical and critical thinking skills in a hands-on classroom experience. This workshop will describe how to construct a classroom economy where students apply for jobs, open a bank account, and spend money in a store.

Alissa White

Chesterfield Day School, Missouri

CAPITAL BALLROOM 4 (MARRIOTT)

55

Hats Off for Dr. Seuss

(Pre-K–5) Session

Take a mathematical journey through the world of Dr. Seuss. Teachers will leave with ideas for incorporating problem-solving activities into a celebration of Dr. Seuss’s birthday or a Dr. Seuss-themed unit. We will explore patterns and functions, graphing, time, measurement, and decimals.

Teresa D. Leahy

MathScience Innovation Center, Richmond, Virginia

B15C (GREATER RICHMOND CONVENTION CENTER)

56



Three Steps: Align Your Math Curriculum to the Common Core

(Pre-K–5) Session

This presentation will invite participants to learn three quick steps (beginning in the session) to more closely align their existing math curriculum to the Common Core State Standards using their existing materials and without waiting for state curriculum maps and/or new assessments. Tools and templates will be provided.

Lisa Anne Palacios

American Institutes for Research, Naperville, Illinois

E10AB (GREATER RICHMOND CONVENTION CENTER)

Mingle, explore,
and learn in the
**Exhibit Hall and
NCTM Central!**



57 High Impact Techniques for Asperger's in the Classroom

(3–8, Research) Session

Finding high impact math classroom techniques that enable Asperger's students to succeed with little additional teacher preparation time required is difficult. Specific techniques, gleaned from teacher interviews, and the targeted manifestations that each addresses, from choosing and executing strategies to explaining and showing work, will be discussed.

Debbie Gochenaur

Shippensburg University, Pennsylvania

Andrew Geesaman

Shippensburg University, Pennsylvania

GRAND BALLROOM CD (MARRIOTT)

58 The "Power" of One Game

(3–8) Session

Participants will experience firsthand the power of one algebraic reasoning and operations game and how it can be used across a variety of grade levels to support algebraic reasoning and mathematical standards in developmentally appropriate yet rigorous and meaningful ways.

Virginia B. Wilcox

Wesleyan College, Macon, Georgia

Ronnie Shipman

Monroe County School System, Forsyth, Georgia

CAPITAL BALLROOM 5 (MARRIOTT)

59 Understanding Linear Functions Using Manipulatives

(6–8) Session

Principles to Actions

Do your students need hands-on activities to help develop their understanding of linear functions? Discover benefits of using virtual and traditional manipulatives in your class to help students better understand linear function concepts, including graphing, slope, y -intercept, and solving equations.

Kevin Dykema

Mattawan School District, Michigan

B15B (GREATER RICHMOND CONVENTION CENTER)

60 Using Formative Assessment to Improve Student Understanding

(6–8) Session

Principles to Actions

Participants will explore high cognitive demand tasks and formative assessment strategies to develop student understanding of proportional reasoning. Discussion will include how to select appropriate tasks, use questioning and student discourse techniques, respond to formative assessment data, and support understanding for all students.

Edward C. Nolan

Montgomery County Public Schools, Rockville, Maryland

B21A (GREATER RICHMOND CONVENTION CENTER)

61 24 Activities for All Math Classes

(6–12) Session

Learn more than twenty fun activities that can be adapted for any level of math class. Activities range from pair work and group work to full-class activities. Some are games, while others promote mathematical discourse and reasoning. Participants will also learn some math songs and project ideas.

Gregory S. Fisher

Mount Tabor High School, Winston-Salem, North Carolina

Fred Thompson

East Forsyth High School, Kernersville, North Carolina

GRAND BALLROOM E (MARRIOTT)

62 Beyond the Mean: Find the Stats in Algebra and Geometry!

(6–12) Session

When I first taught AP Stats, I was surprised at how easily some topics complemented the standard algebra and geometry sequence. Explore the basic rules for describing distributions and correlation, see where these concepts fit easily into (and reinforce the content of) the introductory courses, and prepare students for success in AP Calc and AP Stats!

Ruth Miller

Greenhills School, Ann Arbor, Michigan

B10 (GREATER RICHMOND CONVENTION CENTER)

62.1 ew**Math Is a Verb in the 21st Century!****(General Interest) Exhibitor Workshop**

Discover how to create a process-oriented, problem-solving, digital, and collaborative math classroom where the teacher is the facilitator of instruction and students take increasing responsibility for their own learning. The Pearson System of Courses, based on a collaborative workshop model, fosters students discourse and the opportunity to learn with and through each other—bridging the gap between the way students learn inside and outside of the classroom. Discover your pathway to success for college and career readiness while preparing students for the Next Generation high stakes assessment. This could very well be the last solution you will ever need!

Pearson

Upper Saddle River, New Jersey

E11C (GREATER RICHMOND CONVENTION CENTER)**62.2 ew****There Is More to Math Than Facts . . . Like Problem Solving****(Pre-K–2) Exhibitor Workshop**

In this session, attendees will discover how LEGO bricks can help students bridge the gap between learning core math and applying it in real-life scenarios. Experience a solution designed to develop students' problem-solving abilities while enhancing their vocabulary, reading, thinking, listening, and speaking skills related to mathematics topics.

LEGO Education

Pittsburg, Kansas

E21C (GREATER RICHMOND CONVENTION CENTER)**62.3 ew****Students Get Fit with the Personal Math Trainer Powered by Knewton****(3–8) Exhibitor Workshop**

HMH presents Personal Math Trainer, the newest online practice, assessment, and intervention system. Geared to individual students' needs and learning preferences, the PMT delivers personalized instruction to maximize achievement.

Houghton Mifflin Harcourt

Boston, Massachusetts

E22 (GREATER RICHMOND CONVENTION CENTER)**63****A Mathematics Teacher Goes to Washington: The Einstein Fellowship****(General Interest) Burst**

The Einstein Distinguished Educator Fellowship brings STEM educators to Washington, D.C., to spend a year working in an agency or on Capitol Hill. Fellows engage in a wide variety of professional development, and the speaker will provide an overview of experiences that the fellowship affords. The application process will be outlined.

Lynn Foshee Reed

Maggie L. Walker Governor's School, Richmond, Virginia

E10CD (GREATER RICHMOND CONVENTION CENTER)**64****How Do We Know . . . ? 3 Essentials to Powerful Assessment****(General Interest) Burst**

This session outlines the three essential components of powerful and authentic assessment: alignment, cognitive demand, and format. Participants will analyze selected assessments and learn about resources available from the Virginia Department of Education to modify and create strategic and appropriate assessments in K–12.

Fanya Morton

King George County Schools, Virginia

GRAND BALLROOM F (MARRIOTT)**65****Lessons Learned from the Math Emporium at Liberty University****(General Interest) Burst**

A look at the Math Emporium model at Liberty University: how it began, lessons learned, and changes made to improve success.

Estela Altamirano

Liberty University, Lynchburg, Virginia

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

MathBuilders: A supplementary math program designed for young braille users in grades K-3.

MathBuilders is separated into eight units by content standards and grade level. This allows the teacher to focus on specific standards or provide remedial material for individual students.

Each Unit includes:

- Teacher's guide with lesson plans
- Student worksheets
- CD-ROM with General Guidelines for Teaching Math to Young Braille Users
- Dozens of manipulative items



Unit 1: Matching, Sorting, and Patterning



Unit 5: Measurement and Estimation



Unit 6: Geometry



Unit 7: Fractions, Mixed Numbers, and Decimals



**Unit 8:
Data Collection, Graphing,
and Probability/Statistics**

<http://shop.apH.org>



American Printing House for the Blind, Inc.
800.223.1839 • info@aph.org • www.aph.org

66**Ten Minutes with Ten-Frames**

(Pre-K–2) Burst

Ask an elementary teacher what mathematics concept her students struggle with most, and the typical response is number sense. In this session, explore and learn several activities teachers, parents, and volunteers can do to promote number sense with primary students. Make ten-frame activities part of your daily math routine (even for just ten minutes a day!), and you will see your students becoming more flexible, fluent, and efficient with numbers.

Sallie Havey

Montrose Elementary School, Richmond, Virginia

E25 (GREATER RICHMOND CONVENTION CENTER)**67****To Divvy Up or Measure Out, That Is the Question**

(3–8) Burst

Most textbook division problems focus on divvy up scenarios. However, in order to conceptually understand how to divide with fractions, students need to solve problems that measure out. During this session, we will review and briefly discuss the mathematics behind divvy up and measure out, and why educators should include both in their instruction

Rod D. Gillespie

Tazewell County Public Schools, Virginia

E11AB (GREATER RICHMOND CONVENTION CENTER)**68****A Sixth Grader Reinvents the Pythagorean Theorem**

(6–8) Burst

Principles to Actions

The presentation will incorporate a video clip of a sixth-grade student spontaneously constructing and explaining the Pythagorean theorem to solve a problem about the distance between two points. This student brought to the situation five years of constructivist mathematics in a school whose teachers emphasized sense making and schema building.

Anna Athanasopoulou

University of North Carolina at Charlotte

Michael G. Green

University of North Carolina at Charlotte

GRAND BALLROOM GHJ (MARRIOTT)**69****Mnemonics, Melodies, and Movements for the Middle Grades Mathematician**

(6–8) Burst

Help your students access and understand mathematical vocabulary and concepts by tapping into their multiple intelligences. Come sing and dance your way through the vocabulary of the Common Core. All songs are short, packed with vocabulary, and set to timeless children's tunes like the Hokey Pokey.

Leslie S. Paytes

Charlotte-Mecklenburg Schools, Matthews, North Carolina

E21B (GREATER RICHMOND CONVENTION CENTER)**70****Easy Absolute Values? Absolutely!**

(6–8) Burst

Many students learn to solve absolute value equations and inequalities by memorizing a series of steps. This session will focus on a conceptual development of absolute value and the idea of distance from zero.

Sharon Taylor

Georgia Southern University, Statesboro

E23 (GREATER RICHMOND CONVENTION CENTER)**71****Lesson Study Utilizing a Measure of Standards-Based Teaching Practices**

(6–8, Preservice and In-Service, Research) Burst

This presentation focuses on using an observational measure of standards-based mathematical teaching practices (M-Scan) for facilitating lesson study in middle grades classrooms to promote collaboration and professional development of practicing teachers. A plan will be provided for structuring similar professional development opportunities.

Holly Henderson Pinter

Western Carolina University, Cullowhee, North Carolina

Barbara A. Swartz

McDaniel College, Westminster, Maryland

E21A (GREATER RICHMOND CONVENTION CENTER)

11:30 A.M.–12:00 P.M.

72**When Will We Ever Use This?**

(6–12) Burst

Math students often question why they need to learn math topics, especially when they (sometimes correctly) think that they will never use these concepts. We will focus on actual (and some humorous) math applications in medicine, legal trials, movies, television, literature, navigation, Internet security, agriculture, games, and others.

Scott D. Oliver

Adlai E. Stevenson High School, Lincolnshire, Illinois

E24 (GREATER RICHMOND CONVENTION CENTER)**73****Math Specialists: Working with High School Teachers on Collaboration**

(9–12, Higher Education) Burst

Principles to Actions

Through a final project for a master's degree in Mathematics Education Leadership, a self-study research project evolved that planned a professional development for creation and implementation of best practices for collaboration with high school teachers. The approach taken and results will be described as well as the course expectations.

Pamela Bailey

Mary Baldwin College, Staunton, Virginia

Katherine Swanson

Prince William County Schools, Virginia

CAPITAL BALLROOM 6/7/8 (MARRIOTT)**74****Planning Classroom Observations That Culminate in Critical Conversations**

(Higher Education, Preservice and In-Service) Burst

We will share a process for planning focused classroom observations with specific goals and connected to mathematics literature. These observations offer means for enhancing teachers' professional learning in the context of their classrooms. We will use exemplars of focused observation tools created by coaches to examine this approach.

Melva R. Grant

Old Dominion University, Norfolk, Virginia

GRAND BALLROOM AB (MARRIOTT)

12:30 P.M.–1:00 P.M.

75**A Review of Test Anxiety Literature and Intervention Strategies**

(General Interest) Burst

The following areas will be discussed: an overview of test anxiety, various surveys used to measure test anxiety in students, and intervention strategies designed to reduce test anxiety.

Michael Brom

Lewis-Palmer Middle School, Monument, Colorado

GRAND BALLROOM AB (MARRIOTT)**76****ST****Exemplary K–12 STEM Teachers: Leadership and Success**

(General Interest) Burst

K–12 teachers are invited to apply to the Presidential Awards for Excellence in Mathematics and Science Teaching. Recipients receive a paid trip to Washington, D.C., a citation signed by the President of the United States and \$10,000. Past awardees will discuss the application process and their leadership roles as PAEMST alumni.

Marilyn Suiter

National Science Foundation, Arlington, Virginia

E11AB (GREATER RICHMOND CONVENTION CENTER)**77****Understanding Low Performance on the National Assessment of Educational Progress**

(General Interest) Burst

What do we know about the lowest performing students on the National Assessment of Educational Progress (NAEP)? What is their background? What do we know about their schools and teachers? This talk describes the lowest performing students as a group on the NAEP based upon information collected from student, teacher, and school questionnaires.

Zachary Rutledge

Independent Researcher, Salem, Oregon

GRAND BALLROOM F (MARRIOTT)

78

Trigonometry: Measuring the World in Small Groups

(General Interest) Burst

College students typically view two concepts with disdain: group work and real-world explorations. These are, however, areas in which they will confront much work in their future careers, and so it is imperative students be exposed to both. How do students react when thrust into a real-world challenge with a group of strangers? They thrive!

David S. DeLong

Kaplan University, Fort Lauderdale, Florida

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

79

Four Types of Addition Facts That Help Develop All Others

(Pre-K–2) Burst

Principles to Actions

There are four types of addition facts that we should focus on first and then use those to help students develop fluency with all their addition facts. The four types are; Doubles, +0, Make a 10, and 10 + something. This session will look at activities that build these four types of facts and the connections to all other addition facts.

Christina Tondevoid

Mathematically Minded, LLC, Orofino, Idaho

Lynn Rule

Retired Teacher, Wheaton, Illinois

GRAND BALLROOM GHIJ (MARRIOTT)

80

Create, Publish, Critique: Teach Math with Student-Generated Content at Shooloo.org

(3–8) Burst

Make word problems relevant to students' own lives. Empower them to create math stories of their own, and engage them through peer feedback. Teach them to pay attention to precision. We will share tips and resources on how to teach Common Core mathematical practices with student-generated content. Leave with ideas that are immediately actionable.

Robin Yang

Shooloo.org, New York, New York

Jeanne Shannon

Saint Elizabeth Catholic Academy, Ozone Park, New York

E23 (GREATER RICHMOND CONVENTION CENTER)

81

Common Core Mathematical Practices: How Will Our Teaching Change?

(6–12) Burst

This course helps teachers and curriculum specialists analyze the Common Core Standards for Mathematical Practice. We will address each practice and experience those practices via mini-lessons.

Kathleen W. Kaplan

ExploreLearning, Charlottesville, Virginia

E21A (GREATER RICHMOND CONVENTION CENTER)

82

Virtual Versus Physical: Manipulatives in the Mathematics Classroom

(6–12) Burst

This presentation will introduce free web-based manipulatives as well as downloadable applications that can be used with tablet devices and smart phones and also ideas for challenge-based learning. Student feedback comparing these with traditional manipulatives will be discussed.

Rhonda Kilgo

Jacksonville State University, Alabama

Audria White

Jacksonville State University, Alabama

E21B (GREATER RICHMOND CONVENTION CENTER)

83

The M in STEM and CCSSM: Resources for Problem-Based Learning AND Mastery of Standards

(9–12) Burst

Many secondary math teachers can identify with the problem of designing engaging, authentic tasks and problem-based lessons that also advance learning and mastery of math standards. This session will connect participants with repositories of lessons, design tools, and one another as resources for designing lessons that align problem scenarios with math standards to amplify learning.

Stephanie Ogden

L&N STEM Academy, Knoxville, Tennessee

E25 (GREATER RICHMOND CONVENTION CENTER)

12:30 P.M.–1:00 P.M.

84**The Math of Student Loans**

(9–12, Higher Education) Burst

Student loans are a financial commitment spanning decades. We will examine how the monthly payment is determined, calculate the interest paid over the life of the loan, and look at the long-term effect of paying a small amount above the monthly payment. Common Core standards include geometric sequences, exponential growth, and compound interest.

Alice W. Seneres

Rutgers University, Piscataway, New Jersey

E10CD (GREATER RICHMOND CONVENTION CENTER)**85****Fostering a Favorable Disposition toward Mathematics through the Common Core**

(Preservice and In-Service) Burst

During this presentation, attendees will consider how the Common Core State Standards for Mathematics can be used to promote a productive disposition in preservice and in-service teachers of early childhood and elementary education. The main point of discussion will focus on how mathematical concepts build and connect throughout the standards.

Sharon K. O'Kelley

Francis Marion University, Florence, South Carolina

E24 (GREATER RICHMOND CONVENTION CENTER)**86****The Role of Teacher Leaders in Learning Communities**

(Preservice and In-Service) Burst

We will present data from a professional development program, the Arizona Mathematics Partnership project, a National Science Foundation–funded Math and Science Partnership. Project participants form school-based Collaborative Communities of Learners. The presentation focuses on identifying teacher leaders and their roles within the groups.

Lisa Hoppe

Scottsdale Community College, Arizona

Amie Pierone

Scottsdale Community College, Arizona

CAPITAL BALLROOM 6/7/8 (MARRIOTT)

12:30 P.M.–1:30 P.M.

87**How to Shift Mind-Sets from Remembering How to Understanding Why**

(General Interest) Session

Some of the least effective lessons I've observed boil down to telling students what they need to remember. Some of the very best and most effective lessons I've observed boil down to providing students with a range of alternative approaches that support an understanding of why the answers make sense. We'll look at elements of these lessons.

Steven Leinwand

American Institutes for Research, Washington, D.C.

B21A (GREATER RICHMOND CONVENTION CENTER)**88****Mathematically Yours—All the Math Culture Complete!**

(General Interest) Session

Mathematically Yours is a newspaper whose first issue (available online) is a tribute to Chicago. You will discover Chicago through math, as we write about mathematicians, arts, jobs, people, movies, etc. Its editors are students, teachers, or just people passionate about math. Consider working on an issue for your own city!

Frederic Mahieu

French International School, Chicago, Illinois

GRAND BALLROOM CD (MARRIOTT)**89****Mathematics Preparation of Non-Science College Majors**

(General Interest) Session

We continually hear how students are lacking in mathematical skills and knowledge within the college classroom or workplace. How can non-science majors become better prepared in order to compete for opportunities in the future? This session proposes to identify answers to this question.

Christina G. Miles

Old Dominion University, Norfolk, Virginia

Mary C. Enderson

Old Dominion University, Norfolk, Virginia

CAPITAL BALLROOM 5 (MARRIOTT)

90**Math & Movement: Using Movement to Increase Math Ability and Exercise****(Pre-K–2) Session**

Children love to move. Learn how to harness that energy and turn it into rapid retention of number concept skills, including skip counting, addition, multiplication, and more. Learn cross-body movements that energize your students and strengthen math. A fast-paced workshop that will keep you hopping and having fun while moving to the numbers.

Suzy Koontz

National Math Foundation, Ithaca, New York

GRAND BALLROOM E (MARRIOTT)**91****Engaging Activities + Effective Instructional Strategies = Numerically Nimble Students****(3–5) Session**

Improve students' numeric competence with strategies to promote greater sense making and participation. Discover effective ways to differentiate instruction and efficiently implement CCSSM, particularly the Standards for Mathematical Practice. Handout activities enhance mathematical reasoning and improve students' number sense and computation skills.

Leigh Childs

San Diego County Office of Education, California

B15C (GREATER RICHMOND CONVENTION CENTER)**92****Fractions as Numbers****(3–5, Preservice and In-Service) Session****Principles to Actions**

The focus of this session will be on fractions as numbers. Participants will engage in hands-on tasks that involve a variety of representations, comparing and ordering, and equivalent fractions. Student work that shows students' lack of understanding will be shared, with strategies for addressing those misconceptions.

Mark Schmit

ETA hand2mind, Vernon Hills, Illinois

B21B (GREATER RICHMOND CONVENTION CENTER)**93****Building a Positive Mathematics Learning Community****(6–8, Preservice and In-Service) Session**

How can we build a positive mathematics community? Every year, one middle school celebrates "I Love Math Day" on February 14. In the weeks between January 1 and then, students work in small teams to solve interesting, rich mathematical problems every week and submit their solutions. Learn what you need to start building a positive math community.

Hoyun Cho

Capital University, Columbus, Ohio

Gary Lawrence

Mustard Seed School, Hoboken, New Jersey

CAPITAL BALLROOM 4 (MARRIOTT)**94****Parlez-vous Math?****(6–8, Preservice and In-Service) Session**

Do your students struggle with word problems? Can they translate a verbal expression to an algebraic one? Sometimes math can seem like a foreign language! Come learn about strategies and activities that you can use to help your students become fluent in speaking math.

Melinda Griffin

Williamsburg-James City County Schools/College of William & Mary, Virginia

Kay Bennett

Gloucester Public Schools, Virginia

B10 (GREATER RICHMOND CONVENTION CENTER)**95****The Harmonic Mean: Overlooked, Undervalued, Yet Way Cool!****(6–12) Session**

High school math students are expected to know about the arithmetic and geometric means, but the harmonic mean is studied—usually—"if there's time." This session will investigate the derivation of the harmonic mean formula and how it can be applied to the study of number, geometry, finance, and more (if there's time). Lots of problems on numerous handouts.

Steve Yurek

Lesley University, Cambridge, Massachusetts

B15A (GREATER RICHMOND CONVENTION CENTER)

96

What Is Good Mathematics? How Do We Teach It Well?

(6–12) Session

Teachers decide what to emphasize in a lesson based on knowledge of students and curriculum. What if those decisions are based on mathematics as well? Then how can we tell what students have learned, and what they can do with what we taught them? Dynamic interactive technology can bring these together to make a real difference in what students learn.

Gail Burrill

Past President, National Council of Teachers of Mathematics;
Michigan State University, East Lansing, Michigan

E10AB (GREATER RICHMOND CONVENTION CENTER)

97

A FUNdamental Approach to Connecting Families of FUNctions

(9–12) Session

Principles to Actions

Use hand-held technology to explore properties of families of functions. Participants will be provided with classroom-ready, hands-on lessons that enable students to examine functional behavior and discover FUN ways to make sense of transformations. We will connect the algebra and functions strands of the Common Core State Standards.

Tom Beatini

Glen Rock High School, New Jersey

B15B (GREATER RICHMOND CONVENTION CENTER)

98

Using Good Tasks

(9–12) Session

Principles to Actions

What tasks can help my students learn about statistics and sampling, or about connections between functions and geometry? Together, we will work two problems that answer these questions and that model selecting goals, choosing good tasks, planning for discourse, thinking about assessment, having multiple entry points, and using proper tools.

Fred Dillon

Ideastream, Cleveland, Ohio

B21C (GREATER RICHMOND CONVENTION CENTER)98.1 **ew**

Discover enVisionmath2.0

(Pre-K–5) Exhibitor Workshop

Experience how problem-based learning through the CCSSM mathematical practices uniquely develops the depth of understanding and rigor needed for success on high-stakes tests.

Pearson

Washington, D.C.

E11C (GREATER RICHMOND CONVENTION CENTER)98.2 **ew**

Amplify Math: Advance with Learning Progressions

(6–8) Exhibitor Workshop

Engage with a new digital math curriculum for grades 6–8 that balances problem-based lessons with scaffolded lessons to build conceptual understanding. Learn ways to emphasize the Common Core math practices and build procedural fluency through an adaptive independent practice app. Embedded digital tools create a rich, dynamic collaborative environment

Amplify

Brooklyn, New York

E21C (GREATER RICHMOND CONVENTION CENTER)98.3 **ew**

Share My Lesson

(General Interest) Exhibitor Workshop

Developed by educators, this free platform gives access to more than 300,000 resources on all subjects and grades, including over 31,000 aligned to the Common Core. This workshop will demonstrate the features of the site, including how to search for resources and how to share your own.

Share My Lesson

Washington, D.C.

E22 (GREATER RICHMOND CONVENTION CENTER)

Stay connected!
Check us out on Twitter
and Facebook.

99**Making Sense of Student Reasoning**

(Pre-K–2) Gallery Workshop

Mathematical reasoning is an integral component of the Common Core State Standards. In order to engage students in mathematical reasoning, teachers need to be able to build and evaluate the reasoning of each child. Engage in classroom-tested, hands-on activities to build and make sense of student reasoning.

Brenda Anne Pearson

CCSD: Sandy Searles Miller Academy, Las Vegas, Nevada

E23 (GREATER RICHMOND CONVENTION CENTER)**100****Shuffling into Math: Primary Games for the Common Core**

(Pre-K–2) Gallery Workshop

Principles to Actions

Come prepared to play card and dice games that help your primary students achieve success in the following Common Core concepts: numeration, operations and fact fluency, patterning, and graphing. Excellent take-home ideas, game boards, and student samples will be shared. Great for regular, title, ELL, and after-school programs.

Julie Knudsen

Trinity Valley School, Fort Worth, Texas

E24 (GREATER RICHMOND CONVENTION CENTER)**101** **EL****Melodies, Methods, and Models That Make Math Marvelous and Meaningful**

(Pre-K–5) Gallery Workshop

Come have fun learning ways to help students truly understand math and enjoy solving problems. Learn ways to help students to develop number sense and to connect math and art. Learn how to help students connect math to the real world. Receive a free math songs CD to help students remember the “math language.”

Brenda P. Barrow

Retired, Norfolk Public Schools; Adjunct Professor, Old Dominion University, Norfolk, Virginia

E21A (GREATER RICHMOND CONVENTION CENTER)**102****Taking Primary Math Journals to a New Dimension**

(Pre-K–5) Gallery Workshop

Principles to Actions

Participatory power is high as you learn by doing in this fast-paced, hands-on session. Discover how to add dimensionality to your primary student’s math journal as you transform basic classroom materials into 3-D graphic organizers. Depart with a mini composition book filled with ideas ready to use immediately.

