

PHILADELPHIA, PA | APRIL 25–28, 2012

Annual Meeting & Exposition



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NCTM 2012 ANNUAL MEETING & EXPOSITION

PHILADELPHIA, PENNSYLVANIA

APRIL 25–28, 2012

Technology and Mathematics: Get Connected!

HOSTS

Pennsylvania Council of Teachers of Mathematics

Association of Teachers of Mathematics of Philadelphia and Vicinity

MEETING FACILITIES

All Annual Meeting presentations will be held at the Pennsylvania Convention Center and the Philadelphia Marriott Downtown. See pages 173–176 for floor plans.

REGISTRATION AREA

Wednesday	8:00 a.m. – 7:00 p.m.
Thursday	7:00 a.m. – 4:00 p.m.
Friday	7:00 a.m. – 4:00 p.m.
Saturday	7:00 a.m. – 10:00 a.m.

EXHIBITS AND BUZZHUB

Thursday	8:30 a.m. – 5:00 p.m.
Friday	10:00 a.m. – 6:00 p.m.
Saturday	9:00 a.m. – 12:00 noon

BOOKSTORE

Wednesday	10:00 a.m. – 7:00 p.m.
Thursday	7:00 a.m. – 5:30 p.m.
Friday	7:30 a.m. – 6:30 p.m.
Saturday	8:30 a.m. – 12:00 noon



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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

Welcome!

Welcome to the biggest and best professional development event of the year and the largest annual gathering of mathematics educators in the world. The NCTM 2012 Annual Meeting and Exposition brings together classroom teachers, mathematics educators, researchers, and mathematicians to enrich each other and to share ideas, all with the goal of helping every student learn challenging mathematics. After the conference, we hope you'll return to your classroom and colleagues full of new ideas and fresh perspectives on what you can do every day to help all your students to learn and to inspire them for future success.

If this is your first NCTM annual meeting, we envy you. Over the next three days, you'll meet new colleagues, make new friends, and form professional and personal bonds that can last a lifetime. You might feel a little overwhelmed, but once you adjust to the pace, the people, and all the opportunities open to you, soak in all you can because there is nothing that quite measures up to the NCTM Annual Meeting.

For those of you who are veterans of NCTM annual and regional conferences, you have a sense of why you're here and what you'll do, but we've changed a few things and added some others because we always strive to improve and we want each year's conference to be the best ever. Our theme at the Philadelphia meeting is "Technology and Mathematics: Get Connected!" which is our professional

development focus of the year. However you'll also find a wealth of other topics and content areas among more than 700 sessions. We've worked hard to put together a program and bring together sessions that challenge you to examine your own teaching within the context of connecting concepts and context. We want to support and encourage you to put reasoning and sense making at the core of whatever you teach, as you help your students grow in the Standards for Mathematical Practice (their practice!).

While you are here you should also get out and enjoy Philadelphia, the City of Brotherly Love, founded by William Penn in 1682. Part of the enrichment of an NCTM conference is getting out with friends and mixing pleasure with what you'll experience at the meeting presentations. While in Philadelphia, you can visit Independence Hall and the Liberty Bell, the Wanamaker Organ, or the Philadelphia Museum of Art. Experience the variety of cuisine at the Reading Terminal Market right next to the Convention Center, stroll through the shops on Rittenhouse Row, and dine at the numerous bistros and cafes all around you in Center City.

On behalf of your President, the NCTM Board of Directors, the conference Program and Volunteer committees, the NCTM staff, and the many volunteers who have worked long, countless hours over the past two years to put together an extraordinary set of opportunities for you, welcome to Philadelphia!



J. Michael Shaughnessy
*President, National Council
of Teachers of Mathematics
Portland State University,
Oregon*



Gladis Kersaint
*Program Committee Chair
University of South Florida,
Tampa*



Don Scheuer
*Volunteer Committee Chair
Fort Washington,
Pennsylvania*



Kichoon Yang
*Executive Director,
National Council of Teachers
of Mathematics*

A handwritten signature in black ink that reads "J. Michael Shaughnessy".

A handwritten signature in black ink that reads "Gladis Kersaint".

A handwritten signature in black ink that reads "Don Scheuer".

A handwritten signature in black ink that reads "Kichoon Yang".