Robert Stremme

Eastern University, St. Davids, Pennsylvania

CAPITAL BALLROOM 1/2/3 (MARRIOTT)**103****Place Value: Building Bridges to Long-Term Understanding and Skill**

(3–5) Gallery Workshop

Developing place value concepts and procedural skills is essential to mathematics success. Computational error pattern analyses guide the design of targeted instruction linked to Common Core standards. We will analyze work samples, rubrics, and engage in intervention strategies. Handouts provided.

Helene Sherman

University of Missouri–St. Louis

GRAND BALLROOM AB (MARRIOTT)**104** **ST****Alternate Bases to Encourage STEM Interconnectedness and Understanding**

(3–5, Preservice and In-Service) Gallery Workshop

Elementary school teachers are not always exposed to alternate bases. This workshop will engage participants in learning about alternate bases and how alternate base systems have been used in the past and today. Attendees will participate in a brief, hands-on activity to illustrate how alternate bases could be used in their own classrooms.

Donald Goodman

Dozenal Society of America (DSA), Martinsville, Virginia

Jen Seron

Dozenal Society of America (DSA), Martinsville, Virginia

Dan Simon

Dozenal Society of America (DSA), Martinsville, Virginia

CAPITAL BALLROOM 6/7/8 (MARRIOTT)

1:30 P.M.—2:45 P.M.

105**Communicate to Learn! Developing Communication Skills to Teach Number Sense**

(3–8) Gallery Workshop

Learn practical ways to help students communicate their thinking and even read word problems! Engage in fun activities that teach talk, reading, writing, and problem solving for number sense in mathematics. Explore activities that you can implement tomorrow to deepen students' understanding. All activities support the Common Core and NCTM standards.

Cathy Marks Krpan

Ontario Institute for Studies in Education, University of Toronto, Canada

GRAND BALLROOM F (MARRIOTT)

106**Wait! Wait! Don't Tell Me!**

(3–8) Gallery Workshop

See how inquiry in the mathematics classroom can solve some current education conundrums like teaching all students well in mixed ability classrooms, time needed for reteaching, student engagement, and test results. Transform your classroom to a place where amazing happens. Emphasis will be on fractions, decimals, and percents. Oh, and you get stuff.

Andrew Derer

MathScience Innovation Center, Richmond, Virginia

E10CD (GREATER RICHMOND CONVENTION CENTER)

107**Adventures in Probability: From Fraction Rainbows to Striking Umpires**

(6–8) Gallery Workshop

In this workshop, we will explore a variety of activities and games that connect probability to middle school topics in algebra and geometry as well as to interesting and fun contexts. Through making conjectures and using simulations to test them, we will highlight important ideas in probability that every student should understand.

Kyle Schultz, PhD

James Madison University, Harrisonburg, Virginia

GRAND BALLROOM GHJ (MARRIOTT)

108**Filling Bottles with Water**

(6–12) Gallery Workshop

We will study the graphs relating the water level to the volume of water inside bottles of varying shapes as they are gradually filled. The activity provides an intuitive context for understanding the graph of a function and its rate of change. We will consider which bottles produce linear graphs and what the slope means in this case.

Addie Evans

San Francisco State University, California

E25 (GREATER RICHMOND CONVENTION CENTER)

109**Fun and Games in the Math Classroom**

(9–12) Gallery Workshop

Teachers will experience a variety of activities that can be used for reinforcement and review. A sampling of activities from algebra 1, geometry, algebra 2, trigonometry, precalculus, and calculus will be included. Types of activities include card matches, card games, bingo games, and more.

Patricia M. Gabriel

Fairfax County Public Schools, Virginia

E21B (GREATER RICHMOND CONVENTION CENTER)

110**Technology and Mathematical Practices: Impact on Classroom Discussions and Understanding**

(9–12, Preservice and In-Service) Gallery Workshop

Engage in lively conversation regarding effective ways to teach mathematics ranging from algebra to calculus emphasizing reasoning and understanding. Useful strategies and examples related to CCSSM mathematical practices will be shared among participants. Technology tips and activities will be explored through online resources and iPad apps.

Farshid Safi

The College of New Jersey, Ewing

George J. Roy

University of South Carolina, Columbia

E11AB (GREATER RICHMOND CONVENTION CENTER)

111

50 First Dates with Math

(General Interest) Session

Do you wonder why students do not seem to retain material from year to year? Come to this session to hear how brain research explains this phenomena, and what teachers can do to help students remember the mathematics they are taught.

Carolyn Williamson

The Carmel School, Ruther Glen, Virginia

GRAND BALLROOM CD (MARRIOTT)

112

Math Modeling with Digital Media

(General Interest) Session

We make enormous promises to our students that mathematics models the world they live in, that math has power in their world. We attempt to make good on that promise with word problems that look nothing like that world and look nothing like modeling as it's practiced by mathematicians. In this session we'll learn how digital photos and videos can help us engage and challenge our students in the modeling practice of CCSSM.

Dan Meyer

Stanford University, California

B21C (GREATER RICHMOND CONVENTION CENTER)

114

Number Sense Routines That Impact Student Learning

(Pre-K–2) Session

Teachers will learn the role of number sense routines in building numerical fluency. They will build familiarity with routines such as quick images, counting around the circle, and mental math strings. They will watch a variety of these routines in action and learn how to effectively implement daily number sense routines in their classrooms.

Yojairy Sands

Cathedral School of St. John the Divine, New York, New York

Maria Peneda

Cathedral School of St. John the Divine, New York, New York

B10 (GREATER RICHMOND CONVENTION CENTER)

115 **ST**

Math + Technology = Learning

(Pre-K–5) Session

In this session, you'll learn how to use technology in clever ways for teaching and learning mathematics. See how math lessons can be enlivened and enhanced through the integration of resources and tools found on the Internet, the iPad, and the classroom computer. You're guaranteed to leave with many ideas you can use tomorrow with your students!

Tammy Worcester Tang

ESSDACK, Hutchinson, Kansas

GRAND BALLROOM E (MARRIOTT)

116

Generating Interest In and Excitement For Real Problem Solving

(3–8) Session

Generate excitement for, and interest in problem solving. Energize and enrich your curriculum by encouraging students to take risks in problem solving while reminding them that a *real* problem is not the same as a practice exercise. Reduce the need to “cram” for any states' assessments by utilizing the methods and the types of questions discussed.

Nicholas J. Restivo

Retired, Mineola Union Free School District, New York

B15A (GREATER RICHMOND CONVENTION CENTER)

117

Shark-tistics: Uncovering the Truth about Shark Attacks

(6–8) Session

Do you ever wonder which sharks attack the most and where? Are shark attacks more prevalent during certain times of year or on certain days of the week? Participants will learn how to incorporate real-life shark attack data into middle school lessons focused on data analysis and statistics and how to create interdisciplinary lessons.

Kristen L. Apraiz

University of Florida, Gainesville

B15C (GREATER RICHMOND CONVENTION CENTER)

118**Problem Solving Then and Now**

(6–8, Preservice and In-Service) Session

We will look at the trajectory of problem solving from Polya to CCSSM to understand the evolution and implications for middle school teaching and learning, consider examples (written and video) of problems and problem solving, reflect on what was presented, and create problems to teach mathematics.

Melva R. Grant

Old Dominion University, Norfolk, Virginia

E10AB (GREATER RICHMOND CONVENTION CENTER)**119****Using Geocaching in Teaching Algebra and Geometry**

(6–12) Session

Geocaching is a real-life treasure hunt that can help engage your students in math content, help them to make real-world connections, and provide them with a new hobby. Come find out what geocaching is and how you can use it to teach various topics. Leave with sample lessons and information on how to obtain the technology.

Laura Y. Bridge

Fluvanna County Schools, Virginia

CAPITAL BALLROOM 4 (MARRIOTT)**120****A Potpourri of Conic Section Construction Techniques**

(9–12) Session

Few topics connect with as many branches of mathematics as conic sections. Congruency, similarity, the Pythagorean theorem, and trigonometry all play a role in investigating ellipses, parabolas, and hyperbolas. This session provides an interactive tour of the many physical models that draw conics, as well as their counterparts built with Sketchpad.

Daniel Scher

KCP Technologies, New York, New York

Scott Steketee

KCP Technologies, Philadelphia, Pennsylvania

B21A (GREATER RICHMOND CONVENTION CENTER)**121****Animation and Mathematics: What They Share in Common**

(9–12, Higher Education) Session

Principles to Actions

Explore animation, an application dependent on geometry, matrices, and technology. Dilations, reflections, rotations, and translations required to create movement. Large data sets needed for images and sound are handled via matrices. Experiential learning opportunities and cross-disciplinary problem-solving methods for students will be emphasized.

Susan G. Helser

Mott Community College, Flint, Michigan

B15B (GREATER RICHMOND CONVENTION CENTER)**122****What to Expect When You're Electing: The Mathematics of Elections**

(9–12, Higher Education) Session

How do we determine who wins an election? It seems obvious, but different reasonable voting methods can lead to different winners. In fact, it can be proven that there is no “perfect” voting system. We will look at some of these considerations and show how to bring mathematics into what most people consider to be a nonmathematical subject.

Jonathan R. Corbett

Harris-Stowe State University, St. Louis, Missouri

Ann Podleski

Harris-Stowe State University, St. Louis, Missouri

B21B (GREATER RICHMOND CONVENTION CENTER)**122.1** **Teachers' Perceptions and Practices Regarding the CCSSM Implementation**

(General Interest, Research) Session

We use surveys and interviews of several hundred teachers across the state of New Jersey to address the questions: how do teachers across the state understand, interpret, and implement CCSSM; and, what, if any changes in practice are used to address the PARCC assessments.

Lina Sanchez-Leal

Rutgers University, Newark, New Jersey

Roberta Schorr

Rutgers University, Newark, New Jersey

CAPITAL BALLROOM 5 (MARRIOTT)

2:00 P.M.—3:00 P.M.

122.2 

Unleash the Power of Games-Based Math with Mangahigh.com

(General Interest) Exhibitor Workshop

Mangahigh has revolutionized the way we engage students in our math classrooms. With interactive games and clever adaptive quizzes, all mapped to the curriculum for K–grade 10, Mangahigh brings dramatic improvements in students' attitudes towards learning math. Attend to claim your free 60-day trial of www.mangahigh.com!

Mangahigh.com

London, England, United Kingdom

E22 (GREATER RICHMOND CONVENTION CENTER)

122.3 

Making Failure Fun: Amplify Math Games

(6–8) Exhibitor Workshop

Participants will learn about Amplify's unique approach and process in developing math games. Learn how Amplify sees games as a voluntary activity for learning in the student's free time and what we have learned through trial and error in the design process. Get firsthand experience with Twelve, available now in the Apple app store.

Amplify

Brooklyn, New York

E21C (GREATER RICHMOND CONVENTION CENTER)

122.4 

Michele Douglass Presents the Power of Multiple Strategies

(6–12) Exhibitor Workshop

Building mathematical understanding requires conceptual and procedural knowledge, which comes through in-depth knowledge of a topic. Participants solve problems using multiple strategies, discover development of in-depth understanding, use hands-on activities, and discuss alternative strategies that empower student success in higher mathematics.

Voyager Sopris Learning

Dallas, Texas

E11C (GREATER RICHMOND CONVENTION CENTER)

3:15 P.M.—4:30 P.M.

123 

The Transmedia Approach to Teaching Math

(Pre-K–2, Preservice and In-Service) Gallery Workshop

Explore the concept of transmedia storytelling in educational media—aligned to Common Core State Standards for Mathematics—to advance children's mathematics learning. Experience how a single storyline can be woven through multiple delivery methods—video, online games, and hands-on activity—to engage students and reinforce learning.

Jean B. Crawford

Public Broadcasting Service, Arlington, Virginia

Francis (Skip) Fennell

Past President, National Council of Teachers of Mathematics;
McDaniel College, Westminster, Maryland

E11AB (GREATER RICHMOND CONVENTION CENTER)

124

Making Sense of Number Sense: From Whole Numbers to Fractions

(Pre-K–5) Gallery Workshop

No matter if you are in first grade or fifth grade, there always seems to be students who struggle with number sense. Come join us as we look at ways to help students build number sense from early counting principles to those dreaded fractions and decimals.

Daniel Schroll

Loudoun County Public Schools, Sterling, Virginia

E10CD (GREATER RICHMOND CONVENTION CENTER)

125

Can Rigorous Lessons Equal Fun in the Classroom? Absolutely!

(3–5) Gallery Workshop

Join us as we walk through some of the lessons we use every day to engage our students in learning rigorous concepts through table/partner activities. Make and take some products that build number sense with decimals, fractions, prime and composites, all upper elementary concepts, and with a little measurement and geometry added in for fun!

Jacqueline L. Stewart

Hanover County Public Schools, Mechanicsville, Virginia

Patti A. Schneider

Hanover County Public Schools, Mechanicsville, Virginia

E21A (GREATER RICHMOND CONVENTION CENTER)

Thursday

126**Fun with Geometry**

(3–5) Gallery Workshop

Using teacher-made manipulatives, participants will be engaged in several “hands-on” geometric activities that they can take back to their classrooms so their students can also have fun with geometry. The activities will address the geometry content and the mathematical practices in CCSSM.

Benjamin (Ben) H. Lindeman

Retired, New York State Education Department, Albany

E24 (GREATER RICHMOND CONVENTION CENTER)**127****Intentional Instruction**

(3–5) Gallery Workshop

Is multiplication madness? Are fractions a frustration? Is vocabulary vexing? Research shows humor, color, and mnemonics help us to learn and retain concepts. A master teacher shares her strategies for intentional instruction. Use these strategies to make your students multiplication masters, fraction fanatics, and vocabulary victors.

Sandra White

Retired, Shallowater ISD, Texas

E23 (GREATER RICHMOND CONVENTION CENTER)**128****Exploring Compound Events through Games and Simulations**

(6–8) Gallery Workshop

Come play games and conduct simulations appropriate for exploring independent and dependent events. Use tree diagrams, experimental probability, and theoretical probability to analyze the games and simulations and to make predictions. Receive copies of student activity pages and teaching guides that will include summaries of the mathematics.

Virginia Vimpeny Lewis

Longwood University, Farmville, Virginia

Leah Shilling-Traina

Longwood University, Farmville, Virginia

Maria A. Timmerman

Longwood University, Farmville, Virginia

GRAND BALLROOM GHIJ (MARRIOTT)**129****Increase Student Engagement with Interactive Graphic Organizers**

(6–8) Gallery Workshop

Teachers are looking for ways to improve students’ learning experience and interest in mathematics. One such way is the use of interactive graphic organizers or foldables. Foldables are a quick and effective way to organize materials. It’s an easier way for students to relate factual information to a concrete and memorable learning experience.

Ernestine Saville-Brock

Montgomery County Public Schools, Christiansburg, Virginia

E25 (GREATER RICHMOND CONVENTION CENTER)**130****NASA: Distance-Rate-Time Mathematics in Air Traffic Control**

(6–8) Gallery Workshop

Apply proportional reasoning, strategic thinking, and problem-solving skills to solve distance-rate-time problems in air traffic control. Use print-based worksheets and an interactive air traffic control simulator to model and solve problems involving two to five airplanes. All materials are free and available on the web or via a mobile app.

Rebecca A. Green

NASA Ames Research Center, Moffett Field, California

Gregory W. Condon

NASA Ames Research Center, Moffett Field, California

GRAND BALLROOM AB (MARRIOTT)**131****Using Multiple Representations and the Graphing Calculator**

(6–12) Gallery Workshop

Through specific activities we can discover ways to represent the same context in multiple ways: graphically, numerically, symbolically, and verbally. The use of multiple representations helps with understanding relationships between variables, expressing these relationships in multiple ways, and reasoning about connections between representations.

Fred Decovsky

Teachers Teaching with Technology, Millburn, New Jersey

GRAND BALLROOM F (MARRIOTT)

3:15 P.M.–4:30 P.M.

132

Parametric Equations as a Culminating Precalculus Activity

(9–12) Gallery Workshop

Studying curves defined by parametric equations can be used to more carefully examine the most important functions of precalculus by combining these in novel and interesting ways. I will present many examples of parametric equations whose representation can challenge students to master their basic inventory of functions.

William Rose

Montgomery Blair High School, Silver Spring, Maryland

E21B (GREATER RICHMOND CONVENTION CENTER)

133

Experimental Mathematics with Open Problems in Elementary Number Theory

(9–12, Preservice and In-Service) Gallery Workshop

Students' learning is enhanced when they discover mathematical insights on their own in the spirit of becoming independent learners. We will introduce participants to some easily posed unsolved open problems in elementary number theory including the Collatz, Goldbach, and Home Prime conjectures. The use of the TI-89 CAS will aid in the discovery.

Jay L. Schiffman

Rowan University, Glassboro, New Jersey

CAPITAL BALLROOM 6/7/8 (MARRIOTT)

134 **ST**

STEM Tasks from PD to Classroom: A Problem-Based Approach

(9–12, Preservice and In-Service) Gallery Workshop

Come explore problem-based professional development that blends lesson study with STEM-rich classroom-ready projects including launching objects, building roller coasters, bacteria growth, and others to engage and inspire teachers and their students. Participants will connect to the Standards for Mathematical Practice while completing these tasks.

Mike Long

Howard County Community College, Columbia, Maryland

Jennifer Suh

George Mason University, Fairfax, Virginia

Padmanabhan Seshaiyer

George Mason University, Fairfax, Virginia

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

3:30 P.M.–4:30 P.M.

135

Assessing Students' Sense Making and Reasoning: Formatively and Summatively

(General Interest) Session

Student behaviors in making sense of mathematics and in demonstrating reasoning are critical. Too often, these are done in isolation and without meaning. Recommendations, strategies, and techniques to expand teacher effectiveness in obtaining, reflecting on, and making decisions based on students' activity, oral and written communications, and work samples.

Henry S. Kepner

Past President, National Council of Teachers of Mathematics;
University of Wisconsin–Milwaukee, Milwaukee, Wisconsin

B21C (GREATER RICHMOND CONVENTION CENTER)

136 **CC**

"Count On" Assistive Technology to Bridge Common Core

(General Interest) Session

Educators are challenged with incorporating Common Core State Standards regardless of students' abilities. We will highlight an implementation model that includes four key components which has resulted in significant student progress, increased assistive technology opportunities, and students demonstrating metacognition of math.

Nicole L. Kalcheim

Eisenhower Cooperative, Crestwood, Illinois

Jennifer L. Emanuele

Eisenhower Cooperative, Crestwood, Illinois

James Larocco

Eisenhower Cooperative, Crestwood, Illinois

B21A (GREATER RICHMOND CONVENTION CENTER)



Check out the many sessions that address one or more of the teaching practices and guiding principles found in NCTM's *Principles to Actions*. See page 5 for details.

Thursday

137

Integrating the Mathematical Practices with Formative Assessment Strategies

(General Interest) Session

The intersection of the CCSS mathematical practices and formative assessment strategies is seamless. Learn how to integrate formative assessment and the mathematical practices to enhance your ability to gather, analyze data, and provide appropriate interventions based upon your students' knowledge and understanding of the mathematics standards.

Anne M. Collins

Lesley University, Cambridge, Massachusetts

E10AB (GREATER RICHMOND CONVENTION CENTER)

138

Algebraic Strategies for Enhancing Visual Discrimination and Numeracy in Children

(Pre-K–2) Session

Explore a variety of easy-to-learn techniques for introducing algebra to children in early grades. Learn strategies for using algebraic symbol manipulation and matching exercises to enhance visual discrimination and strengthen addition, subtraction, multiplication, and division in young children. Participants will leave with handouts.

Suzy Koontz

National Math Foundation, Ithaca, New York

GRAND BALLROOM E (MARRIOTT)

139

Our Best Interactive and Interdisciplinary Mathematics Activities

(Pre-K–2) Session

Participants will actively engage in activities for pre-K–2. The mathematics content will come alive through children's literature and will integrate other disciplines.

Adam Goldberg

Southern Connecticut State University, New Haven

Maria Diamantis

Southern Connecticut State University, New Haven

B15A (GREATER RICHMOND CONVENTION CENTER)

140

If It's Not Real World, It's Not Real Math!

(Pre-K–5) Session

Teaching mathematics to children goes way beyond a textbook or program. It involves surveying your class to discover students' interests and designing projects that meet their needs. Learn about real-world projects that will make your students ask for more! Hands-on activities, make it–take it, and handouts provided.

Dacia P. Jones

Durham Public Schools, North Carolina

B21B (GREATER RICHMOND CONVENTION CENTER)

141

Project-Based Learning and Math: What Does That Look Like?

(3–5) Session

Project-based learning seems to be the hot topic right now. What is it really? And how can you use it to enrich your math lessons? Come hear two teachers talk about their experiences and leave with ideas and materials ready to implement in your classroom.

Frances O. Coleman

Collegiate School, Richmond, Virginia

Jessica Catoggio

Collegiate School, Richmond, Virginia

B10 (GREATER RICHMOND CONVENTION CENTER)

142

Core within the Core: Algebra Readiness for ALL

(6–8) Session

Do your students look puzzled when you talk about multiplication? Do they tremble when you mention fractions? Is it difficult for you to motivate them? This session focuses on best practices to get your middle schoolers ready for algebra.

Jan Scott

Scholastic, Inc., New York, New York

B15B (GREATER RICHMOND CONVENTION CENTER)

143  **Expressions and Equations: Transitioning to the Common Core**

(6–8) Session

Significant changes to mathematics instruction are occurring with implementation of the Common Core. Central to these changes is the Expressions and Equations content domain. In this session, you will explore progressions of knowledge, mathematical practices, and instructional strategies applicable to this key CCSSM domain.

Oliver F. Jenkins
MathEd Constructs, LLC, Millersville, Maryland
B15C (GREATER RICHMOND CONVENTION CENTER)

144 **Building Assessments through Common Content Planning Teams**

(6–12) Session

This session will focus on improving math instruction using common content planning teams. Developing assessments using a backwards design will be discussed. Presenters will explain how to use the data generated from assessments to drive instruction. Lessons learned from the implementation of common content teams at Lee-Davis High School will be shared.

Jackie R. Davis
Lee-Davis High School, Mechanicsville, Virginia
Brian K. Canady
Lee-Davis High School, Mechanicsville, Virginia
CAPITAL BALLROOM 5 (MARRIOTT)

145 **Avatars: Where Mathematics Meets Audio and Video**

(9–12, Higher Education) Session

Principles to Actions

Examine animation that is dependent on video and audio applications that require and integrate mathematics and technology and that includes the following: large data sets necessary to handle images and sound via matrices; discrete and real numbers; and a focus on cross-disciplinary problem-solving methods and experiential learning opportunities for students.

Susan G. Helser
Mott Community College, Flint, Michigan
CAPITAL BALLROOM 4 (MARRIOTT)

146 **Tracing Teachers' Change: Results of a Successful Teacher Development Program**

(Higher Education, Research) Session

In this presentation, we examine how learning communities have been created in a successful model for professional development, the coding scheme and rubric that was used to assess teacher change, and the changes in the teachers' practice that was coupled with increased percentages of students meeting the state learning standards for mathematics.

Lynn D. Tarlow
City College of the City University of New York, New York
GRAND BALLROOM CD (MARRIOTT)

Thursday

Chi Alpha Mu
The National Junior Mathematics Club
serves middle school mathematics students.
Visit www.chialphamu.org



**Involve and Inspire
Your Students!**

Mu Alpha Theta
National High School and Two-Year
College Mathematics Honor Society

Benefits of having a chapter at your school

- Honors superior mathematics students
- Promotes leadership skills of its members
- Free national mathematics competitions at your school
- Scholarships, awards, and grants available
- Offers recognition to students with certificates, jewelry, honor cords, and other items.

**NCTM is a founding
member of Mu Alpha Theta**

Mu Alpha Theta
c/o University of Oklahoma
3200 Marshall Ave, Suite 190
Norman, OK 73019
PH: 405-325-4489
FX: 405-325-7184
matheta@ou.edu
www.mualphatheta.org



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

THE NATION'S PREMIER MATH EDUCATION EVENTS

2015 NCTM REGIONAL CONFERENCES & EXPOSITIONS

Atlantic City • October 21–23
Minneapolis • November 11–13
Nashville • November 18–20

Unleash the Mathematical Mind of Every Student

Join us in Atlantic City, Minneapolis, or Nashville to focus on learning, inspiration, and new resources that will help you promote the mathematical habits of mind that will lead your students to college and career success.

- Learn from 200+ in-depth sessions on trending topics including the **Common Core State Standards**, technology, STEM, assessment, and much more.
- Explore best practices from **classroom innovators**.
- Discover a **robust exhibit hall**, packed with products and services.
- Dive into the **latest educational resources**, including *Principles to Actions: Ensuring Mathematical Success for All*
- Expand your local **network and collaborate** with like-minded peers.




Whether you're a classroom teacher, math coach, administrator, math teacher educator, teacher-in-training, or math specialist, there's something for you at NCTM's Regional Conferences & Expositions.

Learn more at www.nctm.org/regionals and follow us on



Highlights

- Regional Conference Overview & Orientation, **147**
- Trends in the Interface between High School and College Mathematics, **157**
- Teaching Mathematics Meaningfully for Struggling Learners, **175**
- Engaging Students via Technology with Video Tasks, **179**
- New and Preservice Teachers Workshop, **195**
- Challenges for Rigor in the Mathematics Classroom, **232**
- Board Hot Topic: Assessing Your Assessment Practices: Do They Measure Up to Support Student Learning?, **244**
- Mathematical Madness, **257**
- Working with Future Teachers: Teaching and Learning for Understanding, **267**

Icon	Presentation Numbers
 DL Diverse Learners	150, 182, 190, 191, 234, 241, 251, 263, 277
 EW Exhibitor Workshops	158.1, 158.2, 158.3, 183.1, 183.2, 183.3, 207.1, 207.2, 207.3 243.1, 243.2, 243.3, 267.1, 267.2, 267.3
 TG Technology	160, 179, 192, 203, 255, 258, 281, 289



Conference App

Network onsite with attendees!
www.nctm.org/confapp



Facebook

Interact with your colleagues!
www.nctm.org/facebook



Twitter

Want to stay informed? Follow us!
www.twitter.com/nctm
 #NCTMRichmond

Registration Hours

7:00 a.m.–3:00 p.m.

Exhibit Hours

8:00 a.m.–4:00 p.m.

NCTM Central

8:00 a.m.–4:00 p.m.

Fire Codes

We have made every attempt to provide adequate seating for participants at the conference, but for your safety and because of fire regulations, only those with seats will be allowed in meeting rooms. To comply with fire codes, we will have to ask persons sitting on the floor or standing to leave the room.

147**Regional Conference
Overview & Orientation**

(General Interest) Session

Whether you are new to NCTM or a seasoned veteran, every conference has something new for everyone! Hosted by members of the Board of Directors, this session will help you to maximize your overall conference experience. Learn what's new or discover something you've missed in the past, find out how to navigate presentations, use the Conference App, and network with other attendees. Meet other first-time attendees and join up with conference mentors who share your particular interests!

Rose Mary Zbiek

Board of Directors, National Council of Teachers of Mathematics;
Pennsylvania State University, University Park

E10AB (GREATER RICHMOND CONVENTION CENTER)**148****A Mathematical Tour of Richmond**

(General Interest) Session

Richmond is a beautiful city with a rich history. Attendees will be introduced to a field guide for a “Mathematical Tour” they might take to examine some of Richmond’s sights through a mathematical lens! Examples include the Maury monument, the Confederate pyramid in Hollywood Cemetery, and the Virginia Capitol (designed by Thomas Jefferson).

Lynn Foshee Reed

Maggie L. Walker Governor’s School, Richmond, Virginia

B21A (GREATER RICHMOND CONVENTION CENTER)**149****Strategies for Fostering the CCSS
Mathematical Practices**

(General Interest) Session

The challenge as we shift to the Common Core will be teaching in ways that help develop the eight Standards for Mathematical Practice. See how to modify your existing lessons to foster these crucial skills. Handouts available.

Brad S. Fulton

Enterprise Elementary School District, Redding, California

B15B (GREATER RICHMOND CONVENTION CENTER)**150 DL****Strategies for Teaching Beginner ELLs
with Picture Books**

(General Interest) Session

Principles to Actions

Picture books can help classroom teachers remove English as the barrier for participation of English language learners (ELLs). But only some fiction and nonfiction books have features that prompt integrated learning of science, mathematics, and English. Participants will experience ideal books for supporting and enhancing comprehension and engagement of beginner ELLs.

Ana Lado

Marymount University, Arlington, Virginia

GRAND BALLROOM E (MARRIOTT)**151****Using Graphs to Build Mathematical
Reasoning**

(Pre-K–2) Session

Learn about some of the endless number of ways children can collect and represent data. Graphing is a great way for young children to apply what they know about classification, counting, and one-to-one correspondence. Attendees will receive a booklet of ideas to immediately use in their classroom.

Linda L. Noel

Wilson School, St. Louis, Missouri

E10AB (GREATER RICHMOND CONVENTION CENTER)**152****It’s Math . . . What’s There to Talk
About?**

(Pre-K–5) Session

Math is serving the conversation where demonstrating mathematical understanding involves much more than calculating a correct answer. Participants will be introduced to five research-based teacher “moves” to facilitate students’ mathematical thinking and learning. Connections will be made to the eight Standards for Mathematical Practice.

Maggie M. Hackett

Sunnyside Unified School District, Tucson, Arizona

B15A (GREATER RICHMOND CONVENTION CENTER)

153

Mathematical Discourse from Question Asking to Question Answering

(3–8) Session

Getting students to talk about math is a process of asking good questions, getting students to think through and respond to those questions, and responding to the answers provided by students. In this session we will use classroom examples from our own struggles and successes facilitating this process and provide tips for developing discourse.

Dean D. Ballard
CORE Inc., Berkeley, California
Nancy McGivney
CORE Inc., Berkeley, California

B10 (GREATER RICHMOND CONVENTION CENTER)

154

Connect the Dots (Data Points)

(6–12) Session

In this session, we will use SMART Board software and other technology (overheads work, too) to focus on making sense out of data. Topics will include dot plots and box plots and connections between them, scatter plots, and functions modeling linear relationships between quantities interpreting the rate of change and initial value in terms of the situation it models.

Linda Treilman
Mercer County Community College, West Windsor, New Jersey
B15C (GREATER RICHMOND CONVENTION CENTER)

155

Ingredients for Successful Lessons: Challenging Tasks and Questions That Count

(6–12) Session

Research suggests some instructional practices have the potential to make a difference in what students learn. What are strategies to make these happen in our classrooms, and what is the role of dynamic interactive technology in supporting those practices?

Gail Burrill
Past President, National Council of Teachers of Mathematics;
Michigan State University, East Lansing, Michigan
B21B (GREATER RICHMOND CONVENTION CENTER)

155.1

Got Linear Equations? Now Let's See What They Mean

(9–12) Session

You have taught function, tables, graphs, intercept, and slope, but do your students really get it? Using the Common Core's modeling, students work through stations to gather data and model the linear relationship. Worksheets, extensions, rubrics, and samples of the final project will be shared.

Stacy M. Remphrey
Unionville-Chadds Ford School District, Kennett Square, Pennsylvania

GRAND BALLROOM CD (MARRIOTT)

156

Linear Regression: Embrace Its Uses, But Avoid Its Abuses

(9–12, Higher Education) Session

Linear regression—a powerful tool for investigation—is an important theme in statistics and an integral part of the Common Core State Standards. However, its application and interpretations from its use should be conducted wisely. All material conforms to statistics components of CCSS and is appropriate for AP Statistics.

Kenn L. Pendleton
Montgomery College, Germantown, Maryland
CAPITAL BALLROOM 5 (MARRIOTT)

157

Trends in the Interface between High School and College Mathematics

(9–12, Higher Education) Session

Today, more students take calculus in high school than in college. The number of students taking the AP Calculus exams each year exceeds the number of students taking first-semester calculus in American colleges and universities. We will explore this and other trends in the changing interface between high school and college mathematics.

Michael Boardman
Pacific University, Forest Grove, Oregon
B21C (GREATER RICHMOND CONVENTION CENTER)

8:00 A.M.–9:00 A.M.

158 Impacting High School Mathematics Teachers' Knowledge and Practice

(Higher Education) Session

In this research paper we present results of the online PD project for secondary teachers. The main objectives of the program are to (1) provide teachers with a high-quality PD to address the M-CCRPE in teaching, and improve their mathematics content knowledge and pedagogy; and (2) prepare them to support student's readiness for postsecondary mathematics.

Agida G. Manizade
Radford University, Virginia
Dragana Martinovic
University of Windsor, Canada
Laura Jacobsen
Radford University, Virginia

CAPITAL BALLROOM 4 (MARRIOTT)

158.1 ew Algebra Readiness for All: The Critical Role of Innovative Technology

(General Interest) Exhibitor Workshop

Come learn how IXL, the most widely used math subscription site in the country, is partnering with educators to ensure algebra readiness for all students. Aligned with all fifty state standards, IXL delivers truly differentiated, thoughtfully crafted technologies to engage students and close achievement gaps in K–12.

IXL Learning
San Mateo, California

E22 (GREATER RICHMOND CONVENTION CENTER)

158.2 ew Walk the Number Line for Meaningful and Motivating Mathematics!

(Pre-K–5) Exhibitor Workshop

Elementary learners need a number line for powerful math concepts like skip counting, adding on, alternative algorithms for regrouping, making change, elapsed time, rounding, factoring, and fractions! You will be amazed at the unique strategies that Kim Sutton from Creative Mathematics will use with this tool! You will be ready for action on Monday morning with all the latest ideas for teaching every area of mathematics! You will sing, dance, play games, and learn lots of strategies that will change your classroom!

Creative Mathematics
Arcata, California

E21C (GREATER RICHMOND CONVENTION CENTER)

158.3 ew Mathspace: Why You'll Never Grade Math Assignments Again—Seriously!

(6–12) Exhibitor Workshop

You've seen it all, right? Adaptive learning? Check. Hand-writing recognition? Hmm. Every math question graded step-by-step? Wait, that's new! Imagine: automatic grading, so you focus on teaching; students hand-writing fully worked answers, with realtime feedback; and no more multiple choice! Come see why Mathspace is like nothing you've ever seen!

Mathspace
New York, New York

E11C (GREATER RICHMOND CONVENTION CENTER)

8:00 A.M.–9:15 A.M.

159 What's the Difference? Exploring Subtraction Deeply in K–2

(Pre-K–2) Gallery Workshop

How can I help my students to understand different subtraction situations more deeply? This session will examine a variety of subtraction word problems that represent both separate and comparative situations. We will explore sense-making tools to help students connect their conceptual understanding of subtraction to the context of the problem.

Andria Disney
University of Montana, Missoula

E23 (GREATER RICHMOND CONVENTION CENTER)

160 TG Teaching Common Core Addition and Multiplication Strategies on the iPad

(Pre-K–5) Gallery Workshop

The Common Core emphasizes using strategies to learn math facts. Learn about iPad apps that emphasize learning strategies while also helping kids memorize their addition and multiplication facts. In this session, we'll play with the apps and also learn how to share iPad screens on the projector. Some iPads provided, but BYO iPad if you have one.

Kara K. Carpenter
Teachley, New York, New York
Rachael Labrecque
Teachley, New York, New York

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

161

What's the Situation Got to Do with It?

(Pre-K–5) Gallery Workshop

Principles to Actions

It is important to recognize that children view word problems differently than adults do. The action or relationship described in a word problem influences the way children think and solve the problem. Examining the different addition and subtraction problem situations will help us understand children's thinking and their problem-solving methods.

Ruby Mora

Clark County School District, Las Vegas, Nevada

Bethany Farmer

Somerset Academy, Las Vegas, Nevada

GRAND BALLROOM AB (MARRIOTT)

162

What's in Your Toolbox?

(3–5) Gallery Workshop

Let's dig deep into our teacher toolboxes and dust off our number lines and hundreds charts! The presenter will energize the attendees with new and engaging hands-on activities to use with these timeless tools. These activities are sure to enhance your students' understanding of number and operations as well stimulate their interest in mathematics.

Carolyn B. Doyle

Richmond Public Schools, Virginia

GRAND BALLROOM GHJ (MARRIOTT)

163

A Clever Approach to Teaching and Solving Word Problems

(3–5, Preservice and In-Service) Gallery Workshop

Principles to Actions

Can we teach word problems in a way that works for students of all abilities? Join Greg Tang and experience firsthand his clever, self-guided system that teaches kids to persevere and solve word problems—on their own. You will learn strategies that make word problems easy to solve and get access to materials that make word problems easy to teach.

Greg Tang

GregTangMath.com, Cambridge, Massachusetts

GRAND BALLROOM F (MARRIOTT)

164

Moving Forward with Metric! Measurement within the Common Core

(3–8) Gallery Workshop

5K races, 2-liter soft drinks, milligrams of medicine. Metric is here! Learn hands-on methods to teach and “see” the metric system. Meet standards with classroom activities aligned with Common Core standards. And have fun! Handouts and materials provided.

Donna L. Monck

Rock Christian Academy, Easton, Pennsylvania

E25 (GREATER RICHMOND CONVENTION CENTER)

165

Pi in the 21st Century: An Irrational Exploration

(3–8) Gallery Workshop

Explore a hands-on approach to introducing your students to the concept of pi as an irrational number, part of circle equations, and a ratio. Experience a unique and wide variety of activities to bring pi alive in your classroom, including the celebration of Pi Day (March 14). Handouts, materials, and ready-to-use activities provided.

Cecil M. Phibbs

Palm Beach County School District, West Palm Beach, Florida

Brianne Tuzzolino

A.D. Henderson University School, Boca Raton, Florida

CAPITAL BALLROOM 6/7/8 (MARRIOTT)

166

We Got Rhythm

(6–8) Gallery Workshop

There are many connections between music and math. In this session, we will listen, clap, and count the beats in music, and then use musical notation to demonstrate how teachers can build a deep understanding of fractions. Calculators will play a role in helping students make connections between mathematical and musical notations and meanings.

Bob Horton

Clemson University, South Carolina

E11AB (GREATER RICHMOND CONVENTION CENTER)

8:00 A.M.–9:15 A.M.

167

What Do “Words” Have to Do with Solving Mathematical Problems?

(6–8) Gallery Workshop

Through research, teachers will have a better idea as to why students are not grasping the concept of reading word problems and then solving them successfully. Teachers will engage in activities and games in each content area, emphasizing relevant key words in order to solve problems.

Nancy A. Jones

Martin Luther King, Jr. Middle School, Richmond, Virginia

E21A (GREATER RICHMOND CONVENTION CENTER)

168

Avoiding Trigonometric Tribulations and Geometric Grief

(9–12) Gallery Workshop

Radians, unit circles and trig functions and inverses are abstract concepts that are difficult for many students, especially those with language and learning difficulties. Learn how to create simple manipulatives and use multisensory strategies and structured language to explore radians, unit circles, and the six trig functions and their inverses.

Nadia A. Carrell

Multisensory Training Institute, Atlantic Seaboard Dyslexia Education Center, Rockville, Maryland

E24 (GREATER RICHMOND CONVENTION CENTER)

BIG IDEAS MATH[®]

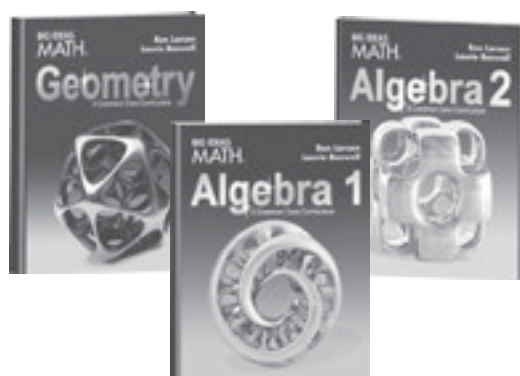
A Common Core Curriculum for Middle School and High School

BY RON LARSON AND LAURIE BOSWELL

Middle School Pathways



High School Series



Visit us at booth #512

BigIdeasLearning.com



Friday



169**Game Show Statistics**

(9–12) Gallery Workshop

If your students are a little confused about statistics and think a “normal distribution” describes the usual way you pass out assignments and a z-score refers to a musical number written by Zorro, this session is for you. Come see how “Minute to Win It” activities can be used to generate statistics to demonstrate the usefulness of z-scores.

Brian Domroes

MathScience Innovation Center, Richmond, Virginia

E10CD (GREATER RICHMOND CONVENTION CENTER)**171****Keeping It Real: Teaching Math through Real-World Questions (High School)**

(9–12) Gallery Workshop

How have video game processor speeds changed over time? If someone’s identified by the NSA as a threat, what’s the probability that he actually is? We’ll explore real-world lessons and projects that teachers can use to address Common Core standards, foster a rigorous understanding of math, and challenge students to think critically about the world.

Karim K. Ani

Mathalicious, Charlottesville, Virginia

Matt Lane

Mathalicious, Charlottesville, Virginia

Chris Lusto

Mathalicious, Charlottesville, Virginia

E21B (GREATER RICHMOND CONVENTION CENTER)**172****A Professional Development Model to Increase Student Thinking**

(General Interest) Session

The Virginia Council of Teachers of Mathematics outreach committee will share the creation of a train-the-trainer model designed to increase student thinking with an emphasis on the process standards. Participants will leave with ideas on how to implement a similar model in their communities.

Alfreda Jernigan

Norfolk Public School, Virginia

Pamela R. Bailey

George Mason University, Fairfax, Virginia

Carolyn Holmes

Hampton City Schools, Virginia

B21B (GREATER RICHMOND CONVENTION CENTER)**173****Primary Number and Operations through an Interactive Technology Lens**

(Pre-K–2) Session

Learn new ways to introduce primary children to number and operations using technology. Experience how to engage students in rigorous mathematics activities to help build conceptual understanding in numbers and operations. Technologies will include tablet devices, web-based programs, and interactive whiteboard activities.

Shannon Stone

Jefferson County Public Schools, Louisville, Kentucky

B15A (GREATER RICHMOND CONVENTION CENTER)**174****Developing Number Sense with Literature**

(Pre-K–5) Session

In this workshop session, we will explore ways to use children’s literature to help young children develop number sense. The process will be modeled, and participants will explore actual children’s literature and discuss ways to enhance their instructional practices.

Clare V. Bell

University of Missouri–Kansas City

GRAND BALLROOM E (MARRIOTT)

Download Speaker Handouts! Visit www.nctm.org/plan to access available presentation handouts.



175**Teaching Mathematics Meaningfully for Struggling Learners**

(Pre-K–5) Session

We will consider how we can use mathematical learning trajectories and evidence-based instructional strategies for struggling learners to help support these learners as they learn mathematics. The primary mathematical focus will be on number and operations across K–5.

LouAnn Lovin

James Madison University, Harrisonburg, Virginia

B21C (GREATER RICHMOND CONVENTION CENTER)**176****Meaningful and Motivating Alternative Algorithms**

(3–5) Session

Principles to Actions

Do your students struggle with long division, double-digit multiplication, or other computation skills? Do they mindlessly “go through the motions” without understanding procedures? We can help! Come explore meaningful, motivating alternative ways to teach the four operations while building number sense with whole numbers, fractions, and decimals.

Lisa Hall

Henrico County Public Schools, Richmond, Virginia

John Hinton

Retired, Long Island University (C.W. Post), Brookville, New York

CAPITAL BALLROOM 4 (MARRIOTT)**177****Singin’ and Signin’ Teaches the Way Kids Learn!**

(3–8) Session

Learn an engaging, kinesthetic, and award-winning approach to teaching rigorous math standards that captures students’ energy and invigorates your classroom! Leave with manipulatives and song lyrics to teach eight lessons including area, volume, and circumference, that will measurably impact learning immediately! Be ready for fun and be a student yourself!

Siegrid I. Stillman

Fallbrook Union Elementary School District, California

B21A (GREATER RICHMOND CONVENTION CENTER)**178****Developing Students’ Abilities to Describe and Reason about Data**

(6–8) Session

Principles to Actions

Do you need tasks where students reason about the context of data? In this session, participants will engage in reasoning tasks about data that they could use in their own classroom. Presenters will lead a discussion about how to help students understand the context of a statistical question and the type of data the question produces.

Jennifer Nickell

North Carolina State University, Raleigh

Kayla Chandler

North Carolina State University, Raleigh

Ashley Whitehead

North Carolina State University, Raleigh

B15B (GREATER RICHMOND CONVENTION CENTER)**179** **TG****Engaging Students via Technology with Video Tasks**

(6–12) Session

This session will examine how to engage, motivate, and teach the iGeneration (the Internet Generation). Participants will be provided with videos, tasks, and motivational strategies for students in grades 5–10 that can lead to building better number sense and algebraic skills.

Eric Milou

Rowan University, Glassboro, New Jersey

E10AB (GREATER RICHMOND CONVENTION CENTER)**180****Flipped Teaching and Learning for Upper Classes**

(9–12, Higher Education) Session

This presentation offers participants strategies for using video tutorials for “homework” as the primary method of instruction for a variety of math courses. Lesson design, the roles of the teacher and student, use of classroom time, curriculum, and coverage of Common Core standards will be discussed in detail as they relate to flipped learning.

John A. Kerrigan

Rutgers University, New Brunswick, New Jersey

B10 (GREATER RICHMOND CONVENTION CENTER)

181 Relating Hypothesis Tests, Confidence Intervals, Means, and Standard Deviations

(9–12, Higher Education) Session

When testing hypotheses, the decision to reject the null hypothesis or not can be affected by mean(s) and standard deviation(s) of the sample(s). Several one-sample, two-sample, and three-sample situations will be considered. Also, confidence intervals and their relationship to hypothesis testing are part of the discussion.

Lance L. Revennaugh
Frostburg State University, Maryland

B15C (GREATER RICHMOND CONVENTION CENTER)

182 **DL** Differentiating Instruction to Reach All Students in Calculus I

(Higher Education) Session

Does your college level calculus I class have a mixture of students who's prior high school courses range from precalculus to AP Calculus? Do you find it challenging to reach every beginning calculus student while keeping the attention of those who have had it before? Tools and ideas will be shared that will keep all of your students on their toes.

Jessica Pfeil
Fairfield University, Connecticut

GRAND BALLROOM CD (MARRIOTT)

183 "I Can Not Solve": Engaging Reluctant Prospective Teachers in Problem Solving

(Preservice and In-Service) Session

Through this presentation, participants will learn strategies to prepare prospective elementary school teachers to teach through problem solving. Many prospective teachers lack the confidence to solve problems, and this session will help them to develop the confidence they need to move forward.

Rupam Saran
Medgar Evers College, City University of New York, New York

CAPITAL BALLROOM 5 (MARRIOTT)

183.1 **ew** Formative Assessment and Hands-On Instruction for RtI and CCSSM Success!

(General Interest) Exhibitor Workshop

Moving with Math Pre-K–12 programs integrate the four essential elements of RtI: universal screening, decision making, explicit instruction and progress monitoring. Strategies using the C-R-A methodology that have been proven successful for reaching all students will be shared. Teachers and math directors love the ease of use and improved results.

Math Teachers Press, Inc.
Minneapolis, Minnesota

E21C (GREATER RICHMOND CONVENTION CENTER)

183.2 **ew** Teaching Statistics in the Middle Grades

(6–8) Exhibitor Workshop

In this session, we will share classroom activities that engage students in meaningful investigations of the real world through data and statistics. Learn how incorporating technology into your lessons can open opportunities for mathematical dialogue amongst your students and help them make stronger connections in mathematics.

Texas Instruments
Dallas, Texas

E22 (GREATER RICHMOND CONVENTION CENTER)

183.3 **ew** Investigations in Number, Data, and Space

(Pre-K–5) Exhibitor Workshop

Experience CCSSM through Investigations and the Common Core—interactive whiteboard, assessment, and differentiated activities that focus on the Standards for Mathematical Content will be shared for use in your classroom.

Pearson
Washington, D.C.

E11C (GREATER RICHMOND CONVENTION CENTER)



Extra! Extra!
Pick up your copy of the
Program Updates.

184**Kinesthetic Strategies for Integrating Math and ELA**

(Pre-K–2) Gallery Workshop

Is your ELA (English language arts) block a *long* 90-minutes? Learn innovative ideas for integrating kinesthetic math practice into ELA. Learn fun, efficient strategies for increasing math instruction time and meeting the Common Core standards. Gain ideas for increasing your students' focus, attention span, math ability, writing, and creative thinking.

Suzy Koontz

National Math Foundation, Ithaca, New York

E23 (GREATER RICHMOND CONVENTION CENTER)**185****Let's Get Physical—with Math on the Floor!**

(Pre-K–2) Gallery Workshop

In this highly interactive session, teachers will see the value of kinesthetically exploring math concepts on a large 100-square floor grid. All number sense concepts will be addressed, including calendar, with additional strategies shared for other strands. Ideas for making your own classroom grid will be readily shared. Bring your camera!

Wendy E. Hill

Retired Elementary Teacher, Mississauga, Canada

E11AB (GREATER RICHMOND CONVENTION CENTER)**186****Thinking Strategically: Connecting Addition and Subtraction**

(Pre-K–2) Gallery Workshop

By the end of grade 2, students are expected to explain why addition and subtraction strategies work. Three strategies lead students to the connections between the two operations, and they provide the underlying reasoning to the “basic facts.” Can these be extended to multi-digit computation? Yes! Let's arm our students with meaningful strategies!

Rob Nickerson

ORIGO Education, St. Charles, Missouri

GRAND BALLROOM AB (MARRIOTT)**187****Even Fractions Are Better with Chocolate!**

(3–5) Gallery Workshop

Touch the chocolate, draw the chocolate, and think the chocolate—and eat it too? This is the research-based CRA approach to teaching, proven very successful with struggling learners. Experience lessons that use manipulatives, including chocolate bars, and the CRA approach to develop student understanding of fraction concepts in grades 3–5 of the Common Core.

Sonja L. Goerd

St. Cloud State University, St. Cloud, Minnesota

Amy L. Johnson

Math Teachers Press, Inc, Minneapolis, Minnesota

E10CD (GREATER RICHMOND CONVENTION CENTER)**188****What Is a Million?**

(3–5) Gallery Workshop

Have your students struggled with a million? In this presentation, participants will make a million, use manipulatives to show place value concepts, and work on developing other numeracy concepts. What do the students need to make a million? What patterns do you observe in building a million? Come experience a fun way to develop place value concepts.

Patti A. Schneider

Hanover County Public Schools, Mechanicsville, Virginia

Elyse Coleman Coleman

Spotsylvania County, Spotsylvania, Virginia

E24 (GREATER RICHMOND CONVENTION CENTER)**189****Explore Cryptography with Two Guys**

(3–8) Gallery Workshop

From Caesar to computer communication, cryptography has been around for centuries. Come explore the mathematical concepts behind some of history's best-known methods for sending secret messages. Learn how students' natural fascination with secret codes leads to critical thinking as well as enjoyment of math.

Justin C. Hose

Frederick County Public Schools, Winchester, Virginia

Tres Wells

Albemarle County Public Schools, Charlottesville, Virginia

E21B (GREATER RICHMOND CONVENTION CENTER)

190 DL
Multisensory Algebra: Building Solutions, Proof by Construction

(6–8) Gallery Workshop

Students benefit from using manipulatives that provide tactile kinesthetic links to abstract calculations. Participants will construct models of algebraic functions to illustrate concepts and function solutions. Linear, quadratic, and exponential functions will be modeled using common objects and manipulatives. Focus will be on regular, LD, and ELL classes.

Marilyn Zecher

The Multisensory Training Institute of ASDEC, Rockville, Maryland

E25 (GREATER RICHMOND CONVENTION CENTER)

191 DL
Strategies to Teach Fractions to Students Who Struggle

(6–8) Gallery Workshop

Principles to Actions

Helping students who are identified as learners who struggle to understand fractions is critical to their success in middle grades. This workshop focuses on innovative strategies that build conceptual understanding and develop skills with fractions. Generalizations leading to algebraic reasoning are developed within the fraction context.

Rebecca J. Darrough

University of Missouri, Columbia

Barbara J. Dougherty

University of Missouri, Columbia

William W. Deleeuw

University of Missouri, Columbia

GRAND BALLROOM GHJ (MARRIOTT)

192 TG
Creatively Integrate CCSSM, Questioning Techniques, Interactive Technologies, and Mathematically-Rich Engaging Problems

(6–12) Gallery Workshop

Hands-on experience: four activities that promote active student engagement and are mapped to the CCSSM standards and mathematical practices. Learn specific instructional strategies and obtain questioning techniques that stimulate deeper conceptual understanding. Discover, explore, investigate, and analyze with appropriate technology (iPad apps, handhelds, software).