ROCKY: PHOTO BY PAUL LOFTLAND FOR PCVB

Program Information

The 2012 NCTM Annual Meeting and Exposition officially begins with the Opening Session featuring Diane Ravitch, starting at 5:30 p.m. on Wednesday, April 25, in the Terrace Ballroom at the Pennsylvania Convention Center. Presentations on Thursday, Friday, and Saturday 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 Annual Meeting and Exposition. The room capacity for each presentation is listed on all meeting room signs. For your safety and because of fire regulations, only those with seats will be allowed 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.

Learn↔Reflect Strand

TECHNOLOGY AND MATHEMATICS: GET CONNECTED!
THURSDAY, APRIL 26

Plan one full day for the Focus of the Year topic, “Technology and Mathematics: Get Connected!” The strand begins with a morning Kickoff session and concludes with a Reflection session. In between, you can choose from a variety of presentations covering the topic, all marked with the symbol . Immerse yourself in the topic, and collaborate with leaders and colleagues.

We ask participants to reflect on the following questions throughout the Learn↔Reflect strand and then discuss them at the end of the strand, during the Reflection session.

What role does technology play in providing multiple representations and opportunities for communication to help students develop mathematical understanding?

How does technology influence your instructional decisions, and vice versa?

How can technology increase access to significant mathematics to all students? How do you promote social justice for access to and facility with technology in learning mathematics?


How are you thinking differently about your use of technology as a result of participating in the Learn↔Reflect strand? What are some of the steps you plan to take to promote growth in your own use of technology?

Learn↔Reflect sessions are open for anyone to attend throughout the day. Personalized certificates will be prepared for those attendees who attend the Kickoff session, at least one Learn↔Reflect session during the day, and the final Reflection session. Visit www.nctm.org/technology for more information.


New Teacher Strand

FRIDAY, APRIL 27


The New Teacher strand offers sessions and gallery workshops targeting the questions and concerns of new teachers and those training to become a teacher. Presentations are grade-band-specific and include topics from management and motivation, to engaging struggling students, to a celebration of those entering and just beginning their teaching careers. Learn, network with other new teachers, and get your questions answered. Targeted to early career teachers and those working on certification. All are welcome.

Look for this symbol, , for presentations within the strand. Start early with the New Teacher Kickoff (#281) on Thursday. Friday has a full day of presentations, finishing with the New Teacher Celebration (#621). Visit www.nctm.org/newteacher for more information.

Core Math Tools

Learn how to use this suite of software tools to support the implementation of the Common Core State Standards for Mathematics and Mathematical Practices, students’ inquiry, conceptual understanding, reasoning, and mathematical modeling, and more! Look for the symbol  throughout the program for Core Math Tools presentations.

Common Core State Standards (CCSS)

Get ready to teach the CCSS. Participate in presentations to learn strategies and activities aligned with teaching the CCSS for Mathematics, and hear the latest from experts on what the CCSS means for your classroom, curriculum, and students. Look for the symbol  for Common Core State Standard presentations.

NCTM Committee Presentations

NCTM committee presentations are identified by the symbol . For a list of all NCTM committees, please visit www.nctm.org.

Equity Strand

The Equity strand features presentations given by the Benjamin Banneker Association, TODOS: Mathematics for ALL, and Women and Mathematics Education. Presentations are scheduled on Friday and Saturday.

Mathematical Association Presidents’ Series

The Presidents’ Series is a feature of the NCTM Annual Meeting program that highlights connections among the mathematical community at different levels. Presentations are scheduled throughout the conference.

Program Information

New Member and First Timers' Orientation

New to NCTM, or a first-time attendee? Hear about maximizing your NCTM member experience and get takeaways full of classroom-ready activities with the New Member and First Timers' Orientation. Plus, the sessions will discuss the conference's format and help attendees make the most of their experience. Our attendees represent the United States, Canada, and numerous international locations.

Wednesday

Presentation #1
4:00 p.m.–4:30 p.m.
Salon G/H (Marriott Downtown)

Thursday

Presentation #3
7:15 a.m.–7:45 a.m.
Terrace Ballroom 4 (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) represent a common format where the speaker relates his or her ideas to an audience. The speaker may use audiovisual equipment, technology, and handouts, and he or she may include audience participation. Rooms are set theatre style and vary in size.