Tom Reardon

Youngstown State University, Ohio

GRAND BALLROOM F (MARRIOTT)

193
Bicycles and Music: A Mean Connection

(9–12) Gallery Workshop

There's a reason why it always feel like you're almost always riding uphill on a bicycle trip. In this hands-on session (no, we won't be riding bikes), we'll explore this phenomenon, and then tie our findings into an investigation of the arithmetic, geometric, and harmonic means. All of these means tie directly into music, and we'll see how.

Bob Horton

Clemson University, South Carolina

CAPITAL BALLROOM 6/7/8 (MARRIOTT)

194
"Pedi for the Lady" and Other Area and Volume Activities

(9–12) Gallery Workshop

Ever wondered how much polish it would take to give the Statue of Liberty a pedicure? Delve into activities where innovative ideas are shared to make finding the area and volume of irregular shapes interesting. Solutions will be found through Riemann sums and integration using hands-on methods as well as graphing calculators.

Deedee Stanfield Henderson

Oxford High School, Alabama

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

Hear what's new from Exhibitors—attend an **Exhibitor Workshop**.

Look for the **ew** symbol throughout the program book.



9:45 A.M.–11:00 A.M.

195**New and Preservice Teachers Workshop**

(Preservice and In-Service) Gallery Workshop

Find answers to your questions on topics such as classroom management, parents, motivation, and keeping your sanity. Connect with other new teachers, learn from experienced professionals, and find resources to engage you and your students. You might even win a prize.

David Barnes

National Council of Teachers of Mathematics, Reston, Virginia

E21A (GREATER RICHMOND CONVENTION CENTER)

11:00 A.M.–12:00 P.M.

196**Formative Assessment: A Beyond “Checking for Understanding” Classroom Process!**

(General Interest) Session

In this motivational session, discover the difference between checking for understanding in class and the deeper formative assessment process and work of your students. We will explore the six essential elements of formative feedback as part of a lesson design that leads to significant improvement in student learning. Come join the discussion!

Timothy D. Kanold

Loyola University, Chicago, Illinois

B21C (GREATER RICHMOND CONVENTION CENTER)**197****Math Workshop: A Differentiated Approach to Teaching Mathematics**

(General Interest) Session

Math Workshop is a structure for mathematics instruction that focuses on differentiation. Participants will learn why it is a valuable vehicle for mathematics instruction and how to establish routines and procedures that will allow student choice, meaningful small-group guided math, and engaging learning stations.

Jennifer Wolfe Lempp

Fairfax County Public Schools, Virginia

B21A (GREATER RICHMOND CONVENTION CENTER)**198****Methods of Solving Complex Math Problems**

(General Interest) Session

The winner of the Math Olympiads, and the author of a new book, *Methods of Solving Complex Geometry Problems*, developed her own way of learning mathematics. During this talk she will share with you her ideas and methods of developing mathematical talent for geometry problem solving.

Ellina Grigorieva

Texas Woman's University, Denton

GRAND BALLROOM CD (MARRIOTT)**199****Helping Parents Understand a Constructivist Approach to Building Computational Fluency**

(Pre-K–2) Session

In this session, participants will be led through a parent presentation with examples of student work, fluency-building games and activities, and ways to extend math learning at home. There will be an emphasis on helping parents to understand the value of multiple computational strategies and supporting their students in using these strategies at home.

Yojaury Sands

Cathedral School of St. John the Divine, New York, New York

Alan Donaldson

Cathedral School of St. John the Divine, New York, New York

B10 (GREATER RICHMOND CONVENTION CENTER)**200****More or Less: Developing the Concepts of Comparison**

(Pre-K–5) Session

Principles to Actions

In this session, we will explore the developmental progression of comparison. We will consider the differences between direct and indirect comparison as well as additive and multiplicative thinking. We will discuss how these concepts are linked to the four operations and how to carefully develop comparison ideas.

Debi DePaul

Origo Education, Inc., St. Charles, Missouri

E10AB (GREATER RICHMOND CONVENTION CENTER)

201

Not All Definitions Are Created Equal (in the Elementary Classroom)

(3–5, Preservice and In-Service) Session

Definitions play a central role in both the teaching and learning of mathematics at the elementary level. This presentation describes two considerations (mathematics as a discipline and students as learners) that can be used to judge the appropriateness of definitions used at the elementary level, primarily in the context of even and odd numbers.

Leah Shilling-Traina

Longwood University, Farmville, Virginia

Virginia Vimpeny Lewis

Longwood University, Farmville, Virginia

Maria A. Timmerman

Longwood University, Farmville, Virginia

GRAND BALLROOM E (MARRIOTT)

202

Learning to Love Fractions

(3–8) Session

Imagine a world that loves fractions. Presenting fractions is the key to your students' success. This session will compare traditional to nontraditional teaching strategies for simplifying, adding, and subtracting fractions. Did you know students can be taught to add and subtract fractions quickly in their heads without finding a common denominator?

Joseph C. Mason

Hagerstown Community College, Maryland

B15C (GREATER RICHMOND CONVENTION CENTER)

203

Flipping Your Classroom: What, Why, and, Most Importantly, How

(6–12) Session

If only my students would do their homework. If only my students had more practice time. If only I could give my students more individual attention. If only I could take a fresh approach without starting over completely. If only I could walk away at the end of a presentation and immediately implement what I have learned. This is that presentation.

Chip F. McNamara

Henrico County Public Schools, Richmond, Virginia

Adam T. Semo

Henrico County Public Schools, Richmond, Virginia

B15B (GREATER RICHMOND CONVENTION CENTER)

204

LOCUS: A Tool for Assessing Statistical Reasoning in CCSSM

(6–12) Session

This session will present diagnostic assessments for measuring students' understanding of statistics as outlined in the Common Core State Standards and Guidelines for Assessment and Instruction in Statistics Education. These tools have implications for the research community as well as for classroom teachers, as they can be used in a formative manner.

Steve Foti

University of Florida, Gainesville

Tim Jacobbe

University of Florida, Gainesville

B15A (GREATER RICHMOND CONVENTION CENTER)

205

“How Can I Solve It?”: Using Manipulatives for Deeper Understanding

(9–12) Session

Come participate in sample lessons and problems that use manipulatives to build a deep understanding of negatives as well as to solve equations. Teachers will receive ideas and materials that they can use in their own classrooms.

Lonnie A. Bellman

Lemoore High School, California

CAPITAL BALLROOM 5 (MARRIOTT)

206

Transition to College Mathematics and Statistics for Non-STEM Students

(9–12, Higher Education) Session

An overview of Transition to College Mathematics and Statistics (TCMS), an emerging problem-based, inquiry-oriented, technology-rich fourth-year course funded by the National Science Foundation. It is intended for the large number of students planning to enter college programs or workforce apprentice programs that do not require calculus.

Christian R. Hirsch

Western Michigan University, Kalamazoo

B21B (GREATER RICHMOND CONVENTION CENTER)

11:00 A.M.–12:00 P.M.

207

Integrating Ethnomathematical Ideas from Indigenous Cultures in Mathematics Teaching

(Preservice and In-Service) Session

This presentation highlights in-service teachers' investigations in ethnomathematics through immersion in indigenous cultures. We will share mathematical ideas that transpired in out-of-school settings and lessons that teachers developed during their study abroad experiences.

Iman C. Chahine

Georgia State University, Atlanta

CAPITAL BALLROOM 4 (MARRIOTT)

207.1 ew

Singapore Math® Implementation: What to Expect and How to Prepare

(Pre-K–5) Exhibitor Workshop

Plan a successful Singapore Math® implementation in your school or district. Explore how to best support your teachers through initial and sustained training, productive collaboration, and providing essential resources and manipulatives. Receive guidance on first-year pacing and suggestions for introducing parents to Singapore Math® strategies.

Singapore Math

Gainesville, Georgia

E21C (GREATER RICHMOND CONVENTION CENTER)

207.2 ew

The HMH Player and All-New Digital-First Programs

(9–12) Exhibitor Workshop

Come learn more about all-new, digital-first programs for high school mathematics. The HMH AGA series and HMH Integrated Math series are designed to maximize achievement through state-of-the-art digital resources. See the HMH Player app, Personal Math Trainer, and other digital tools in action.

Houghton Mifflin Harcourt

Boston, Massachusetts

E22 (GREATER RICHMOND CONVENTION CENTER)

207.3 ew

Pearson High School Math and MathXL for School

(9–12) Exhibitor Workshop

Learn how this blended print and digital curriculum not only engages students but also ensures all learners acquire the critical knowledge and skills necessary to succeed in college and in their careers—with an assist by MathXL for School, Pearson's award-winning online homework, tutorial, and assessment program.

Pearson

Boston, Massachusetts

E11C (GREATER RICHMOND CONVENTION CENTER)

11:30 A.M.–12:00 P.M.

208

Bring Your Own Device—Are You Kidding Me?

(General Interest) Burst

“BYOD” is when students bring their own technological device to the classroom to increase their engagement and enhance their learning. I will share my experience implementing BYOD in the high school mathematics classroom. Successes and failures will be discussed, as well as how it has changed how I teach mathematics.

Wendy E. Bartlett

Parkland Magnet High School, Winston-Salem, North Carolina

E10CD (GREATER RICHMOND CONVENTION CENTER)

209

Creating Growth Trajectories with Quantile Measures from Scholastic Math Inventory

(General Interest) Burst

Principles to Actions

Setting student growth goals is a precise and individualized task that when thoughtfully implemented can unify a school's conversation about math achievement. In this session, new research about setting math growth goals with Scholastic Math Inventory data will help educators sharpen their efforts to predict growth and forecast outcomes.

Mario Yepes-Baraya

Scholastic, Inc., New York, New York

Jan Scott

Scholastic, Inc., New York, New York

E21A (GREATER RICHMOND CONVENTION CENTER)

210

Students Reveal How Ongoing Assessments Helped Them Learn Math

(General Interest) Burst

Principles to Actions

Formative assessments are necessary for student learning. Students reported in course evaluations that biweekly, ungraded quizzes were helpful in aiding their understanding of the mathematics content and allowed them to formalize their ideas before being graded. Participants will discuss pedagogical considerations.

Barbara A. Swartz

McDaniel College, Westminster, Maryland

Holly Henderson Pinter

Western Carolina University, Cullowhee, North Carolina

GRAND BALLROOM F (MARRIOTT)

211

Find the Math in a Children's Book!

(Pre-K–2) Burst

Principles to Actions

Participants will experience how we take a children's book and find activities to do mathematics.

Maria Diamantis

Southern Connecticut State University, New Haven

Adam Goldberg

Southern Connecticut State University, New Haven

GRAND BALLROOM GHJ (MARRIOTT)

212

All the Facts about Fact Fluency

(Pre-K–5) Burst

Come and learn some quick ways to incorporate fact fluency into your math block. We will show different games, technology, and data tracking to help increase student fact scores.

Kathryn Busbey

Granby Public Schools, Connecticut

Kristin Rice

Granby Public Schools, Connecticut

E24 (GREATER RICHMOND CONVENTION CENTER)

213

Realizing Rigor in the Elementary Mathematics Classroom

(3–5, Preservice and In-Service) Burst

To realize rigor in elementary classrooms, teachers must transform instruction to require students to think and reason. This interactive session will explain why rigor is necessary in today's classrooms and include problem-solving experiences teachers can use with students to promote a shift in thinking. Rigor analysis tools will be included.

Ruth Harbin Miles

Board of Directors, National Council of Teachers of Mathematics; Mary Baldwin University, Staunton, Virginia

Gayle Thyring

Falmouth Elementary School, Virginia

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

214

A Problem of the Day for Every Math Class

(6–8) Burst

This presentation will discuss how to select and find problems that will get your students excited about math. Incorporating a mathematical problem every day into your math instruction is not only a good way to get your students' brains working, but it also leads to developing essential problem-solving skills.

Kristen L. Apraiz

University of Florida, Gainesville

E23 (GREATER RICHMOND CONVENTION CENTER)

215

Design & Build Your Dream House

(6–8) Burst

Principles to Actions

Design & Build Your Dream House is a hands-on teaching strategy that incorporates an abundance of geometry skills and learning objectives. The strategy allows students to create their dream house using concepts learned in the classroom. Students are enthusiastically engaged in learning geometry from design to construction.

Amy K. Crawford

Summit Academy Secondary, Youngstown, Ohio

E25 (GREATER RICHMOND CONVENTION CENTER)

11:30 A.M.–12:00 P.M.

216**Assumption: The Missing Component in Probability Reasoning**

(6–12, Research) Burst

Our session will use exemplars of mathematics problems and learners' work to demonstrate their lack of capacities to reason mathematically in probability contexts. We suggest that there is a critical need for addressing and clarifying the role of probability assumption in order to help students establish a systematic view of this subject.

Yating Liu

Old Dominion University, Norfolk, Virginia

GRAND BALLROOM AB (MARRIOTT)**217****Master Proofs with Number Patterns**

(9–12) Burst

Introduce your students to reasoning and proof by using a game like Mastermind, but with numbers. We will share examples of students justifying their solutions and of proving that a solution does not work. With Digits, students are excited to take part in activities that are accessible, yet that require mathematical reasoning.

Peter Sell

New York City Department of Education, New York

E11AB (GREATER RICHMOND CONVENTION CENTER)**218****Curriculum Alignment as a Component of Math Teacher Development**

(9–12, Higher Education) Session

Math faculty helped a community to identify and solve areas of curriculum non-alignment and to create high school course enhancements, so that high school graduates would be prepared to succeed in college STEM courses. Steps included a targeted mathematics graduate course and development of curriculum alignment tools for high school teachers.

Mikhail M. Bouniaev

University of Texas at Brownsville

Jerzy Mogilski

University of Texas at Brownsville

James Hilsenbeck

University of Texas at Brownsville

CAPITAL BALLROOM 6/7/8 (MARRIOTT)**219****Exploring the Creativity of Your Math Students**

(Higher Education) Session

Several projects and class activities that have been used successfully in calculus classes will be presented. The topics include maximizing the volume of a box, related rates, solids of revolution, and selling a course. No calculus knowledge needed to adapt these ideas to your classroom.

Joan Van Glabek

Edison State College, Naples, Florida

Christy Smith

Edison State College, Port Charlotte, Florida

Ron Smith

Edison State College, Port Charlotte, Florida

E21B (GREATER RICHMOND CONVENTION CENTER)

12:30 P.M.–1:00 P.M.

220**Bringing STEM into the Middle School Mathematics Classroom**

(General Interest) Burst

Principles to Actions

Participants will be involved in a build activity that puts mathematics into action. All materials will be provided and the participants will be able to take their item home. The mathematics exploration involved will be at the grades 6–8 level, to include circumference, measurement, ratios and proportions, but the activity can easily be extended to algebra 1, geometry, and physics. Participants will brainstorm ways to use the activity in the classroom.

Diane Leighty

Board Member, Virginia Council of Teachers of Mathematics;

Retired K–12 Math Coordinator, Richmond, Virginia

GRAND BALLROOM GHJ (MARRIOTT)

Thank you to all of the volunteers who help make this conference a success!

221

Instructional Coaching in the Math Classroom

(General Interest) Burst

This session will introduce you to the role of instructional coaches and how to best utilize them in your classroom. We will also look at how instructional coaches can document their progress with teachers and use data to drive their focus in the school.

Kathryn Busbey
Granby Public Schools, Connecticut
Kristin Rice
Granby Public Schools, Connecticut

E25 (GREATER RICHMOND CONVENTION CENTER)

222

Play Your GAMES: Generating Academic Meaning from Entertainment Systems

(General Interest) Burst

Have you ever wondered why kids play video games? With each gaming session, they are *learning*—how to succeed, fail, and solve problems! In this session, teachers will develop a framework for creating a high-engagement gaming program that emphasizes problem solving, scientific methods, and STEM connections, while encouraging accountability.

Tim Kubinak
Suffolk Public Schools, Virginia

GRAND BALLROOM F (MARRIOTT)

223

Teachers as Researchers: A Look at Lesson Study

(General Interest) Burst

Learn about lesson study as a professional development platform that encourages teacher researchers to improve their craft and student outcomes through planning, observation, and reflection.

Joan M. Kernan
MathScience Innovation Center, Richmond, Virginia

E11AB (GREATER RICHMOND CONVENTION CENTER)

224

Exploring Patterns in Guided Math Groups

(Pre-K–2, Preservice and In-Service) Burst

Engage your students with guided math groups! Discover ways to differentiate lessons and workstation activities on patterns. Become familiar with assessing student understanding through reviewing samples of student work from independent stations. Attendees will receive samples of effective math workstations to use with K–2 students.

Monica Hocter
Williamsburg James City County Public Schools, Virginia
Karen LaPorte
Williamsburg James City County Public Schools, Virginia

E10CD (GREATER RICHMOND CONVENTION CENTER)

225

Encourage Entrepreneurship in Your Students

(Pre-K–5) Burst

Challenge your students to design a business starting from the ground up. This workshop will describe how to construct a classroom business where students develop a product, conduct market research, and sell their product. Students learn firsthand the workings of a business and foster mathematical and critical thinking skills.

Alissa White
Chesterfield Day School, Missouri

E21B (GREATER RICHMOND CONVENTION CENTER)

226

Reacting to Fractions: A Visual and Cultural Approach

(Pre-K–5) Burst

Rebecca Klemm, Ph.D., (Statistics), will share her data and experiences in multiple learning environments to show elementary-grade-level comprehension of fractions. She will discuss how visual manipulatives, expressions, and historical narratives create a holistic conceptualization of fractions.

Rebecca J. Klemm
NumbersAlive!, Washington, D.C.

E21A (GREATER RICHMOND CONVENTION CENTER)

12:30 P.M.–1:00 P.M.

227**What Is a Graph, Really?**

(6–12) Burst

Students often do not fully grasp that the Cartesian graph of a mathematical statement in x and y is a depiction of the set of ordered pairs that satisfy the statement. In this session, we look at mathematical statements (not functions!) and graphs that strongly encourage students to grasp the fundamental nature of a graph in meaningful ways. We will look at the graphs of statements that may surprise you, including $\sin(x) < \sin(y)$ and $=$ $|x+y| = x+y$. $\text{come} =$ $\text{join} =$ $\text{us!} < =$ $\text{div} =$ $>$

GT Springer

HP Calculators, San Diego, California

E24 (GREATER RICHMOND CONVENTION CENTER)**228****Formative Assessment Lesson: A 3-D Snapshot of Student Learning**

(9–12) Burst

Implementation of a formative assessment lesson (FAL) developed through the Mathematics Assessment Project enabled students to activate their prior knowledge and deepen their comprehension by building meaningful connections. Assessment analyses indicated a significant growth in learning, but it also revealed potential threats of FAL implementation.

Sandra Wilder

Northeast Ohio Medical University (NEOMED), Rootstown, Ohio

E23 (GREATER RICHMOND CONVENTION CENTER)**229****The Cure for the Common Core**

(9–12) Burst

Over the past year, a small group of teachers and curriculum developers from Illustrative Mathematics, High Tech High, and Mathalicious have teamed up to create high school course plans and unit blueprints. This resource details a pathway for translating CCSSM into a sequence of classroom experiences.

Patrick Callahan

University of California, Los Angeles

Kate Nowak

Mathalicious, Charlottesville, Virginia

GRAND BALLROOM AB (MARRIOTT)**230****How to Teach When You Can't Talk: Developing Learning Communities**

(Higher Education) Burst

Principles to Actions

After cancer treatment I couldn't talk for a full period, so no lectures. My wife, a mathematics educator, helped set up learning communities in my upper division math classes so that the students could work together. This led to some of my best teaching. I can talk now, but I'm still looking at how I can develop such communities in my classes.

Michael J. McConnell

Clarion University, Pennsylvania

Marcella K. McConnell

Clarion University, Pennsylvania

CAPITAL BALLROOM 6/7/8 (MARRIOTT)**231****Changing Dynamics in Collaborative Communities of Learners**

(Preservice and In-Service) Burst

We will present data from a professional development program, Arizona Mathematics Partnership, a National Science Foundation–funded project. The professional development includes school-based “Collaborative Communities of Learner” groups. This presentation focuses on changing dynamics in the groups from year 1 to year 2 of the project.

Judy Sutor

Scottsdale Community College, Arizona

Katie Cassinat

Scottsdale Community College, Arizona

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

12:30 P.M.–1:30 P.M.

232**Challenges for Rigor in the Mathematics Classroom**

(General Interest) Session

In teaching good mathematics well, rigor plays a big part. What is mathematical rigor? What does it look like in mathematics classrooms? How can mathematics teachers at all grade levels facilitate rigor in their classrooms? Can we note student progress towards rigor?

Don S. Balka

Saint Mary's College, Notre Dame, Indiana

B21C (GREATER RICHMOND CONVENTION CENTER)

233**National Assessment of Educational Progress: A Treasure Trove of Mathematics Problems**

(General Interest) Session

Principles to Actions

Participants will learn how to make use of online tools to access released items from the National Assessment. They will also learn how to compare their students' performance on items with students in their state and the nation. Techniques will be shared for using these items to help prepare students for standardized testing.

Crystal Walcott

Indiana University-Purdue University, Columbus

Kathryn Essex

Indiana University-Purdue University, Columbus

GRAND BALLROOM CD (MARRIOTT)

234 DL**Native American–Based Mathematics Materials**

(General Interest) Session

This session presents mathematics materials based in the culture and mathematics of Native American peoples for integration into K–12 or undergraduate courses. These materials—both paper and electronic—are classroom ready, and are developed and piloted in consultation with tribes throughout the West.

Charles P. Funkhouser

California State University, Fullerton

Miles R. Pfahl

Turtle Mountain Community College, Belcourt, North Dakota

Harriet C. Edwards

California State University, Fullerton

CAPITAL BALLROOM 5 (MARRIOTT)

235**Becoming Numerically Nimble: Effective Practices That Lead to Fluency**

(Pre-K–2) Session

Be more efficient and selective about time devoted to number. Highly engaging games and instructional strategies will help you enhance number sense, build confidence and competence in your students, and increase their fluency with number.

Laura Choate

Fallbrook Union Elementary School District, California

B15C (GREATER RICHMOND CONVENTION CENTER)

236**Masterpieces and Mathematics: Exploring Mathematics in Visual Art**

(Pre-K–2) Session

Famous artists and their masterpieces will be explored through the lens of mathematics with an emphasis on linking to the NCTM standards. Works by Mondrian, Thiebaut, Kelly, Delauney, Hirst, and Dali will be used to showcase various math concepts. The use of children's literature to connect the visual arts and mathematics will also be discussed.

Lynne Pendergrass

All Saints' Episcopal School, Fort Worth, Texas

B21B (GREATER RICHMOND CONVENTION CENTER)

237**Developing Mathematical Reasoning and Discourse to Strengthen Problem-Solving Proficiency**

(3–8) Session

The speaker will actively engage attendees in real-life problem solving, modeling effective questioning strategies and the use of vocabulary to elicit reasoning and discourse and build essential concepts. She will offer strategies to identify the question, eliminate nonrelevant information, and translate information into mathematical equations. Handouts will be provided.

Donna L. Knoell

Educational Consultant, Shawnee Mission, Kansas

B15B (GREATER RICHMOND CONVENTION CENTER)

238**The Area Model, through the Years!**

(3–8) Session

The focus of this session will be on the operations of multiplication and division. Participants will discover how the area model can be used to help build fluency and conceptual understanding. Participants will take part in hands-on demonstrations of how the area model can be implemented from grade 3 all the way to algebra 1.

Mark Schmit

ETA hand2mind, Vernon Hills, Illinois

B21A (GREATER RICHMOND CONVENTION CENTER)

239**All about Changes: What Every Middle Schooler Should Know**

(6–8) Session

Middle school is all about changes, especially in the context of the Common Core State Standards for math. Let's investigate ways to utilize technology to better incorporate proportional reasoning through measurement conversions, unit rates, and rates of change in grades 6–8.

Lorie C. McFee

North Buncombe High School, Weaverville, North Carolina

CAPITAL BALLROOM 4 (MARRIOTT)**240****How Singapore's Visual Models Enable All Students to Develop Algebraic Thinking**

(6–8) Session

This session will focus on visual models and visualization used in the highly successful Singapore curriculum that provide students with entry points to complex problems and develop deep understanding of topics such as operations with fractions, ratio, and algebraic manipulation. Examples of their rich problems will also be shown.

Andy Clark

Retired, Portland Public Schools, Oregon

GRAND BALLROOM E (MARRIOTT)**241 DL****RtI in Middle School—Ready to Instruct!**

(6–8) Session

RtI is used to help struggling students. So what is RtI? Repeating taught information? Radical teaching ideas? Repairs to instruction? All of the above! Let us help you make sense of teaching math to students who need help beyond the regular math classroom. Leave with great ideas to use with your students to help build success in math.

Melinda Griffin

Williamsburg-James City County Public Schools/College of William & Mary, Virginia

Kay Bennett

Gloucester Public Schools, Virginia

E10AB (GREATER RICHMOND CONVENTION CENTER)**242****Using Geometric Transformations and Matrices to Create Beautiful Fractals**

(9–12) Session

Engage your students with this project that allows them to use powerful mathematics while using their own creative ideas to build fractals. We will explore the mathematical ideas using geometry, trigonometry, and matrices, and we will use a free Java applet to create the fractal images. The project is appropriate for algebra 2 and precalculus students.

Maria L. Hernandez

North Carolina School of Science and Mathematics, Durham

B15A (GREATER RICHMOND CONVENTION CENTER)**243****Proofs of Ten Theorems from First Semester Calculus**

(9–12, Higher Education) Session

The proofs of the key theorems from calculus can be made accessible to high school students if they are presented in an intuitive, flowing style. Eschewing cheap algebra tricks, and with the aim of increasing understanding, I will present geometry-based proofs of ten central theorems from differential calculus.