Research Sessions (60 minutes) emphasize the connection between research and practice, presented in a common format where the speaker relates his or her ideas to an audience. The speaker may use audiovisual equipment, technology, and handouts, and he or she may include audience participation. Rooms are set theatre style and vary in size.

Gallery Workshops (90 minutes) have rooms set with round tables for hands-on work and 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.

Exhibitor Workshops (60 minutes) are set theatre style for at least 115 people. Exhibitors showcase their products and services away from the Exhibit Hall. Look for the symbol **ew** indicating exhibitor workshops in the program book.



**Don't miss the
Opening Session on
Wednesday evening
with featured speaker
Diane Ravitch**

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—applicable to all grades and audiences

Onsite Daily News

Start each morning with the *NCTM Daily News*, which will include late-breaking news about the 2012 NCTM Annual Meeting and Exposition. Program changes and cancellations will be listed as well. The *Daily News* will be distributed in the lobby of the Pennsylvania Convention Center and available in the Philadelphia Marriott Downtown.

Tips for a Rewarding Annual Meeting and Exposition

- Become familiar with the layout of the Pennsylvania Convention Center and the Philadelphia Marriott Downtown by reviewing the floor plans on pages 173, 174, and 176.
- Download the conference app to stay current on all program changes and conference offerings.
- Visit the NCTM Bookstore for the latest NCTM educational resources, and the Member Showcase, where you can learn more about how NCTM can help you professionally and pick up free resources.
- Network at the BuzzHub in the Exhibit Hall.
- If attending the conference with colleagues, attend different presentations and share your learned knowledge after the conference.
- Silence cell phones during presentations.
- Visit the Exhibit Hall, where nearly 200 exhibitors will share the latest educational products.
- The more you participate in the presentations, the more you will get out of the conference.
- Tell us about your conference experience by responding to the post-conference online survey.
- Be safe! Remove your name badge when you leave the conference facilities at the end of the day.

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WEDNESDAY

**“There’s a
genius in
all of us.”**

—Albert Einstein

Bring out the inner genius in teachers and students.

Discover how at Booth 711.

Come see **i-Ready™ Diagnostic and Instruction**, our new online adaptive assessment, and **STAMS®** and **STAMS® Solve®**, our classroom-ready differentiated instruction and practice books. Together, these powerful programs accelerate student learning.

Visit Booth 711 to enter to win FREE licenses!



Agenda WEDNESDAY



HIGHLIGHTS

New Members and First Timers' Orientation (Presentation 1)

Opening Session: Will Current School Reforms Improve Education? (Presentation 2)



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www.nctm.org/facebook



TWITTER

Stay informed during the Annual Meeting!
#nctm12

WEDNESDAY

ATTEND THE RESEARCH PRESESSION

Registered for the Annual Meeting? You can attend Wednesday's Research Pre-session at no extra cost! Visit the Research Pre-session Information Desk at the Philadelphia Marriott Downtown, 4th floor, for program information.



RODIN: PHOTO BY PAUL LOFTLAND FOR PCVB

REGISTRATION HOURS

8:00 a.m.–7:00 p.m.

BOOKSTORE HOURS

10:00 a.m.–7:00 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 conform to fire codes, it will be necessary to ask persons sitting on the floor or standing to leave the room.

Regional Caucuses for Delegates and Alternates

CAUCUS	LOCATION	PRESIDERS
Affiliates-at-Large Caucus 2:00 p.m.—4:00 p.m.	117 (Convention Center)	Anne Collins, Lesley University, Graduate School of Education, Cambridge, Massachusetts
Canadian Caucus 2:00 p.m.—4:00 p.m.	116 (Convention Center)	Maureen MacInnis, Charles P. Allen High School, Bedford, Nova Scotia
Central Caucus 2:00 p.m.—4:00 p.m.	119 A (Convention Center)	Bethany Noblitt, Northern Kentucky University, Highland Heights, Kentucky Chris Moody, Clayton High School, Saint Louis, Missouri
Eastern Caucus 2:00 p.m.—4:00 p.m.	115 C (Convention Center)	Nancy Zarach, Syracuse City School District (Retired), Syracuse, New York Neil Cooperman, Millburn High School, Millburn, New Jersey
Southern Caucus 2:00 p.m.—4:00 p.m.	115 A/B (Convention Center)	Cathy Shelton, W. T. Woodson High School, Fairfax, Virginia Vanessa Cleaver, Little Rock School District, Little Rock, Arkansas
Western Caucus 7:30 p.m.—9:30 p.m.	115 A/B (Convention Center)	Lisa Scott, Billings Public Schools, Billings, Montana Nancy Terman, University of California Santa Barbara, Santa Barbara, California