William Rose

Montgomery Blair High School, Silver Spring, Maryland

B10 (GREATER RICHMOND CONVENTION CENTER)**243.1 ew****Mastery Ed: Tier 2 and 3 Intensive Math Interventions**

(3–8) Exhibitor Workshop

Research indicates that the use of visual representations of mathematical ideas is critical to building understanding in students and teachers. This workshop will demonstrate targeted interventions for Tier 2 and 3 students. Attendees will receive samples of the visual tools and hands-on instruction to teach addition/subtraction and multiplication/division.

Mastery Ed

Fallbrook, California

E21C (GREATER RICHMOND CONVENTION CENTER)

12:30 P.M.–1:30 P.M.

243.2 ew

Math Navigator: Helping Kids Fix Misconceptions about Math

(3–8) Exhibitor Workshop

Why do some students struggle with basic math concepts? Pearson's Math Navigator intervention program targets misconceptions that prevent students from mastering the foundational concepts that result in poor performance. Learn how the Math Navigator Screener quickly diagnoses specific weaknesses and makes recommendations among the twenty-six skills modules.

Pearson Education
Glenview, Illinois

E11C (GREATER RICHMOND CONVENTION CENTER)

243.3 ew

Notebook Foldables® for Secondary Math

(6–12) Exhibitor Workshop

Recharge your middle and high school students' math journals and turn on the motivation factor via 3-D interactive graphic organizers, also known as Notebook Foldables®. Depart with a mini-composition book filled with immediately usable ideas sure to foster lasting understanding—even in your most reluctant learners.

Dinah-Might Adventures
San Antonio, Texas

E22 (GREATER RICHMOND CONVENTION CENTER)

1:30 P.M.–2:45 P.M.

244

Board Hot Topic: Assessing Your Assessment Practices: Do They Measure Up to Support Student Learning?

(General Interest) Session

Principles to Actions

Do your assessments measure conceptual understanding, mathematical processes and practices, and procedural skills? How can results best support students' learning? How can released tasks, including PARCC and SBAC prototypes, be used as instructional tools? Join us to learn research-informed, practical ways to increase the quality of your assessments, as described in NCTM's *Principles to Actions: Ensuring Mathematical Success for All*.

Rose Mary Zbiek

Board of Directors, National Council of Teachers of Mathematics;
Pennsylvania State University, University Park

Diane J. Briars

President, National Council of Teachers of Mathematics, Reston,
Virginia

GRAND BALLROOM GHJ (MARRIOTT)

245

Building a Solid Foundation in Number Sense

(Pre-K–2) Gallery Workshop

Principles to Actions

Do you have students counting on their fingers to add? What those students lack is number sense. Number sense can't be taught, it has to be experienced. So come experience activities involving a MathRack, number path, and subitizing that will help develop your students' number sense and their ability to add and subtract flexibly and fluently.

Christina Tondevoid

Mathematically Minded, LLC, Orofino, Idaho

Lynn Rule

Retired Teacher, Wheaton, Illinois

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

Looking for lessons,
activities, and teacher
resources? Check out
www.nctm.org



246**Helping Students Understand and Make Sense of the Number Line**

(Pre-K–2) Gallery Workshop

Explore the power of the number line in the early childhood mathematics classroom. Ideas will focus on using the number line as a visual representation for sharing students' thinking and mathematical strategies as they problem solve. Special emphasis will be placed on helping students move from a traditional to an open number line.

Mary Branch Pronk

Kate Waller Barrett Elementary, Stafford County, Virginia

Susan Sydla

Hartwood Elementary School, Stafford County, Virginia

E11AB (GREATER RICHMOND CONVENTION CENTER)**247****Got Place Value??**

(Pre-K–5) Gallery Workshop

What is place value and how does it progress in the Common Core State Standards? Children learn place value conceptually, and then move into procedural understanding. Examining, modeling, and working through place value activities will help us see how students develop a deep understanding of place value.

Bethany Farmer

Somerset Academy, Las Vegas, Nevada

Kayla Miller

Somerset Emerson, Las Vegas, Nevada

David Janssen

Southern Nevada Regional Professional Development Program, Las Vegas

CAPITAL BALLROOM 6/7/8 (MARRIOTT)**248****Hands-on Approach to Teaching Decimal and Fraction Concepts**

(3–5) Gallery Workshop

Are your students having a hard time working with rational numbers? Come learn some hands-on activities that will increase your students' understanding of rational numbers. We will be using number lines, cards, and dice to explore ways to build students' and teachers' understanding of decimals and fractions.

Wendy West

Fairfax County Public Schools, Virginia

E25 (GREATER RICHMOND CONVENTION CENTER)**249****Powerful Paper Folding Practice for Area, Perimeter, and Volume**

(3–5, Preservice and In-Service) Gallery Workshop

Turn off the electronics for a session of simple but powerful paper folding activities to introduce and reinforce concepts of area, perimeter, and volume.

James J. Clayton

Saint Peter's University, Jersey City, New Jersey

GRAND BALLROOM AB (MARRIOTT)**250****Seeing Is Believing! Using Concrete Manipulatives to Model Fraction Division**

(3–8) Gallery Workshop

Why “multiply by the reciprocal” when dividing fractions? During this session, you will explore hands-on activities that support meaningful use and understanding of common algorithms. You will leave with instructional strategies that promote student understanding of fraction division and a set of rigorous and engaging tasks that support student success.

Marsha C. McCrary

University of Georgia, Athens

E23 (GREATER RICHMOND CONVENTION CENTER)**251** **DL****Thanks for Teaching Me Like I'm Smart: Developing Rich Tasks**

(6–8) Gallery Workshop

Learn how to develop creative rich tasks for your students that motivate and inspire them to problem-solve, make conjectures, build connections, and develop conceptual understanding. We will share three surefire strategies to jump-start task development for your classroom and explore techniques for implementation, monitoring, and assessment.

Beth Kobett

Stevenson University, Baltimore, Maryland

Zac Stavish

Howard County Public Schools, Ellicott City, Maryland

Alexandra Weyforth

Howard County Public Schools, Columbia, Maryland

E10CD (GREATER RICHMOND CONVENTION CENTER)

252

Game On! Math Breaks That Teach

(6–12) Gallery Workshop

Codebreak a sequence of three numbers; guess the word stuck on your forehead; and revel in the world of board games with the highly rated Santorini. These games all engage and challenge at a variety of levels. Play MATH-termind, Mathbanz, and Santorini yourself to see how they could work in your class to establish a culture of problem solving.

Nina Chung Otterson

The Hotchkiss School, Lakeville, Connecticut

E24 (GREATER RICHMOND CONVENTION CENTER)

253

Shuffleboard, Racecars, and Reaction Times: Find the Algebraic Connection

(6–12) Gallery Workshop

Principles to Actions

Participants will create a playing field and write the equation that represents the possible points scored in the game. They will conduct time trials, predict who would win if there was a car race, and have a race to see if the predicted winner wins. They will also measure reaction time, calculate measures of central tendency, and create a histogram.

Claudia D. Maness

CORD Communications, Waco, Texas

GRAND BALLROOM F (MARRIOTT)

254

Algebra Activities from Automotive, Business, and Constructions

(9–12) Gallery Workshop

You will participate and receive three engaging hands-on classroom activities that highlight Common Core Standards for Mathematical Practice. The activities will span many career paths. The math topics include linear equations, systems of equations, and exponential. Join us to see how project-based activities can increase learning and provide relevance.

Tom W. Moore

Thompson School District, Loveland, Colorado

E21A (GREATER RICHMOND CONVENTION CENTER)

255 **TG**

Illuminate Your Classroom and Teach Conceptually Using Free Virtual Manipulatives

(Preservice and In-Service) Gallery Workshop

Come explore Illuminations’ free virtual manipulatives to keep up with the technological trends in education! These physical and virtual manipulatives allow students to create conjectures, develop reasoning skills, and explore mathematics conceptually. Questions for students, pedagogical recommendations, and accompanying resources will be provided.

Ann Kong

National Council of Teachers of Mathematics, Reston, Virginia

E21B (GREATER RICHMOND CONVENTION CENTER)

256

“There’s an App for That!”: Geometer’s Sketchpad on the iPad

(General Interest) Session

Love GSP? Have iPads in the classroom? Come learn how to create GSP sketches that work on iPads. We will demonstrate various techniques that utilize functionalities of an iPad to allow your students to explore topics in new ways. No advanced knowledge of GSP is needed. Bring a laptop with GSP to create sketches with us!

Kayla Chandler

North Carolina State University, Raleigh

Ashley Whitehead

North Carolina State University, Raleigh

Jennifer Nickell

North Carolina State University, Raleigh

CAPITAL BALLROOM 5 (MARRIOTT)



Membership questions? We’ve got answers! Visit Member Services in NCTM Central!

257**Mathematical Madness**

(General Interest) Session

The increased rigor of new standards and assessments being implemented throughout the United States challenges teachers to reflect on their content knowledge and pedagogy. This session aims to provide perspective to teachers as they reflect on how the process standards are being integrated within their classrooms.

Michael Bolling

Virginia Department of Education, Richmond

B21C (GREATER RICHMOND CONVENTION CENTER)**258 TG****Mobile Devices in the Math Classroom**

(General Interest) Session

Participants will learn to use iPads, iPod Touches, smart phones, and other mobile devices in the classroom to present lessons, assess students, and to communicate with parents. Applications such as iAnnotate, Explain Everything, Educreations, Movie Maker, and Pic Collage will be presented. Participants will learn methods for teachers and students.

Mandy Collier

York County School Division, Yorktown, Virginia

B21A (GREATER RICHMOND CONVENTION CENTER)**259****Strategies and Mathematical Ideas—
Not One and the Same**

(Pre-K–2) Session

Discussions about strategies as well as the structure of mathematics need to occur in mathematics classrooms in primary grades. In this session, we will differentiate between discussions about the structure mathematics and strategies used to solve problems by providing examples of each, as well as analyzing and discussing classroom videos.

Kristin A. Klingensmith

Learning Research and Development Center, Institute for Learning, University of Pittsburgh, Pennsylvania

Laurie B. Speranzo

Institute for Learning, University of Pittsburgh, Pennsylvania

B15B (GREATER RICHMOND CONVENTION CENTER)**260****Your Brain on Math: Number Sense**

(Pre-K–2) Session

Prenumerate children are equipped with an approximate analog system and a small exact number system. When children exhibit weak number sense, they do not shift from logarithmic to linear representation. The focus of this presentation is an explanation of the cognitive foundations of integer representation and strategies for supporting development.

Sara Stetson

Rivier College, Nashua, New Hampshire

E10AB (GREATER RICHMOND CONVENTION CENTER)**261****Students Learning Fraction Operations
through Their Sense Making and
Reasoning**

(3–8) Session

Building on student sense making, the use of multiple representations, reasoning with properties, and whole-number proficiencies, we will examine student experiences to establish meaningful fraction operations (from early strategies to algorithms). Focus on teaching sequences, teacher-coordinated mathematical conversations, and student reflections.

Henry S. Kepner

Past President, National Council of Teachers of Mathematics; University of Wisconsin–Milwaukee

B15A (GREATER RICHMOND CONVENTION CENTER)**262****Understanding Fractional Partitions,
Equivalence, and Proportional
Reasoning for Solving Problems**

(3–8) Session

Participants will learn the two distinct meaning of fractions, part-whole and quotient, and how to instruct students on ordering and comparing equivalent fractions while extending their knowledge and understanding on operations with fractions. Attendees will also learn how incorporate visual representations to solve real-world problems for fractions.

Joseph Sencibaugh

Webster University, St. Louis, Missouri

Jennifer Bond

Ferguson-Florissant School District, St. Louis, Missouri

Dan Sinclair

Mastery Educational Services, Fallbrook, California

B10 (GREATER RICHMOND CONVENTION CENTER)

263 **DL****Teaching Math to Students with Learning Differences**

(6–8) Session

This session will provide ideas for teaching mathematics to students with ADHD and other learning differences. We will explore strategies and tools for supporting and managing all students in the math classroom.

Susan James

Commonwealth Academy, Alexandria, Virginia

B15C (GREATER RICHMOND CONVENTION CENTER)**264****An Innovative, Practical Approach to Formative Assessment Using Student Work**

(6–12) Session

Principles to Actions

Learn how one district is developing teacher capacity to implement and sustain high-quality formative assessment processes in the middle school math classroom, as well as the implications for self-efficacy, motivation, and learning. The session incorporates video and tools from a job-embedded professional development framework using authentic student work.

Kathleen Dempsey

Mid-continent Research for Education and Learning - McREL, Denver, Colorado

Andrea Beesley

Mid-continent Research for Education and Learning - McREL, Denver, Colorado

GRAND BALLROOM E (MARRIOTT)**265****Quirky Opportunities to Stimulate Student Success in AP Calculus**

(9–12) Session

Build 3-D objects with pipe cleaners. Use pasta to visualize derivatives. Play with cards to understand the fundamental theorem. Calculus concepts come alive through engaging opportunities that expand and enhance student learning. Come to experience calculus fun, and leave with unusual projects for your AP Calculus classroom!

Gail Kaplan

Towson University, Maryland

GRAND BALLROOM CD (MARRIOTT)**266****The Surprise of Equivalent Problems**

(9–12, Preservice and In-Service) Session

Problem solvers take pleasure in observing that some problems can be solved by several different methods. The converse is also wonderful: two, maybe more, seemingly unrelated problems are linked by the same mathematics. The presenter, a co-editor of the “Calendar” in *Mathematics Teacher*, will share some “equivalent” problems with her audience.

Margaret E. Coffey

Thomas Jefferson High School for Science and Technology, Alexandria, Virginia

B21B (GREATER RICHMOND CONVENTION CENTER)**267****Working with Future Teachers: Teaching and Learning for Understanding**

(Preservice and In-Service) Session

This presentation addresses the challenges of working with preservice teachers to prepare them for effectively teaching math in elementary school. The talk focuses on the importance of (1) teachers learning mathematics for understanding and (2) using instructional practices that provide opportunities for children to engage in sense-making.

Joy W. Whitenack

Virginia Commonwealth University, Richmond

CAPITAL BALLROOM 4 (MARRIOTT)**267.1** **ew****Creating a Classroom Culture of Confident Problem Solving**

(9–12) Exhibitor Workshop

The first Common Core practice standard is “Make sense of problems and persevere in solving them.” Using a problem-based high school program called Interactive Math Program, you will experience problem-solving challenges from a student perspective, learn new techniques to implement problem solving, and develop a model of successful problem-solving practices.

It’s About Time

Mt. Kisco, New York

E22 (GREATER RICHMOND CONVENTION CENTER)

2:00 P.M.–3:00 P.M.

267.2 ew**Practice the Practices: Amplify Math Projects**

(6–8) Exhibitor Workshop

Prepare middle school students for CCSS-based, high-stakes tests, and introduce project-based learning (PBL) into your classroom with Amplify Math Project's engaging multiday projects. In this session, participants will gain tools and resources for supporting common pitfalls to PBL in a math class through Amplify Math Project's web-based teacher app.

Amplify

Brooklyn, New York

E21C (GREATER RICHMOND CONVENTION CENTER)**267.3** ew**Pearson's Digits on Realize: Where Math Clicks and Virtual Nerds Rule**

(6–8) Exhibitor Workshop

Experience digits, the only middle grades math curriculum built for today's digital students with interactive whiteboard lessons, online assessments, and robust data analysis. Find out how digits harnesses the power of technology through the Realize platform and innovative apps, such as Virtual Nerd Mobile Math.

Pearson

Boston, Massachusetts

E11C (GREATER RICHMOND CONVENTION CENTER)

3:15 P.M.–4:30 P.M.

268**Let's Play Cards: A Simple, Fun Approach to Teaching Math**

(Pre-K–2) Gallery Workshop

Transform your math teaching with games and activities by using a standard deck of cards. Explore how to use cards to develop basic number sense, problem-solving skills, logical reasoning, and much more. You will leave this workshop with materials ready to use when you return to the classroom.

Frances O. Coleman

Collegiate School, Richmond, Virginia

Nicola Byford

Collegiate School, Richmond, Virginia

E10CD (GREATER RICHMOND CONVENTION CENTER)**269****The Facts about Basic Facts**

(Pre-K–2) Gallery Workshop

Learn what research says about the role subitizing and strategies play in learning your basic facts. Gather ideas that support strategy instruction.

Lynn M. Meade

Henrico County Public Schools, Virginia

Joan M. Kernan

MathScience Innovation Center, Richmond, Virginia

E23 (GREATER RICHMOND CONVENTION CENTER)**270****Building Bridges, Not Walls, from Computation to Algebraic Thinking**

(Pre-K–5) Gallery Workshop

In 2000 NCTM stated that algebra cuts across all areas of pre-K–12 mathematics. In 2010 the Common Core State Standards for Mathematics confirmed that algebraic thinking begins in kindergarten. Yet the progression from single-answer arithmetic to deep mathematics is not clear. Come experience powerful K–8 bridges that connect the dots. Lessons from the speaker's Corwin book series will be provided.

Monica Neagoy

Monica Neagoy Consulting Services, Arlington, Virginia

E21A (GREATER RICHMOND CONVENTION CENTER)**271****Reasoning through Word Problems**

(3–5) Gallery Workshop

Explore a variety of methods and models to help students unlock the mysteries of word problems, many of which are connected to reading comprehension strategies. Learn how to support your students' emerging abilities to solve multistep problems through rich classroom discussions that allow students to share their reasoning.

Victoria M. Bohidar

Chesterfield County Public Schools, Virginia

Kimberly J. Bender

Chesterfield County Public Schools, Virginia

Kathryn Munson

Chesterfield County Public Schools, Virginia

E11AB (GREATER RICHMOND CONVENTION CENTER)

272

The Work of the Elementary Math Coach: Problems and Solutions

(3–5, Preservice and In-Service) Gallery Workshop

During this session the audience will consider different vignettes of actual coaching situations. In small groups they will address focus questions for each vignette. They will have opportunities to share their ideas with the whole group. At the end of the session, the audience will explore new ways to support the math coach’s work in schools.

Aimee J. Ellington

Virginia Commonwealth University, Richmond

Joy W. Whitenack

Virginia Commonwealth University, Richmond

E21B (GREATER RICHMOND CONVENTION CENTER)

273

Using Creative Activity to Build Understanding of Fractions

(3–8) Gallery Workshop

Participants will experience the process of designing a quilt square in ways that explicitly engage them in mathematical discourse about fractions. The processes modeled during the session will focus on assessing and building upon students’ knowledge through creative hands-on activity and mathematical discourse.

Clare V. Bell

University of Missouri–Kansas City

E24 (GREATER RICHMOND CONVENTION CENTER)

274

Breaking the Ice with Mathematical Tasks

(6–12) Gallery Workshop

Many teachers like to get students working together on the very first day of class! This workshop introduces participants to a collection of mathematical ice breakers, appropriate for establishing cooperative norms in middle grades (and higher level) classrooms and promoting deeper and more critical mathematical understanding.

Thomas Evitts

Shippensburg University, Pennsylvania

GRAND BALLROOM F (MARRIOTT)

275

Meaningful Models and Productive Projects for Geometry

(6–12) Gallery Workshop

Come do activities that will make geometry more fun and meaningful! As time allows, we will demonstrate properties with patty paper, construct the Wheel of Theodorus, make an icosahedron, a tetrahedron, and tangrams. I will also share successful projects including Geometry Valentines, creative writing, and Magic Square Quilts.

Arlene Yolles

Retired Math Department Leader, Westport, Connecticut

E25 (GREATER RICHMOND CONVENTION CENTER)

276

Slope: An Intuitive Approach

(6–12) Gallery Workshop

“Slope: An Intuitive Approach” is a unit of study consisting of hands-on activities that utilizes inquiry learning to help students develop an understanding of slope. Participants will engage in selected activities from the unit.

Christine Belcher

MathScience Innovation Center, Richmond, Virginia

CAPITAL BALLROOM 6/7/8 (MARRIOTT)

277 DL

Visual Dictionaries and Graphic Organizers Make Geometry Standards Stick

(6–12) Gallery Workshop

Help all types of learners retain definitions, theorems, and concepts by using visual organizers. LD and ELL students in particular benefit from alternative representations. Come prepare visual dictionaries and graphic organizers for angle, polygon, and circle concepts that address the Common Core standards. Excellent for review and exam prep!

Marilyn L. Zecher

Multisensory Training Institute of ASDEC, Rockville, Maryland

GRAND BALLROOM GHIJ (MARRIOTT)



2015 NCTM Annual Meeting & Exposition is coming up!

Boston • April 15–18

3:15 P.M.–4:30 P.M.

278**Mathematical Expeditions in Polar Science**

(9–12) Gallery Workshop

There are multidisciplinary challenges facing our planet, and polar science provides particularly interesting contexts to engage students. We will examine three mathematics lessons based on shrinking Arctic sea ice extent, melting glaciers, and accurately measuring Weddell seals. Mathematical modeling and data representation will be unifying themes.

Lynn Foshee Reed

Maggie L. Walker Governor's School, Richmond, Virginia

CAPITAL BALLROOM 1/2/3 (MARRIOTT)

279**A Mathematics Coaching Model: Creating Cultural Change in One School**

(Preservice and In-Service) Gallery Workshop

We will describe an adopted coaching model and how its first year of implementation has transformed children's mathematics identities. We will share stories from classrooms about children's actions related to their expectations for mathematics learning and their perspectives about the nature of mathematics.

Lisa A. Coffman

Newport News Public Schools, Virginia

Melva R. Grant

Old Dominion University, Norfolk, Virginia

GRAND BALLROOM AB (MARRIOTT)

3:30 P.M.–4:30 P.M.

280**Modeling as Both Means and Ends to Learning Valued Mathematics**

(General Interest) Session

Principles to Actions

School mathematics is filled with opportunities to engage students with modeling as a practice yet meet mathematical content standards. Focusing on big ideas and essential understandings of mathematical modeling as it evolves from prekindergarten through high school will help us to do this work efficiently, effectively, and enthusiastically.

Rose Mary Zbiek

Board of Directors, National Council of Teachers of Mathematics; Pennsylvania State University, University Park

B21C (GREATER RICHMOND CONVENTION CENTER)

281 **TG****Web 2.0 for the Mathematics Classroom: Motivate and Engage**

(General Interest) Session

Web 2.0, the second generation of the World Wide Web, allows mathematics teachers to connect, create, and share information in a way they never have before. This workshop offers attendees an overview of some of the most effective Web 2.0 tools available today. They will learn how to use each tool and be given additional resources to learn more.

William C. Tozzo

Bedford Central Schools, Bedford, New York

B21B (GREATER RICHMOND CONVENTION CENTER)

282**Where the Sidewalk Ends: Measurement through Literacy**

(Pre-K–2) Session

This presentation illustrates how to integrate literacy in K–2 classroom in order to teach measurement and help children connect geometric concepts as they develop understanding of common units of measurement. Working with manipulatives and investigating their immediate surroundings, young children can comprehend abstract interrelationships of measurement and data.

Rupam Saran

Medgar Evers College, City University of New York, New York

B15A (GREATER RICHMOND CONVENTION CENTER)

283**Math Conferences for Assessing, Teaching, and Learning**

(Pre-K–5) Session

Confer one-on-one with your students to assess their level of mathematical understanding, give feedback, and lead them to their next steps in learning. Your students' level of comprehension becomes clearly visible as they communicate their thinking. With your support, students focus on setting learning goals and self-assessing their progress.

Laney A. Sammons

Independent Mathematics Consultant, Tunbridge, Vermont

GRAND BALLROOM E (MARRIOTT)

284**Common Core and Web 2.0**

(3–8) Session

Technology is ever changing and schools are embracing it, for better or worse. The Common Core standards call for more critical thinking and mathematical conversation. Web 2.0 tools like Twitter, QR codes, blogs, and other online resources allow students to interact with technology while supporting and enhancing content and conceptual understanding.

Nicole E. Shobert

University of Oklahoma, K20 Center, Norman

B10 (GREATER RICHMOND CONVENTION CENTER)**285****Common Core Mathematics Instruction and Assessment: Making the Connection**

(3–8) Session

Principles to Actions

Instruction and assessment must be mutually informing. Participants will explore how to plan for instruction *and* assessment for their K–8 classrooms with the learning goal in mind. Classroom video of students engaged in tasks supportive of both instruction and assessment will be shared, as participants explore what it means to connect them.

Juli K. Dixon

University of Central Florida, Orlando

CAPITAL BALLROOM 4 (MARRIOTT)**286****Increase Accuracy and Speed While Having Fun Using Nontraditional Strategies**

(3–8) Session

Too often we teach one computational strategy, and students feel it is the only strategy there is. We need to remember that not everyone thinks the same or learns the same. I will introduce several nontraditional strategies for adding, subtracting, multiplying, and dividing whole numbers as well as finding the greatest common factor and least common multiple.

Joseph C. Mason

Hagerstown Community College, Maryland

B15C (GREATER RICHMOND CONVENTION CENTER)**287****Projects: Assessing Student Understanding**

(6–8) Session

Projects provide an additional way to assess students, they are engaging, and you don't have to lose a lot of teaching time! Projects tied to specific content standards and mathematical practices will be shared, along with student samples and rubrics.

Laurie Boswell

The Riverside School, Lyndonville, Vermont

B21A (GREATER RICHMOND CONVENTION CENTER)**288****EXCELent Instructional Strategies for Teaching Common Core Math Standards**

(6–12) Session

Discover the advantages of using Excel to teach the Common Core math topics of functions, modeling, statistics, and probability. These project-driven strategies deemphasize rote calculation that leads so many students to dislike math, and they empower students to use their higher thinking skills to complete real-world applications of mathematics.

Andrew John Nelson

Granada Hills Charter High School, Los Angeles, California

E10AB (GREATER RICHMOND CONVENTION CENTER)**289** **TG****CAS: Ten Years On**

(9–12, Higher Education) Session

2002 was the first year that Year 12 students in Victoria, Australia sat Mathematical Methods external examinations for which using CAS (computer algebra systems) was permitted. Ten years later, all students studying Mathematical Methods are using CAS in examinations. This session will present a case study from one school reflecting on their decade of experience.

Sue M. Garner

Ballarat Grammar, Australia

B15B (GREATER RICHMOND CONVENTION CENTER)

3:30 P.M.–4:30 P.M.

290

Once Upon a Circle

(9–12, Higher Education) Session

Principles to Actions

Investigate a problem that involves powers of 2, quartic (and higher) regression, Pascal’s triangle, combinatorics, CAS (computer algebra system), and hyperspace!

John Hanna

Teachers Teaching with Technology, Dallas, Texas

CAPITAL BALLROOM 5 (MARRIOTT)

291

Calculus in the Workplace

(Higher Education) Session

While working on integration techniques and differentiation, have you ever heard “I will never use this stuff in my job”? To encourage students to delve into their respective fields of study we created a course project which requires creativity, technology, and research specific to the student’s field of study.

Christine K. Smith

Edison State College, Punta Gorda, Florida

Joan VanGlabek

Edison State College, Naples, Florida

Ronald R. Smith

Edison State College, Ft. Myers, Florida

GRAND BALLROOM CD (MARRIOTT)

NEW in the NCTM Bookstore!

MATH IS ALL AROUND US | MATH IS ALL AROUND US | MATH IS ALL AROUND US | MATH IS ALL AROUND US

Principles to Actions: Ensuring Mathematical Success for All

What it will take to turn the opportunity of the Common Core into reality in every classroom, school, and district.

Be sure to check out the Program Book for sessions that address one or more of the teaching practices and/or guiding principles for mathematics education as described in *Principles to Actions*.

www.nctm.org/PrinciplestoActions



© April 2014, Stock #14861

List Price: \$28.95 | Member Price: \$23.16

Save 25% in the NCTM Bookstore: \$21.71

Also available as an eBook

List Price: \$4.99 | Member Price: \$3.99



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

Save 25% on this and *all* books and products in the NCTM Bookstore!





NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

1906 ASSOCIATION DRIVE | RESTON, VA 20191-1502
TEL: (800) 235-7566 | FAX: (703) 476-2970 | WWW.NCTM.ORG

NCTM Individual Membership Application

THE FUTURE. INSPIRING TEACHERS. ENGAGING STUDENTS. BUILDING THE FUTURE. INSPIRING TEACHERS. ENGAGING STUDENTS.

Visit www.nctm.org/membership to learn more and join!

Contact Information (Please print. All fields marked with an * are required for processing)

First Name* _____ Last Name* _____

School* _____

Address (check one)*: School Address Home Address

City* _____ State/Prov* _____ ZIP/PC* _____

Country* _____ Phone* _____

Primary E-mail* _____

Your grade level interest (check all that apply)*: PreK-2 3-5 6-8 9-12 Higher Education

Full Individual Membership

Includes a print subscription to one NCTM journal (print version includes online access to the same journal).

Interested in an e-Membership or signing up for multi-years...visit www.nctm.org/membership

Select **ONE** journal below:

	Full Member	Add-On journals
<i>Teaching Children Mathematics (TCM)</i> (Pre-K-6)	<input type="checkbox"/> \$87	<input type="checkbox"/> \$37
<i>Mathematics Teaching in the Middle School (MTMS)</i> (5-9)	<input type="checkbox"/> \$87	<input type="checkbox"/> \$37
<i>Mathematics Teacher (MT)</i> (8-14)	<input type="checkbox"/> \$87	<input type="checkbox"/> \$37
<i>Journal for Research in Mathematics Education (JRME)</i>	<input type="checkbox"/> \$114	<input type="checkbox"/> \$64
<i>Mathematics Teacher Educator</i> (an NCTM/AMTE online journal)	N/A	<input type="checkbox"/> \$21

Payment Summary

Membership Dues \$ _____

Additional Journals \$ _____

SUBTOTAL: Membership and Additional Journals \$ _____

SIGN UP FOR THE AUTOMATIC RENEWAL PROGRAM and save 5% off your annual membership.
Visit www.nctm.org/autorenew for details (credit card orders only)..... \$ -

Foreign Postage (if applicable): For mailings outside the U.S., add \$18 for the first print journal subscription and \$4 for each additional journal subscription per year. \$ _____

Mathematics Educational Trust (MET) Support (Your contribution is tax deductible) \$ _____

TOTAL: Payment to NCTM in U.S. Dollars \$ _____

Method of Payment

Personal Credit Card School/Company Credit Card Check Money Order P.O.# _____ (include signed copy)

AMEX _____ CREDIT CARD NUMBER _____ EXP. DATE _____ SECURITY CODE _____

MC _____

Visa _____ SIGNATURE (required for credit card payments) _____ PRINT NAME _____

NOTE: Membership pricing valid through May 31, 2015. Visit www.nctm.org/membership for up-to-date pricing.

I was referred by an NCTM Member: _____ Member ID: _____

Check here to remove your name from rental lists (companies renting lists must obtain approval from NCTM before using lists).

STANDING ANNUAL PERSPECTIVES IN MATHEMATICS EDUCATION (APME) ORDER PLAN: Check this box to receive each NCTM APME as it becomes available. The APME may be returned in resalable condition within 30 days, and you may cancel your plan at any time.

Affiliate Membership

Join an NCTM Affiliate Today!

Once you have joined NCTM, membership in an NCTM Affiliate is a terrific way to round out your professional involvement. Affiliates offer you an opportunity to link with teachers in your state, region, or city for support, professional development opportunities, community outreach, political advocacy, and information sharing.

A list of Partner Affiliates in the conference's region and the Affiliates-at-Large appears below. To join one of these groups, e-mail the Affiliate contact for membership information. NCTM has more than 200 Affiliates throughout the United States and Canada. For a list of all organizations affiliated with NCTM and information on how to join, please see the Affiliate Directory on the NCTM website.

Affiliate Information

CONNECTICUT

Associated Teachers of Mathematics in Connecticut

Patricia Cancilla-Hahn, phahn@crec.org

Connecticut Council of Leaders of Mathematics

Traci Healy, thealy424@aol.com

DELAWARE

Delaware Council of Teachers of Mathematics, Inc.

Mary Pinkston, mary.pinkston@bsd.k12.de.us

GEORGIA

Georgia Council of Supervisors of Mathematics

Jennifer Farrow, jfarrow@peachschools.org

Georgia Council of Teachers of Mathematics

Susan Craig, secddc@aol.com

MARYLAND

Maryland Council of Teachers of Mathematics

Jennifer Novak, jnovak@hcpss.org

NEW YORK

Association of Mathematics Teachers of New York State

Katie Rommel-Esham, rommel@geneseo.edu

Association of Teachers of Mathematics of New York City

Sandi Plotkin, zzplot@aol.com

Nassau County Mathematics Teachers Association (New York)

Gabriella Gizzi, ggizzi64@aol.com

New York State Association of Mathematics Supervisors

Nancy Zarach, nancy.zarach@gmail.com

Ten County Mathematics Education Association (New York)

Suzanne Libfeld, suzli@aol.com

United Federation of Teachers Math Teachers Committee (New York)

Philip Rosen, philipsrosen@yahoo.com

NORTH CAROLINA

North Carolina Council of Teachers of Mathematics

Joette Midgett, jmidgett.ncctm@mindspring.com

NEW JERSEY

Association of Mathematics Teachers of New Jersey

Marie Rey, macharey@verizon.net

PENNSYLVANIA

Pennsylvania Council of Teachers of Mathematics

Cathie Cooper, cooper@garnetvalleyschools.com

Association of Teachers of Mathematics of Philadelphia and Vicinity (Pennsylvania)

Marian Avery, mavery077@gmail.com

Pennsylvania Council of Leaders of Mathematics

Katherine Hebert, khebert_1999@yahoo.com

RHODE ISLAND

Rhode Island Mathematics Teachers Association

Lee Jacobs, ljacobs@cox.net

SOUTH CAROLINA

South Carolina Council of Teachers of Mathematics

Sandra Powers, powersjs@ymail.com

South Carolina Leaders of Mathematics Education

Sandy Avinger, savinger@richlandone.org

TENNESSEE

Memphis Area Council of Teachers of Mathematics (Tennessee)

Emily Barbee, barbeeb@scsk12.org

Tennessee Mathematics Teachers' Association

Patricia Tyree, pat_tyree@brentwoodacademy.com

Upper East Tennessee Council of Teachers of Mathematics

Ryan Nivens, nivens@etsu.edu

VIRGINIA

Battlefields of Northern Virginia Council of Teachers of Mathematics

Rosa Kehlet, kehletm@pwcs.edu

Greater Richmond Council of Teachers of Mathematics (Virginia)

Peronica Carter, pmcarter@henrico.k12.va.us

Southwest Virginia Council of Teachers of Mathematics

Karen Shuler, koshuler@hotmail.com

Virginia Council of Teachers of Mathematics

Anita Lockett, alockett@fcps.edu

WEST VIRGINIA

Southwest Virginia Council of Teachers of Mathematics

Karen Shuler, koshuler@hotmail.com

West Virginia Council of Teachers of Mathematics

Murrel Hoover, murrel.hoover@teachersdg.org

Affiliates-at-Large

Adult Numeracy Network

Lynda Ginsburg, ginsburg@rci.rutgers.edu

Association of Mathematics Teacher Educators

Megan Burton, meb0042@auburn.edu

Association of State Supervisors of Mathematics

Charles Watson, chaswatson@sbcglobal.net

Benjamin Banneker Association, Inc.

Mylah Deliford, mdeliford@hotmail.com

Council for Technology in Mathematics Education

Stephanie Cooperman, scooperman@chatham-nj.org

Council of Presidential Awardees in Mathematics

Jennifer Rising, jmrising@me.com

National Council of Supervisors of Mathematics

Sharon Rendon, sharon.rendon@k12.sd.us

North American Study Group on Ethnomathematics

Julie Herron, juherron@calpoly.edu

Society of Elementary Presidential Awardees

Martha Short, mshort@lidd.net

TODOS: Mathematics for ALL

Bob McDonald, mac@todos-math.org

Women and Mathematics Education

Andria Disney, andriadisney@live.com

About the Host Organizations

The **Virginia Council of Teachers of Mathematics** is proud to be one of your host organizations for NCTM's 2014 Regional Conference & Exposition. We are an organization of over 1,200 members encompassing K–16 educators, math coaches, math supervisors, and mathematicians. Our journal, the *Virginia Mathematics Teacher*, is published twice a year and just celebrated its 40th year. Each year, we award over \$8,000 in scholarships, grants, and awards. Our annual conference is held in the spring and attracts nearly 1,000 members.

The **Greater Richmond Council of Teachers of Mathematics (GRCTM)**, a professional resource for mathematics educators at all levels, was founded in 1965. The Council has three purposes:

- encouraging an active interest in and an appreciation of mathematics;
- affording a medium for exchange of views regarding the teaching of mathematics; and
- promoting cooperative study of problems of mathematics education at all levels.

Currently GRCTM serves approximately 250 members from the Capital Region and surrounding counties. GRCTM provides professional development for educators through an annual conference in the fall and a workshop-style academy in the spring. Members can be nominated for the Lucien T. Hall, Jr. Distinguished Service Award given annually to an outstanding teacher/supervisor who has dedicated herself or himself to mathematics education during a distinguished career. Past winners include Carolyn Williamson, Carol Re zba, and Michael Bolling. Additionally members can apply for one of two John van de Walle Professional Development Grants to improve the effectiveness of their teaching. Outreach for students include the annual Middle School Math Field Day held at the University of Richmond and the High School Conference co-sponsored with the MathScience Innovation Center. GRCTM publishes a newsletter, *The Great Circle*. Additional information can be found at www.grctm.info.

Sponsors

We thank our sponsors for generously supporting NCTM by offering products and services to enhance your conference experience. Please stop by to thank the following sponsors when you are in the Exhibit Hall.



In-Kind Sponsors



NCTM Board of Directors

Diane J. Briars, President
Pittsburgh, Pennsylvania

Linda M. Gojak, Past President
John Carroll University, Ohio

Robert M. Doucette, Executive Director

Jennifer Bay-Williams
University of Louisville, Kentucky

Margaret (Peg) Cagle
Vanderbilt University, Nashville, Tennessee

Florence Glanfield
University of Alberta, Edmonton

Karen J. Graham
University of New Hampshire

Paul Kelley
Anoka High School, Minnesota

Gladis Kersaint
University of South Florida

Cathy Martin
Denver Public Schools, Colorado

Ruth Harbin Miles
Falmouth Elementary School, Virginia

Jane Porath
Traverse City Area Public Schools, Michigan

Trena L. Wilkerson
Baylor University, Texas

Jonathan (Jon) Wray
Howard County Public Schools, Maryland

Rose Mary Zbiek
The Pennsylvania State University

NCTM wishes to thank our 2014 Richmond Regional Conference Committees for their generous support and dedication in planning this year's Regional Conference.

Program Committee

Carolyn Williamson, Chair
The Carmel School, Virginia

Sharon Taylor
Georgia Southern University

Kathleen Mittag
University of Texas

Lisa Hall
Henrico County Public Schools, Virginia

Denise Trakas
Washoe School District, Nevada

Leah Dix White
Western Early College High School, Kentucky

John Hammett
St. Peter's College, New Jersey

Volunteer Committee

Ian Shenk, Chair
Hanover County Public Schools, Ashland

DeAnna Moreau
Colonial Heights Public Schools

Terri Okes
Henrico County Public Schools (retired)

John Travis
Virginia State University, Petersburg








Program Development Group Liaison

Eric Milou
Rowan University, New Jersey

Floor Plans

Greater Richmond Convention Center

Level 1

-  Elevators
-  Escalators
-  Exhibit Hall
-  Meeting Rooms
-  Parking
-  Restrooms
-  Stairs



P
Priority reserved parking deck








Richmond Marriott

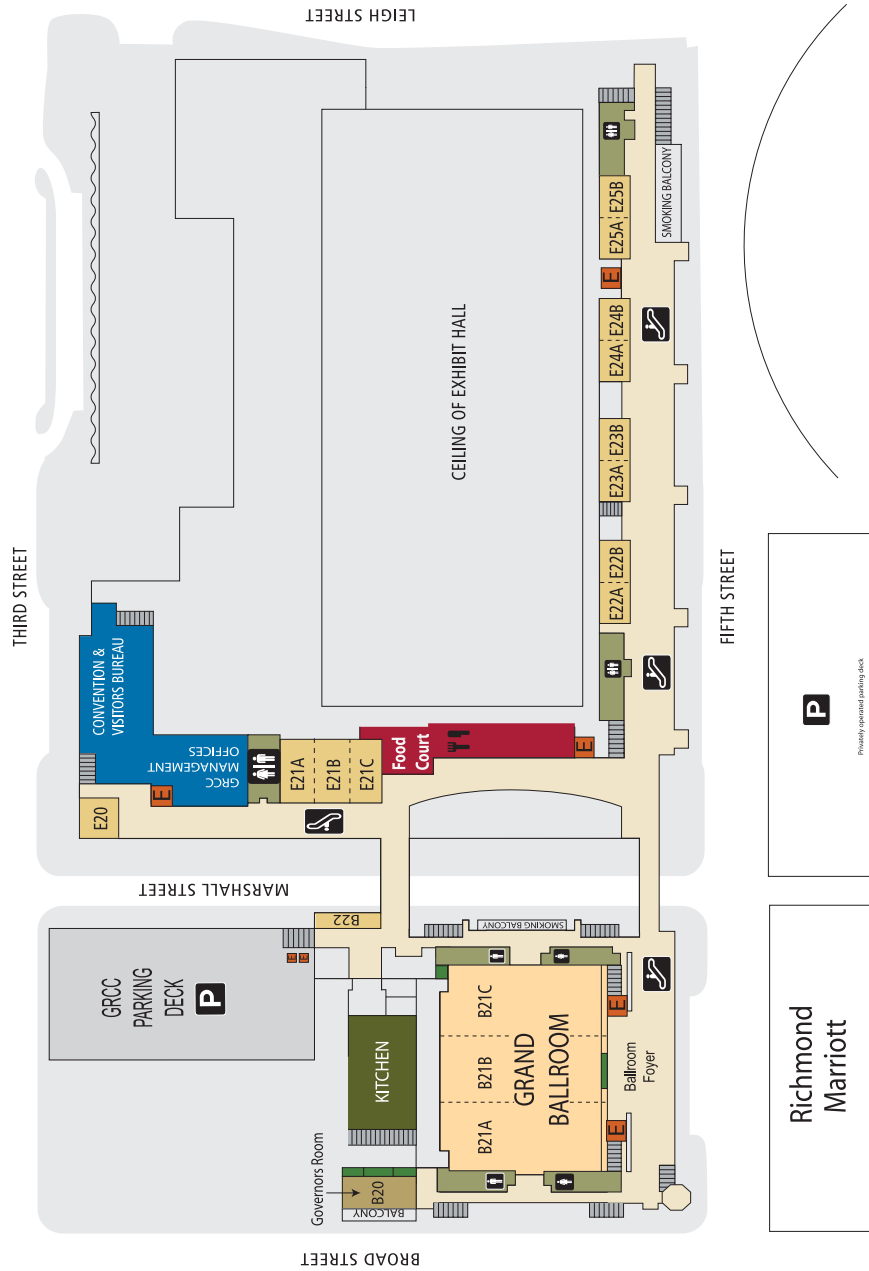
P
Priority reserved parking deck

Hilton Garden Inn

Greater Richmond Convention Center

Level 2

-  Elevators
-  Escalators
-  Exhibit Hall
-  Meeting Rooms
-  Parking
-  Restrooms
-  Stairs



 Privately operated parking deck

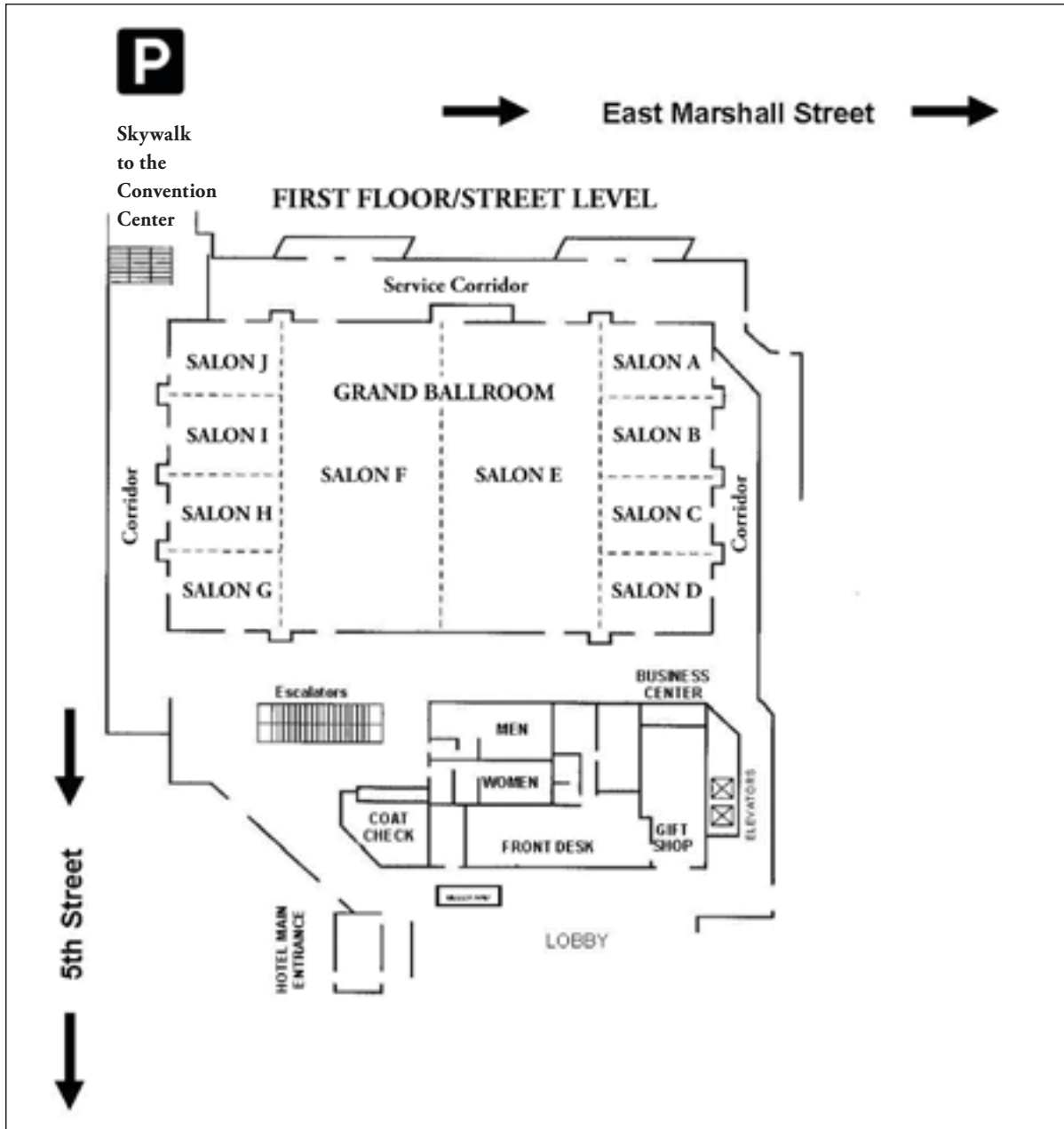
Hilton Garden Inn

Richmond Marriott

 Privately operated parking deck

Floor Plans

Richmond Marriott



Richmond Marriott

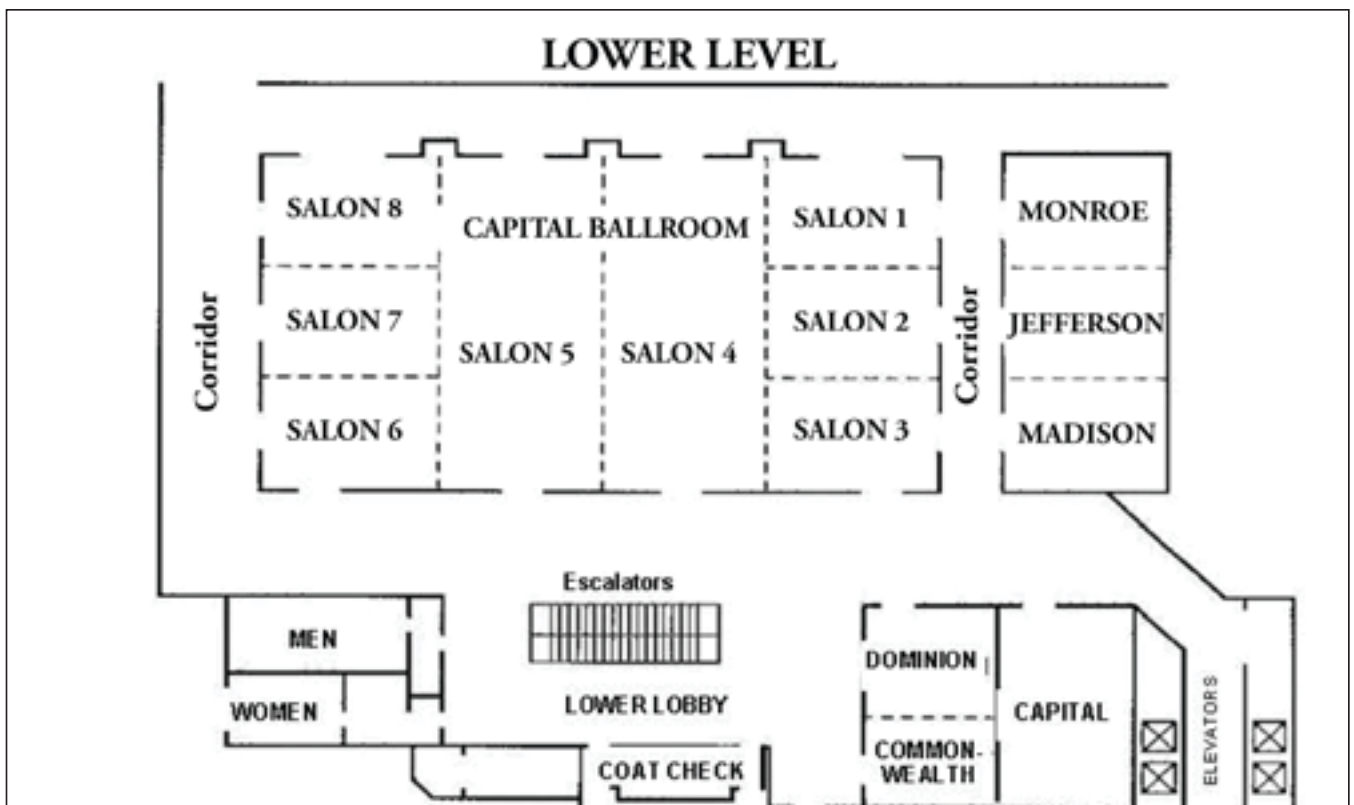
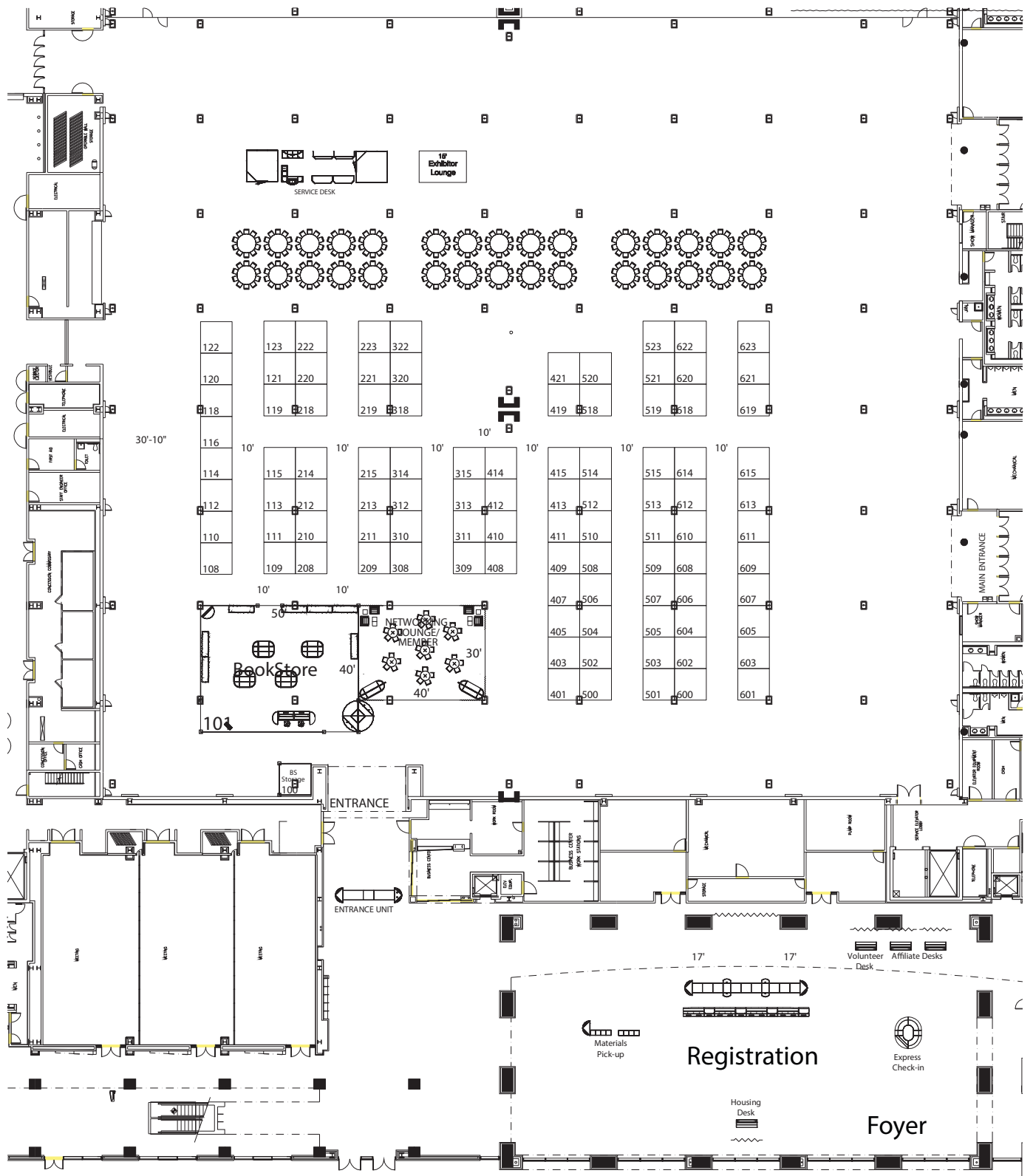


Exhibit Hall Floor Plans



A

Amplify

Booth: 612

Brooklyn, New York

PH: 800-823-1969

www.amplify.com

Amplify is reimagining the way teachers teach and students learn. Our products and services are leading the way in data-driven instruction, one-to-one mobile learning, and next-generation digital curriculum and assessment. Amplify has provided innovative technology to the K–12 market for more than a decade as Wireless Generation.

Apperson DataLink

Booth: 619

Renton, Washington

PH: 800-827-9219

www.apperson.com/go/NCTMER

DataLink is the most complete, affordable solution for digitally capturing and reporting data from paper assessments. Apperson's DataLink test scanners, answer sheets, and reporting software feature time-saving and reliable technology to deliver immediately useful, relevant information for instruction. DataLink easily connects paper to digital in every classroom.

Ascend Education

Booth: 620

Shreveport, Louisiana

PH: 318-865-8232

www.ascendmath.com

Ascend Math is an intensive instructional math intervention that often results in students gaining one or two grade levels in as little as a semester or less. Ascend Math offers more award-winning online instruction and interactive multi-modal learning addressing conceptual as well as algorithmic approaches than any other supplemental math program. Ascend Math works on all tablets. Visit us at booth 620 and receive Flash Card Math, a math facts fluency program free for all your students.

B

Bedtime Math Foundation

Booth: 315

Summit, New Jersey

PH: 908-444-4522

www.bedtimemath.org

Bedtime Math is a nonprofit organization dedicated to helping kids love math as much as playtime or dessert. Parents and kids love to tackle our wacky math problems from our best-selling books or from our free daily email and app. Now, we're excited to offer Crazy 8s, a brand-new, over-the-top after-school club designed to get kids in pre-K–5 fired up about math. Visit us to learn more, or check out our workshop at 9:30 a.m. on November 13 in Room E21-C to see Crazy 8s in action!

Big Ideas Learning, LLC

Booth: 512

Erie, Pennsylvania

PH: 814-824-6365

www.BigIdeasMath.com

The Big Ideas Math program provides both middle and high school students a balanced approach to instruction. Its combination of print and online materials is aligned to the Common Core State Standards and Progressions documents and incorporates the Mathematical Practices within each lesson. Using engaging activities followed by rich, direct instruction lessons, Big Ideas Math offers opportunities for students to reason and incorporate real-life math scenarios in a classroom environment.

Borenson and Associates, Inc.

Booth: 409

Allentown, Pennsylvania

PH: 610-398-6908

www.borenson.com

Borenson and Associates, Inc., seeks to make algebra and fraction concepts visual and intuitive for elementary and middle school students. The popular Hands-On Equations® program for learning basic algebra has now been used by more than a million students. In addition, since 1990 more than 50,000 teachers of grades 3–8 have attended the popular Making Algebra Child's Play!® workshop. Hands-On Equations® products are available for the interactive whiteboard and as Android and IOS apps.

Box Cars & One-Eyed Jacks, Inc.

Booth: 515

Edmonton, Alberta, Canada

PH: 780-440-6284

boxcarsandoneeyedjacks.com

Box Cars and One-Eyed Jacks is the leader when it comes to math games. All of our award-winning K–10 resources are correlated to the Common Core standards and are used across the country. We are one of the leading suppliers of dice, cards, dominoes, and other math manipulatives. The Box Cars consulting team provides the best hands-on training in the country when it comes to games as a teaching strategy. We offer half, full, and intensive school-wide trainings.

Britannica Digital Learning

Booth: 118

Chicago, Illinois

PH: 800-621-3900

<http://mathincontext.eb.com>

Aligned to state standards and the Common Core, Mathematics in Context (MiC) is a modular middle grades series. MiC consists of real-world mathematical tasks designed to stimulate mathematical thinking and the use of math models, to promote discussion among students, and to develop mathematically proficient students. It is used in schools around the country as a whole curriculum, a supplemental series, a resource for advanced fifth graders, and remediation for struggling algebra students.

C

Casio America, Inc.

Booth: 108

Dover, New Jersey

PH: 973-361-5400

www.casio.com

CASIO® has a full line of calculators for every level of education. As a leading producer of graphing, scientific, and basic calculators, CASIO calculators are easy-to-use and their time-saving operation makes it easier for students to learn. CASIO also provides calculator emulators, print materials, and professional development for a total math solution. To see the full line of easy-to-use, cost-saving CASIO Calculators, visit www.casioeducation.com.

Exhibitor Directory

Continental Press

Booth: 519

Elizabethtown, Pennsylvania
PH: 800-233-0759
www.continentalpress.com

Continental . . . quality and value for over 75 years. Visit our booth to see the latest materials developed specifically for the Common Core. We offer programs in both print and technology to support the varied models of instruction and learning.

CPM Educational Program

Booth: 314

Elk Grove, California
PH: 209-745-2055
www.cpm.org

CPM offers grades 6–12 mathematics textbooks that use problem-based learning in student centered classrooms and supports it with funded professional development. The Core Connections series is 100% aligned with CCSS content and practices. High school books offer both traditional and integrated pathways.

Creative Mathematics

Booth: 318

Arcata, California
PH: 707-826-2965
www.creativemathematics.com

Creative Mathematics is a leading educational consulting company that has provided 23 years of teacher training workshops in the United States, Canada, and internationally. Creative Mathematics offers books, music, supplies, and manipulatives that our presenters use in many of their presentations. Many of these materials are exclusive to Creative Mathematics and are both entertaining and powerful tools that can help improve your teaching now!

Curriculum Associates Inc

Booth: 119

North Billerica, Massachusetts
PH: 800-225-0248
<http://www.CurriculumAssociates.com>

Curriculum Associates is a rapidly growing education company committed to making classrooms better places for teachers and students. We serve millions of students with our i-Ready®, Ready®, BRIGANCE® and other programs because of our laser focus on educators' needs over our own bottom line, and a belief that thoughtful and continuous innovation leads to a positive impact on classrooms and measurable growth for students. Learn more at www.curriculumassociates.com.

Stop by NCTM Member Services!

INSPIRING TEACHERS. ENGAGING STUDENTS. BUILDING THE FUTURE.

Learn more about...

- **Mathematics tools and resources** to help make your job easier
- **Activities and lessons...** we'll show you how to gain access to 1,000s
- **Getting the most out of your NCTM membership...** not a member, learn how to become one
- **Receiving a free Boston T-shirt if you join or renew** your membership on site.

Located in NCTM Central of the exhibit hall.



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS
(800) 235-7566 | WWW.NCTM.ORG



D

Didax Inc

Booth: 600

Rowley, Massachusetts
PH: 800-458-0024
www.didax.com

Didax publishes supplemental resources for pre-K–12, including books, games, interactive resources, manipulatives, and more. In addition, we partner with Math Perspectives to distribute Kathy Richardson's assessment and curriculum materials. Our materials provide teachers with innovative, hands-on ways to help students achieve the goals of the Common Core State Standards.

Dinah-Might Adventures, LP

Booth: 309

San Antonio, Texas
PH: 210-698-0123
www.dinah.com

Dinah-Might Adventures is an educational publishing and consulting company owned by Dinah Zike, Author/Speaker. Her books are known for their innovative ways to use Foldables® in teaching all subjects and grade levels. She also offers professional development at the Dinah Zike Academy, a unique trainer of trainers facility in Texas.

E

EAI Education

Booth: 500

Oakland, New Jersey
PH: 800-770-8010
www.eaieducation.com

EAI Education provides over 6,000 manipulatives, educational games, classroom resources, and teaching supplies for math, literacy, and science in pre-K–12, home schools, parents, students, and colleges.

Educators Outlet, Inc.

Booth: 511

Timnath, Colorado
PH: 970-224-3811
<http://www.educatorsoutlet.com>

Educators Outlet is your best source for all of your classroom and educational manipulative needs. From teacher resource and literature books, to manipulatives and classroom resources, to customized mathematics kits designed around your individual requirements, we are here to help. We are your source for the F.U.N. Empty Number line. Stop by our booth to receive a demonstration.

Enovative Technologies

Booth: 215

Ocean City, Maryland
PH: 443-731-9123
www.magicmassagetherapy.com

Since 2007 we have specialized in the marketing and sales of high quality Magic Massagers. These revolutionary products use Tens (Unit) technology and are based on the same electronic stimulation technology that chiropractors and physical therapists use every day. The difference between these devices and regular tens units is that tens units are made simply to treat pain versus our Magic Massagers.

ExploreLearning

Booth: 509

Charlottesville, Virginia
PH: 866-882-4141 Ext. 224
www.explorelearning.com

ExploreLearning develops online solutions to improve student learning in math and science. ExploreLearning Gizmos are the world's largest library of interactive, online simulations for math and science in grades 3–12. ExploreLearning Reflex is the most powerful solution available for math fact fluency. Gizmos and Reflex bring research-proven instructional strategies to classrooms around the world.

F

FACEing MATH

Booth: 611

Hemet, California
PH: 951-492-8341
www.FACEingMATH.com

We sell supplementary math books that are a unique blend of math and art. Our books are created by classroom teachers and are suitable for students in first grade through high school algebra 2.

First In Math

Booth: 610

Easton, Pennsylvania
PH: 610-253-5255
www.firstinmath.com

Discover the surest way to engage students and build a love of math. First In Math Online offers the deep practice students need to improve math skills. Comprehensive content (addition through algebra) strengthens problem solving and higher-order thinking skills. Self-pacing program allows students in K–8 to enter at their level, encouraging them to explore, take ownership, and persevere! Let us show you FIM's extensive activities (aligned to CCSSM), fluency, focus, and assessment tools.

Frog Publications

Booth: 510

San Antonio, Florida
PH: 800-777-3764
www.frog.com

Systematic reinforcement programs, individualized educational plans, response to intervention, differentiated instruction, terrific and ready-to-use learning centers, take-home parental involvement program, daily review, critical thinking and dual language! All Frog games use the same easy-to-learn rules. Students needing different levels or skills can practice together!

H

Hewlett-Packard

Booth: 504

San Diego, California
PH: 619-942-4099
www.hp.com/calculators

HP educational solutions can revolutionize your classroom with cutting-edge tools and wireless classroom technology that encourage collaboration and enhance mathematical discourse. With the launch of the HP Prime Wireless Classroom Network, easily view and project students' calculator screens, share customized data, and conduct polls from one easy location. Visit HP at booth 504 to learn more about HP Prime Graphing Calculators with the new Wireless Classroom Network!

Houghton Mifflin Harcourt

Booth: 501

Austin, Texas
PH: 512-721-7161
www.hmhco.com

Houghton Mifflin Harcourt is a global learning company with the mission of changing people's lives by fostering passionate, curious learners. HMH combines cutting-edge research, editorial excellence, and technological innovation to improve teaching and learning environments and solve complex literacy and education challenges. For more information, visit www.hmhco.com.

I **It's About Time**

Booth: 308

Mt. Kisco, New York
PH: 914-273-2233
www.iat.com

It's About Time believes that students learn math and science the way that practicing scientists and mathematicians do. They learn when something grabs their attention, and when the content is relevant to their lives. They learn when we allow them—and, in fact, encourage them—to talk to one another and question one another's results. They learn when we permit them to get their hands on the subject matter. In short, when we allow students to use all of their senses, they make sense of math and science.

IXL Learning

Booth: 221

San Mateo, California
PH: 855-255-8800
www.IXL.com

IXL is a math practice website for K–12 aligned to state standards and the Common Core. IXL offers unlimited questions in a fun, dynamic format that students love. Plus, teachers can view detailed reports on students' progress and trouble spots—including complete question histories for individuals.

K **K8resources**

Booth: 521

Saco, Maine
PH: 207-283-4852
www.k8resources.com

Find out about our three CD-ROMS—Counting + Addition/Subtraction; Numbers + Multiplication/Division; and Geometry + Fractions. Each has visual introductions, self-checking practice slides, and challenge problems. Our super-affordable Learning Kits (for Addition, Multiplication, Fractions, Perimeter/Area, and Angles) have an introductory card, an activity, and 40 flashcards. The ultimate in low-tech, Light-Ups offer engaging facts practice—giving feedback at the speed of light! For more, see www.k8resources.com.

Kagan Publishing & Professional Development

Booth: 313

San Clemente, California
PH: 949-545-6320
www.KaganOnline.com

Dedicated to revolutionizing education, Kagan Publishing & Professional Development's line of products is all about engagement! Kagan works with educators to implement scientifically proven strategies that increase academic gains and create positive social relations. Research-based and extensively classroom tested, let Kagan show you how to boost classroom engagement and learning. Stop by booth 313 to see how we can customize a professional development program designed to meet your needs!

Kaplan ELC

Booth: 618

Lewisville, North Carolina
PH: 336-712-2014
www.kaplanco.com

Kaplan Elementary is your resource for innovative supplemental materials to support 21st-century learning environments in core subject areas and extended learning settings from kindergarten to fifth grade. We are dedicated to providing hands-on resources and materials that help children continuously develop and improve their math skills while aligning with NCTM and state standards.

Kendall Hunt Publishing Company

Booth: 503

Dubuque, Iowa
PH: 563-589-1075
kendallhunt.com/prek12

Kendall Hunt provides educators with a complete, Common Core-aligned pre-K–12 mathematics solution. Our curriculum emphasizes mathematical practice standards, builds students' critical thinking and procedural skills, and promotes conceptual understanding. Available in digital and print formats, our programs are supported with ongoing professional development to ensure effective implementation and elevate classroom achievement.

KnowRe

Booth: 412

New York, New York
PH: 917-757-3667
www.knowre.com

KnowRe is an innovative adaptive learning solution for mathematics. KnowRe assesses an individual's strengths and weaknesses, personalizes a curriculum for each student's focus areas and engages students through gamified features, attractive graphics, and social learning. KnowRe believes in the importance of a good education, the need for personalization in our educational system and that technology is the most effective tool to help bring about these goals.

L **Learning Carpet-TLC, Inc.**

Booth: 508

Huntsville, Ontario, Canada
PH: 705-789-8912
thelearningcarpet.com

The Learning Carpet (6' square) enables teachers to more effectively teach math and language concepts through the integration of body movement and language development. On the carpet, children have opportunities to play, discover, learn, and understand concepts. As a result they are able to articulate and demonstrate their learnings. Look for Wendy Hill's interactive workshop, "Let's Get Physical—With Math on the Floor!" Teachers will leave this interactive session with multiple practical ideas.

Learning Wrap-Ups

Booth: 414

Layton, Utah
PH: 801-497-0050

www.learningwrapups.com

Learning Wrap ups, Inc. is the developer and publisher of Learning Wrap ups, Learning Palette, and Learning Palette Online. These unique products have been developed to assist the K–5 student with development of fact fluency, and conceptual understanding of important math skills. The products of Learning Wrap ups have been utilized in the classroom for over 30 years and have been called the "best learning center products" available.

LEGO Education

Booth: 219

Pittsburg, Kansas
PH: 620-231-0000

education.lego.com/da-dk/lesi?domainredir=www.legoeducation.us

LEGO® Education combines the unique excitement of LEGO bricks with hands-on classroom solutions that engender engagement with the mathematical concepts. We focus on providing high-quality education solutions that appeal to a variety of learning styles and for all educational levels. Visit the LEGO Education booth to learn how our products can bring innovation to your classroom where students will feel encouraged and motivated to think, write, and speak freely about mathematics.

Lone Star Learning

Booth: 502

Lubbock, Texas
PH: 806-281-1424

lonestarlearning.com

Lone Star Learning is a curriculum development company offering unique, easy-to-use visuals and interactive bulletin boards that give students the specific practice needed to achieve mastery in math, science, and language arts. Lone Star Learning is the proud winner of Learning magazine's Teachers' Choice Award for three years running. We strive to increase student success while decreasing teacher effort with our innovative products! We hope to become an integral part of your classroom!

M

Mangahigh.com

Booth: 604

London, England, UK
PH: 877-626-4244

www.mangahigh.com

Learn about this K–10 games-based math resource. Mangahigh's new approach to online math uses behaviorist techniques from the social games world to generate incredible student engagement. Adaptive technology and personalized learning pathways ensure that students not only master the curriculum, but learn to love math.

MarkerBoard People

Booth: 609

Lansing, Michigan
PH: 800-379-3727

www.dryerase.com

Our student dry erase markerboards and response boards in class sets are great for instant response and instant assessment. And at unbeatable prices! Single- and double-sided available. Perfect for math, science, language arts, graphing, handwriting and more. Long-lasting, non-toxic, ultra-low odor markers too!

Marshall Cavendish

Booth: 605

Tarrytown, New York
PH: 914-332-8888

mceducation.us

Marshall Cavendish Education is a global provider of holistic education curricula that help teachers become facilitators and students to be critical thinkers. The company's products are published in 13 languages, in more than 50 countries, and are used by K–8 educators and students. Marshall Cavendish Education is revolutionizing learning and teaching with the Singapore Math® Approach, which uses the concrete, pictorial, and abstract (CPA) learning progression.

Mastery Ed

Booth: 601

Fallbrook, California
PH: 800-454-6284

www.MasteryEd.com

Mastery Educational Service (Mastery Ed), authorized representative for the Math-U-See line of products and services for Special Education. Specializing in RtI Tier 2 and 3 level interventions, we help you develop a program that truly is geared to provide unique, individualized instruction for students. If you are looking for a math program that meets the Common Core Standards for Mathematical Practice or training, we can help. Full demo and info at Booth 1030, or go to www.MasteryEd.com or call us at 800-454-6284.

Math & Movement

Booth: 112

Ithaca, New York
PH: 607-339-6182

www.mathandmovement.com

Math & Movement is a kinesthetic, multi-sensory approach to teaching math that incorporates physical exercise, stretching, cross-body movements, yoga, and visually pleasing floor mats designed to encourage students to practice math concepts. The Math & Movement program allows students to physically hop, walk, crawl, dance, or touch the mats as they learn, thus using more learning modalities (visual, auditory, motor, and kinesthetic) when practicing math.

Math Matters Inc

Booth: 513

Westbury, New York
PH: 516-333-0717

www.mathmattersinc.com

Math Matters, Inc., was established in 1998 and publishes a monthly journal of games and puzzles for elementary and middle school teachers. In addition, the company offers seminars, workshops and courses in math education throughout the United States. Books, kits, and math resource materials are available for elementary, middle and high school teachers of mathematics. For a full listing of services, and resources visit our website at www.mathmattersinc.com.

Math Solutions

Booth: 211

Sausalito, California
PH: 415-339-4818

mathsolutions.com

Math Solutions, founded by Marilyn Burns, has been transforming instruction for 30 years by providing the highest quality professional learning, resources, and coaching to improve mathematics instruction and student proficiency. With partnerships across schools and districts nationwide, Math Solutions offers comprehensive professional learning to transform curriculum and instruction, while preparing students for the rigorous expectations of college and career.

Math Teachers Press

Booth: 608

Minneapolis, Minnesota
PH: 800-852-2435

www.movingwithmath.com

Our Blended Learning Management System for pre-K–12 provides formative assessment and conceptual-based instruction using manipulatives with research based strategies and proven results. Objectives are correlated to all state and national standards. Instruction integrates the Concrete-Representational-Abstract (CRA) pedagogy with scripted lesson plans to provide embedded PD achievement gains for all students, especially ELL and basic/below basic levels. Includes web-based assessment and e-guides.

Mathalicious

Booth: 208

Austin, Texas
PH: 530-420-5474
www.mathalicious.com

61 percent of middle schoolers would rather take out the garbage than do math homework. For them, math isn't just a chore . . . it's worse! But it doesn't have to be that way. Mathalicious offers engaging real-world lessons and projects aligned to Common Core Standards for middle and high school. Lessons promote the Common Core Standards for Mathematical Practice by providing opportunities for students to think critically and creatively, develop arguments, and critique the reasoning of others.

MATHCOUNTS Foundation

Booth: 213

Alexandria, Virginia
PH: 703-299-9006
www.mathcounts.org

MATHCOUNTS provides fun and challenging programs for sixth, seventh, and eighth grade students. Through three programs—the MATHCOUNTS Competition Series, the National Math Club, and the Math Video Challenge—we strive to foster talent, curiosity, and a love of math in all students. We also provide free resources to educators, such as the School Handbook, with 300 problems aligned to Common Core Standards. There are many paths to success in math; stop by to learn how we can help your students discover theirs.

Mathematical Olympiads for Elementary & Middle Schools

Booth: 210

Bellmore, New York
PH: 516-781-2400
moems.org

Math Olympiads is a not-for-profit corporation dedicated to stimulating enthusiasm, fostering creativity, and strengthening intuition in mathematical problem solving. Through the use of five monthly contests, teachers and teams of up to 35 students explore and review mathematical concepts while developing flexibility in solving non-routine problems. Certificates, medals, or trophies are awarded to all participants. Visit our booth for information, sample problems, and prizes.

Mathspace

Booth: 115

New York, New York
PH: 718-510-2582
www.mathspace.com

Come see something truly different! Mathspace is the world's only app that allows students to hand-write all their worked solutions step-by-step for every question. Hints, videos, lessons, and next steps support students at every step, with adaptive learning to personalize their math journey. All results are summarized into useful reports for teachers to pinpoint problem areas to focus teaching. So if you always say, "How you got the answer is as important as the final answer," come speak to us!

McGraw-Hill Education

Booth: 218

Columbus, Ohio
PH: 614-430-4482
www.mheonline.com

McGraw-Hill Education partners around the world with students, educators, administrators, and other professionals to deliver engaging, adaptive and personalized solutions that improve performance and results. We combine proven, research-based content with the best emerging digital technologies to guide assessment, teaching, and learning to achieve the best possible outcome for students, instructors, and institutions.

MIND Research Institute

Booth: 602

Irvine, California
PH: 888-751-5443
www.mindresearch.net

MIND is a neuroscience and education nonprofit that applies its distinctive visual approach to the development of math instructional software. MIND helps local schools create a blended learning environment to create a culture of critical thinkers for the next generation of STEM leaders. MIND's ST Math® programs reach 630,000 students and 25,000 teachers in 2,050 schools in 35 states. For more information, visit www.mindresearch.net.

N

Nasco

Booth: 209

Fort Atkinson, Wisconsin
PH: 920-563-2446
eNasco.com

Nasco is proud to supply all the materials necessary for successful hands-on math programs. We have the latest mathematics teaching aids, supplies and equipment for elementary, middle school, and secondary math programs. Nasco has products that target the Common Core State Standards and STEM initiatives that engage 21st-century learning. We are able to supply custom math kits to meet the individual needs of educators. Visit us at booth 209 and register for a chance to win a Nasco \$50 Gift Card

National Geographic Learning/ Cengage Learning

Booth: 310

Dallas, Texas
PH: 800-543-0487
NGL.Cengage.com

National Geographic Learning provides quality pre-K–12, academic, and adult education instructional solutions for reading, writing, science, social studies, ESL/ELD, and Spanish/dual language.

NCTM Affiliates-at-Large

Booth: 114

Tempe, Arizona
PH: 480-894-9347
bannekermath.org; www.todos-math.org;
www.wme-usa.org

The Benjamin Banneker Association, TODOS Mathematics for ALL, and Women and Mathematics Education are three NCTM Affiliates-at-Large that focus on an equitable mathematics education for groups that have been historically underrepresented in mathematics.

Neufeld Learning Systems Inc

Booth: 109

London, Ontario, Canada
PH: 519-657-9334
www.neufeldlearning.com

Neufeld Learning Systems provides browser-based technology solutions and customized professional development for reaching all learners and teachers of mathematics. UMath X "goes deep" to address Common Core content with diagnostic tests for kindergarten to algebra 1. UMath X provides strand specific assessments and student reports to guide instruction and next steps.

NumbersAlive!

Booth: 116

Washington, D.C.

PH: 202-652-1820

www.numbersalive.org

Created by educator Rebecca Klemm, PhD, NumbersAlive! presents numbers as fun and friendly characters who uncover numeric patterns embedded everywhere. The playful numbers captivate children as they come alive through interdisciplinary storytelling. They are touchable in the form of soft plush numbers and also enchant children through books, games, and apps. Bring our award-winning learning tools into your classroom and watch anxiety disappear! All products are teacher-developed and teacher-tested.

O

Origo Education

Booth: 411

Earth City, Missouri

PH: 314-475-3061

www.origoeducation.com

ORIGO Education covers all facets of elementary mathematics education: from traditional printed products to digital/interactive resources and professional learning. ORIGO Stepping Stones (aligned to CCSS) delivers a world-class mathematics program that seamlessly blends digital and print materials. ORIGO is committed to excellence by creating products that inspire and empower teachers and students. Our diverse selection of products brings a renewed enthusiasm to students' learning experiences.

P

Pearson

Booth: 212

Upper Saddle River, New Jersey

PH: 201-236-6613

www.pearsoned.com

Pearson is serious about evolving how the world learns. We apply our deep education experience and research, invest in innovative technologies, and promote collaboration throughout the education ecosystem. Real change is our commitment, and its results are delivered through connecting capabilities to create actionable, scalable solutions that improve access, affordability, and achievement. For more information, visit www.pearsoned.com.

R

Renaissance Learning

Booth: 401

Wisconsin Rapids, Wisconsin

PH: 715-424-3636

www.renaissance.com

Accelerated Math™ differentiates dynamic practice of grade-level CCSS or state standards by depth, as current standards recommend. The software automates the complete assess-teach-learn cycle by integrating STAR Math™ data to group students by ability, and automatically generating a full year of assignment plans for each group, delivered online or printed.

S

Share My Lesson

Booth: 615

Washington, D.C.

www.sharemylesson.com

Developed by teachers for teachers, Share My Lesson is a FREE website offering more than 300,000 resources covering all subjects and grades. The site also houses the most Common Core resources available for teachers. Come visit our booth to find out how to search for resources and how to share your own resources. Following the motto of "by teachers for teachers," participants will also learn about our unique professional development opportunities where educators from across the country come together to develop or identify resources to share with their colleagues around such topics as Common Core, early childhood education (toddler to pre-K), formative assessment techniques, and more!

Singapore Math Inc.

Booth: 408

Tualatin, Oregon

PH: 503-557-8100

www.SingaporeMath.com

Singapore Math Inc. is a company dedicated to bringing the highest-quality educational resources to the US and Canada. These resources include a range of selected core curricula and supplemental titles. We welcome you to come by booth 408 to peruse our Singapore Math® books and to learn more about the Singapore approach to teaching and learning mathematics.

Southern Teachers Agency

Booth: 320

Charlottesville, Virginia

PH: 434-295-9122

www.SouthernTeachers.com

Are you searching for a mathematics teaching position? Southern Teachers Agency can help! STA works with college preparatory private and independent schools around the mid-Atlantic and South connecting them with great candidates. Over 400 private and independent schools list vacancies with STA for teachers, counselors, administrators, librarians, and RAs. Founded in 1902, Southern Teachers Agency has been finding the right jobs for the right teachers for more than a century.

T

TenMarks Education, An Amazon Company

Booth: 613

Burlingame, California

PH: 415-305-7211

www.tenmarks.com

TenMarks is the most comprehensive online solution designed for the new Common Core math standards. With integrated math practice, instruction, intervention, assessments, and differentiation, TenMarks provides teachers with the ability to reinforce what they're teaching in class, with automatic intervention when necessary, and the power to differentiate instruction for students with ease. Designed for grades 1 through algebra and geometry, TenMarks is the program of choice in 25,000+ schools.

Texas Instruments

Booth: 419

Dallas, Texas

PH: 214-567-6409

education.ti.com

TI provides free classroom activities that enhance math, science, and STEM curricula, technology that encourages students to develop a deeper understanding of concepts, and professional development that maximizes your investment in TI technology. TI offers handhelds, software, apps for iPad®, and data collection technology, all designed to promote conceptual understanding, and formative assessment tools that gauge student progress. Visit education.ti.com.

Exhibitor Directory

V

Voyager Sopris Learning

Booth: 111

Dallas, Texas
PH: 757-897-8257

www.voyagersopris.com

Voyager Sopris Learning™ partners with schools to build local capacity and overcome obstacles that students, teachers, and school leaders face every day. Our research- and evidence-based solutions are innovative, both in overall instructional approach and in the strategic use of technology. With a comprehensive suite of instructional resources, we ensure sustained success through assessments, professional development, comprehensive intervention and supplemental math instructional tools.

W

Westat

Booth: 121

Rockville, Maryland
PH: 301-251-1500

www.westat.com

Westat is one of the foremost professional service corporations of its kind—the gold standard of social science research, statistical analysis, and evidence-based communications. STEM education plays a critical role in maintaining U.S. economic and technological leadership in the 21st-century global marketplace. Westat evaluates and monitors innovative STEM programs that lead to program improvements and outcome assessments.

Western Governors University

Booth: 312

Salt Lake City, Utah
PH: 801-290-3636

www.wgu.edu

The Teachers College at Western Governors University offers regionally, nationally, and NCATE accredited online competency-based master's degrees in mathematics education. As a student, you'll enjoy modest tuition rates, unbelievable flexibility, and unmatched student support. Scholarships and financial aid are available.

Wiley

Booth: 603

Hoboken, New Jersey
PH: 201-748-6000

www.wiley.com

Wiley is an independent, global publisher of print and electronic products. Wiley provides content and learning resources for courses from honors and AP high school curriculum through undergraduate and graduate textbooks and reference materials. Jossey-Bass offers materials to enhance K–12 teacher effectiveness, meet Common Core standards, support AP courses, and build student-centered leadership skills. Demos of Common Core Math are given daily at during the conference.

Woot Math

Booth: 113

Boulder, Colorado
PH: 303-449-6284

wootmath.com/

Woot Math is an award-winning, education technology company focused on helping struggling students master core math concepts. The supplemental software delivers a personalized progression of interleaved video instruction and scaffolded problems to mimic the natural give and take between a student and a tutor. Woot Math is designed to engage students with an intuitive and interactive experience supported on iPad, Chromebook (and all other web platforms), and Android devices (including Amplify).



©PHOTO COURTESY OF RICHMOND CVB

A

Altamirano, Estela 65
 Amplify . . . 98.2, 122.3, 267.2
 Ani, Karim 9, 171
 Apraiz, Kristen 117, 214
 Athanasopoulou, Anna 68

B

Bailey, Pamela 73, 172
 Balka, Don 42, 232
 Ballard, Dean 153
 Bargagliotti, Anna 37
 Barnes, David 50, 195
 Barrow, Brenda 101
 Bartlett, Wendy 26, 208
 Beatini, Tom 12, 97
 Beckmann, Charlene 3
 Bedtime Math Foundation 38.1
 Beesley, Andrea 264
 Belcher, Christine 276
 Bell, Clare 174, 273
 Bellman, Lonnie 205
 Bender, Kimberly 271
 Bennett, Kay 94, 241
 Berghs, Kara 136
 Boardman, Michael 157
 Bohidar, Victoria 271
 Bolling, Michael 257
 Bond, Jennifer 262
 Boswell, Laurie 287
 Bouniaev, Mikhail 218
 Bowdish, William 45
 Brady, Stephanie 25
 Briars, Diane 51, 244
 Bridge, Laura 119
 Brom, Michael 75
 Burrill, Gail 96, 155
 Busbey, Kathryn 212, 221
 Bushley, Melody 24
 Byford, Nicola 268

C

Callahan, Patrick 229
 Canady, Brian 144
 Carpenter, Kara 160
 Carrell, Nadia 168
 Cassinat, Katie 231
 Catoggio, Jessica 141
 Chahine, Iman 207
 Chandler, Kayla 178, 256
 Chaney, Robert 14
 Childs, Leigh 91
 Cho, Hoyun 93
 Choate, Laura 235
 Clark, Andy 240
 Clayton, James 249
 Coffey, Margaret 266
 Coffman, Lisa 279
 Coleman, Elyse 188

Coleman, Frances . . . 141, 268
 Collier, Mandy 258
 Collins, Anne 137
 Condon, Gregory 130
 Corbett, Jonathan 122
 CPM Educational Program 14.2
 Crawford, Amy 215
 Crawford, Jean 123
 Creative Mathematics . . . 158.2
 Crocker, Deborah 23

D

Darrough, Rebecca 10, 34, 191
 Davis, Jackie 144
 Davis, Marsha 36
 Decovsky, Fred 131
 Dehner, Beckie 19
 Deleuw, William 10, 34, 191
 DeLong, David 78
 Dempsey, Kathleen 264
 DePaul, Debi 200
 Derer, Andrew 106
 Diamantis, Maria . . . 139, 211
 Dillon, Fred 13, 98
 Dinah-Might Adventures 243.3
 Disney, Andria 159
 Dixon, Juli 285
 Domroes, Brian 169
 Donaldson, Alan 199
 Dougherty, Barbara 10, 34, 191
 Doyle, Carolyn 162
 Dykema, Kevin 59

E

Edwards, Harriet 234
 Ellington, Aimee 272
 Enderson, Mary 89
 Essex, Kathryn 233
 Evans, Addie 108
 Evitts, Thomas 274

F

Farmer, Bethany 19, 161, 247
 Farrell, Christina 5
 Felling, Jane 18
 Fennell, Francis (Skip) 43, 123
 Fisher, Gregory 26, 61
 Flahive, Kieran 13
 Foti, Steve 204
 Frame, Megan 3
 Fraser, Virginia 11
 Fulton, Brad 149
 Funkhouser, Charles . . . 234

G

Gabriel, Patricia 109
 Garner, Sue 289
 Geesaman, Andrew 57
 Gibson, Jeanie 37

Giglio, Michele 24
 Gillespie, Rod 67
 Gochenaur, Debbie 57
 Goerdts, Sonja 187
 Gojak, Linda 31
 Goldberg, Adam 139, 211
 Goodman, Donald 104
 Grant, Melva 74, 118, 279
 Gray, Paul 32
 Green, Michael 68
 Green, Rebecca 130
 Griffin, Melinda 94, 241
 Grigorieva, Ellina 198

H

Hackett, Maggie 152
 Hall, Lisa 176
 Hanna, John 290
 Harbin Miles, Ruth . . . 42, 213
 Havey, Sallie 66
 Helser, Susan 121, 145
 Henderson, Deedee 194
 Hernandez, Maria 242
 Hicks, Teresa 16
 Hill, Wendy 126, 185
 Hilsenbeck, James 218
 Hinton, John 30, 176
 Hirsch, Christian 206
 Hocter, Monica 224
 Hodges, Vandivere 52
 Hoffert, Sharon 24
 Holmes, Carolyn 172
 Hoppe, Lisa 86
 Horton, Bob 166, 193
 Hose, Justin 189
 Houghton Mifflin
 Harcourt 62.3, 207.2
 Humphries, Alexandra . . . 53

I

Isaac, Katie 17
 It's About Time 267.1
 IXL Learning 158.1

J

Jacobsen, Laura 158
 James, Susan 263
 Janssen, David 247
 Januzzi, Deanna 22
 Jenkins, Oliver 143
 Jernigan, Alfreda 172
 Johnson, Amy 187
 Jones, Dacia 140
 Jones, Ida 16
 Jones, Nancy 167
 Jutras, Rob 20

K

Kanold, Timothy 196

Kaplan, Gail 265
 Kaplan, Kathleen 81
 Kapolka, David 38
 Kepner, Henry 135, 261
 Kernan, Joan 223, 269
 Kerrigan, John 180
 Kilday, Gina 40
 Kilgo, Rhonda 82
 Klemm, Rebecca 226
 Klingensmith, Kristin . . . 259
 Knighten, Latrenda 15
 Knoell, Donna 237
 Knudsen, Julie 100
 Kobett, Beth 43, 251
 Kong, Ann 255
 Koontz, Suzy 90, 138, 184
 Kubina, Gary 253
 Kubinak, Tim 222
 Kurtz, Heather 41

L

Labrecque, Rachael 160
 Lado, Ana 150
 Lane, Matt 9, 171
 LaPorte, Karen 224
 Larocco, James 136
 Lawrence, Gary 93
 Leahy, Teresa 55
 LEGO Education 62.2
 Leighty, Diane 220
 Leinwand, Steven 87
 Lempp, Jennifer 197
 Lewis, Virginia 8, 128, 201
 Liu, Yating 216
 Long, Betty 23
 Long, Mike 134
 Lott, Johnny 4
 Lovin, LouAnn 175
 Lowman, Christina 53
 Lusto, Chris 9, 171

M

Mahieu, Frederic 88
 Maloney, Alan 33
 Mangahigh.com 122.2
 Manizade, Agida 158
 Marks Krpan, Cathy 105
 Martinovic, Dragana 158
 Mason, Joseph 202, 286
 Mastery Ed 243.1
 Math Teachers Press 183.1
 Mathspace 14.1, 158.3
 McConnell, Marcella 230
 McConnell, Michael 230
 McCrary, Marsha 250
 McFee, Lorie 239
 McGivney, Nancy 153
 McNamara, Chip 203
 McNelis, Mary 37
 Meade, Lynn 269

Speaker Index

Meyer, Dan **1, 112**
Miles, Christina **89**
Miller, Kayla **247**
Miller, Ruth **62**
Miller, Sandra **22**
Milou, Eric **179**
Mogilski, Jerzy **218**
Monck, Donna **164**
Moore, Sara **39**
Moore, Tom **254**
Mora, Ruby **161**
Morton, Fanya **64**
Munson, Kathryn **271**
Murphy, Stuart **6**

N

Neagoy, Monica **270**
Nelson, Andrew **288**
Nickell, Jennifer **178, 256**
Nickerson, Rob **186**
Noel, Linda **151**
Nolan, Edward **60**
Nowak, Kate **229**

O

Ogden, Stephanie **83**
O'Kelley, Sharon **85**
Oliver, Scott **72**
Otterson, Nina **252**

P

Palacios, Lisa **56**
Patterson, Mike **49**
Paytes, Leslie **69**
Pearson **38.3, 62.1, 98.1, 183.3, 207.3, 243.2, 267.3**
Pearson, Brenda **99**
Pendergrass, Lynne **236**
Pendleton, Kenn **156**
Peneda, Maria **114**
Pfahl, Miles **234**
Pfeil, Jessica **182**
Phelps, Katherine **53**
Phibbs, Cecil **165**
Pierone, Amie **86**
Pinter, Holly **71, 210**
Podleski, Ann **122**
Pronk, Mary **246**

R

Rappaport, Rebecca **41**
Rash, Philip **35**
Reames, Matthew **7**
Reardon, Tom **192**
Reed, Lynn **63, 148, 278**
Remphrey, Stacy **155.1**
Restivo, Nicholas **116**

Revennaugh, Lance **181**
Rice, Kristin **212, 221**
Robertson, Patricia **52**
Rose, William **132, 243**
Roy, George **110**
Rule, Lynn **79, 245**
Rule, Lynn **245**
Rutledge, Zachary **77**

S

Safi, Farshid **110**
Sammons, Laney **283**
Sanchez-Leal, Lina **122.1**
Sands, Yojairy **114, 199**
Saran, Rupam **183, 282**
Saville-Brock, Ernestine **129**
Scher, Daniel **120**
Schiffman, Jay **133**
Schmit, Mark **92, 238**
Schneider, Patti **125, 188**
Schorr, Roberta **122.1**
Schreiber, Dana **46**
Schroll, Daniel **124**
Schultz, Kyle **107**
Scott, Jan **41, 142, 209**
Seeley, Cathy **27**
Sell, Peter **217**
Semo, Adam **203**
Sencibaugh, Joseph **262**
Seneres, Alice **84**
Seron, Jen **104**
Seshaiyer, Padmanabhan **134**
Shannon, Jeanne **80**
Share My Lesson **98.3**
Shaw, Gretchen **25**
Sherman, Helene **103**
Shilling-Traina, Leah **8, 128, 201**
Shipman, Ronnie **58**
Shobert, Nicole **284**
Simon, Dan **104**
Sinclair, Dan **262**
Singapore Math **207.1**
Smith, Christine **48, 291**
Smith, Christy **219**
Smith, Ron **219**
Smith, Ronald **291**
Speranzo, Laurie **259**
Springer, GT **227**
Starr, Steve **47**
Stavish, Zac **251**
Steketee, Scott **120**
Stetson, Sara **260**
Stewart, Jacqueline **125**
Stillman, Siegrid **177**
Stone, Shannon **173**
Stremme, Robert **102**
Suh, Jennifer **134**

Suiter, Marilyn **76**
Sutor, Judy **231**
Sutton, Kim **29**
Swanson, Katherine **73**
Swartz, Barbara **71, 210**
Sydla, Susan **246**

T

Tang, Greg **163**
Tarlow, Lynn **146**
Taylor, Sharon **70**
Texas Instruments **38.2, 183.2**
Thomas, Frederick **14**
Thompson, Fred **61**
Thyring, Gayle **213**
Timmerman, Maria **8, 128, 201**
Tondevold, Christina **79, 245**
Tozzo, William **281**
Treilman, Linda **154**
Tuzzolino, Brianne **165**

V

VanGlabek, Joan **48, 219, 291**
Vester, Kristine **44**
Voyager Sopris Learning **122.4**

W

Walcott, Crystal **233**
Wallace, Ann **21**
Weerda, Anne **28**
Wells, Tres **189**
West, Wendy **248**
Weyforth, Alexandra **251**
White, Alissa **54, 225**
White, Audria **82**
White, Sandra **127**
Whitehead, Ashley **178, 256**
Whitenack, Joy **267, 272**
Wilcox, Virginia **58**
Wilder, Sandra **228**
Williamson, Carolyn **111**
Worcester Tang, Tammy **115**
Wray, Jon **43**

Y

Yang, Robin **80**
Yepes-Baraya, Mario **209**
Yolles, Arlene **275**
Yurek, Steve **95**

Z

Zbiek, Rose Mary **2, 147, 244, 280**
Zecher, Marilyn **190, 277**



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

THE NATION'S PREMIER MATH EDUCATION EVENTS

Charleston | February 6–7, 2015

Effective Teaching with *Principles to Actions*:

Implementing College- and Career-Readiness Standards

NCTM INTERACTIVE INSTITUTES



Ensure Mathematical Success for All Students

Effective teaching is the nonnegotiable core that ensures that all students learn mathematics at high levels.

This institute based on NCTM's *Principles to Actions: Ensuring Mathematical Success for All* gives you the opportunity to learn the research-informed actions and productive practices and policies that are essential in successful pre-K–12 mathematics programs.

- Learn from **leading experts** in the profession.
- Understand the **eight essential, research-based teaching practices**.
- Share productive beliefs, illuminated by **real-world examples**.
- Identify and **eliminate obstacles** that compromise progress.
- Collaborate with your peers and **engage in thoughtful discussions**.

Whether you're a classroom teacher, coach, administrator, teacher-in-training, or math specialist, this Institute gives you the tools you need to initiate and implement widespread change that will help your students succeed in school and beyond.



Based on
*Principles to Actions:
Ensuring Mathematical
Success for All*

For more information visit www.nctm.org/profdev



#NCTMPtA15

Program Advertisers (in alphabetical order)

American Printing House for the Blind	10, 26
Bedtime Math	8
Big Ideas Learning/Larson	48
Mu Alpha Theta	41
Origo Education	COUPON on 97
Singapore Math	Outside Back Cover
Texas Instruments	Inside Front Cover
Voyager Sopris Learning	6

NCTM Advertising

MEMBERSHIP

NCTM Member Services	86, COUPON on 97
----------------------	------------------

PROFESSIONAL DEVELOPMENT

2015 Boston Annual Meeting & Expo	Inside Back Cover
2015 Interactive Institutes	95
2015 Regional Conferences & Expos	42

PUBLICATIONS

New Books	17
Principles to Actions	72
Bookstore	COUPON on 97

LOOK NO FURTHER

Enter at
Booth #411

ORIGO Education is your source for Elementary Mathematics.

Come to booth #411 to receive a free gift and enter to win
a Professional Learning Package for your school.

- **CORE • Guided Learning • Visual Aids • Models • Games • Critical Thinking • Digital and Print Resources**

ORIGO
EDUCATION

Visit the **NCTM Bookstore**,
in NCTM Central, to see new titles and products on display!

Save 25% on Purchases

Bookstore Hours:

Wednesday 5:00 p.m. — 7:30 p.m.
Thursday 7:00 a.m. — 5:00 p.m.
Friday 8:00 a.m. — 4:00 p.m.

2014 NCTM REGIONAL CONFERENCES
& EXPOSITIONS

Indianapolis • October 29–31
Richmond • November 12–14
Houston • November 19–21

THE NATION'S PREMIER MATH EDUCATION EVENTS



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

(800) 235-7566 | WWW.NCTM.ORG

Note: This is not a coupon and cannot be used towards
additional savings off the 25% conference discount.

NCTM Member Services

Visit us, in NCTM Central, for the latest on Member Benefits

- Learn how to *get the most out of your membership*
- Learn how to access *Activities and Lessons*
- Free samples of *Journals*
- Plus, renew your membership or join on site and receive a *Free T-Shirt*

2014 NCTM REGIONAL CONFERENCES
& EXPOSITIONS

Indianapolis • October 29–31
Richmond • November 12–14
Houston • November 19–21

THE NATION'S PREMIER MATH EDUCATION EVENTS



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

(800) 235-7566 | WWW.NCTM.ORG

Complete this coupon and drop it at booth #411 to enter into the drawing for the Professional Learning Package.

Title: _____

Name: _____

School District: _____

Email: _____

Phone Number: _____



For a 60-day extended preview of **ORIGO Stepping Stones** scan this QR code with your smartphone.

www.origoeducation.com

ORIGO
EDUCATION

Visit the **NCTM Bookstore**,
in NCTM Central, to see new titles and products on display!

Save 25% on Purchases

Bookstore Hours:

Wednesday 5:00 p.m. — 7:30 p.m.
Thursday 7:00 a.m. — 5:00 p.m.
Friday 8:00 a.m. — 4:00 p.m.

2014 NCTM REGIONAL CONFERENCES
& EXPOSITIONS

Indianapolis • October 29–31
Richmond • November 12–14
Houston • November 19–21

THE NATION'S PREMIER MATH EDUCATION EVENTS



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

(800) 235-7566 | WWW.NCTM.ORG

Note: This is not a coupon and cannot be used towards additional savings off the 25% conference discount.

NCTM

Member Services

Visit us, in NCTM Central, for the latest on Member Benefits

- Learn how to *get the most out of your membership*
- Learn how to access *Activities and Lessons*
- Free samples of *Journals*
- Plus, renew your membership or join on site and receive a *Free T-Shirt*

2014 NCTM REGIONAL CONFERENCES
& EXPOSITIONS

Indianapolis • October 29–31
Richmond • November 12–14
Houston • November 19–21

THE NATION'S PREMIER MATH EDUCATION EVENTS



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

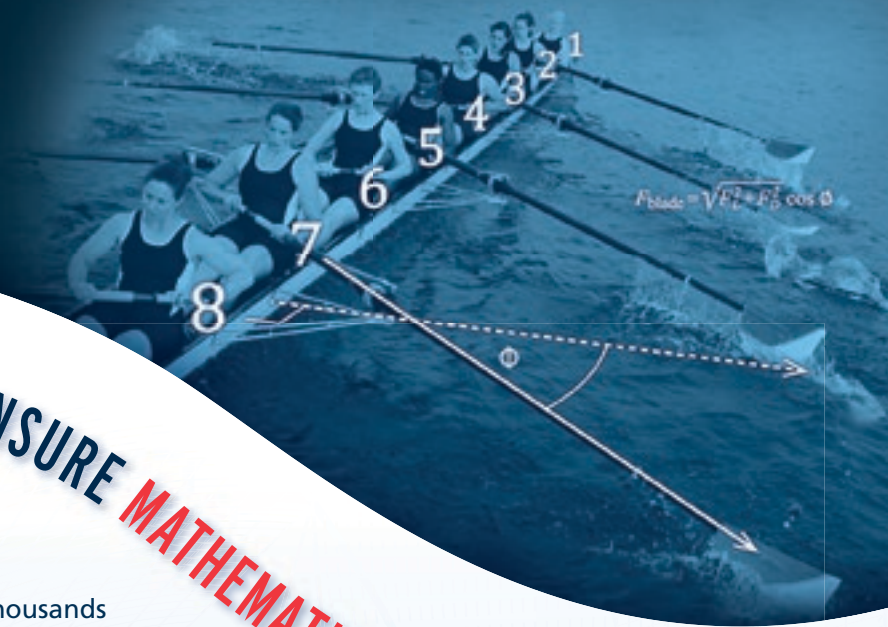
(800) 235-7566 | WWW.NCTM.ORG



THE NATION'S PREMIER MATH EDUCATION EVENT

2015 NCTM ANNUAL MEETING & EXPOSITION

April 15–18 • Boston



EFFECTIVE TEACHING TO ENSURE MATHEMATICAL SUCCESS FOR ALL

PULLING TOGETHER

Join NCTM in Boston as we bring together thousands of education professionals for the nation's largest math education event.

Go beyond the classroom to examine the innovative ideas that can improve the quality of learning for every student.

- Gain insights into implementation and assessment of the **Common Core State Standards** for Mathematics.
- Learn about **Principles to Actions: Ensuring Mathematical Success for All**, which describes what is essential for a high-quality mathematics education.

- Collaborate with peers on concepts that diversify learning and **support student learners.**

- Explore **more than 700 sessions** to help you grow and learn as a teacher.
- Discover fresh ways to **integrate mathematics into other disciplines.**

WHO SHOULD ATTEND?

- Pre-K–12 teachers
- Math teacher educators
- New and soon-to-be-teachers
- Math coaches and specialists
- Math researchers
- School and district administrators



Learn more at www.nctm.org/boston and follow us on



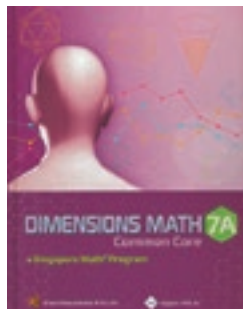
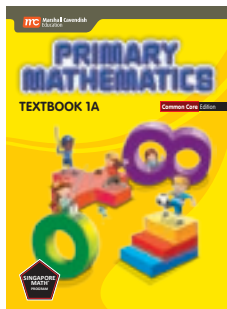
#NCTMBOSTON



SM

Choose a mathematics curriculum that inspires students, builds confidence and creates a foundation for lifelong learning.

The original Singapore Math[®] books.
Available only from Singapore Math Inc.[®]



Singapore Math Inc.[®]