WEDNESDAY

Get the Buzz at NCTM's Member Showcase

Learn all the latest math buzz and maximize your membership experience at the NCTM Member Showcase located in the new **BuzzHub** in the Exhibit Hall:

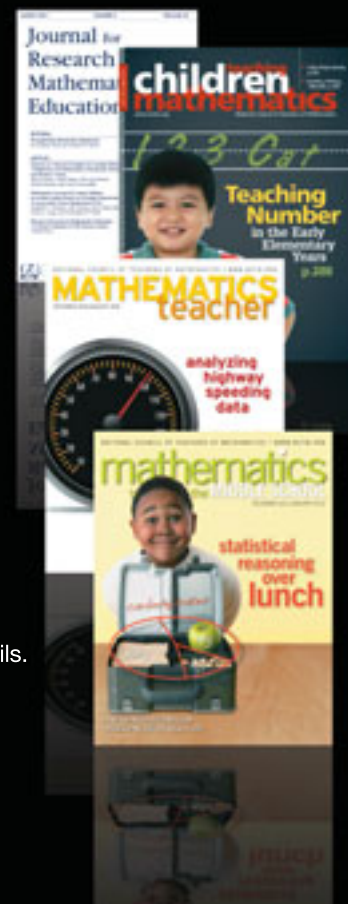
- Pick up **teaching tools** to take home—classroom activities, newsletters, and sample journals.
- Enter the daily prize **drawing for a Kindle Fire™**.
- Learn about exclusive **member-only online benefits**, including lesson plans, tips from peers to make your job easier, and journal articles.
- Join or renew your membership in Philadelphia and get a **free T-shirt**.*

* Some restrictions and exclusions apply; see the Member Showcase for details.



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TEACHERS OF MATHEMATICS

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4:00 P.M.–4:30 P.M.

1

New Members and First Timers' Orientation**(General Interest) Session**

New to NCTM? Join members of the NCTM Board of Directors to learn how to maximize your membership experience! From journals, online lessons, tools, and activities to networking and career-advancement opportunities, discover all that NCTM has to offer you. First-time attendees, learn how to make the most of your time at the conference.

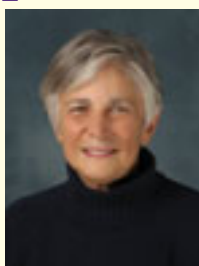
NCTM Board of Directors

National Council of Teachers of Mathematics, Reston, Virginia

SALON G/H (MARRIOTT DOWNTOWN)

5:30 P.M.–7:00 P.M.

2

Will Current School Reforms Improve Education?**Opening Session by Diane Ravitch****Remarks by NCTM President J. Michael Shaughnessy**

The speaker will discuss the impact of No Child Left Behind and Race to the Top on the nation's schools and review research findings on such initiatives as merit pay and teacher evaluation.

Diane Ravitch is a research professor of education at New York University, education historian, and senior fellow at Brookings Institution, Washington, D.C. From 1991 to 1993, she was Assistant Secretary of Education, leading the U.S. Department of Education's Office of Educational Research and Improvement and the federal effort to promote the creation of voluntary state and national academic standards. From 1997 to 2004, she was a member of the National Assessment Governing Board, which oversees the National Assessment of Educational Progress's testing program. From 1995 to 2005, she held the Brown Chair in Education Studies at the Brookings Institution and edited *Brookings Papers on Education Policy*. A former adjunct professor of history and education, Teachers College, Columbia University, and an author and editor, she has lectured extensively in the United States and internationally.

Diane Ravitch

New York University, New York

TERRACE BALLROOM 1-4 (CONVENTION CENTER)

Get Published! Be a Journal Referee. Avoid Common Writing Pitfalls!

Find out how at the new Presentation Spotlight Stage
located at the BuzzHub in the exhibit hall.

NCTM's 2012 Annual Meeting and Exposition
April 25–28 • Philadelphia, Pennsylvania

The journal editors from *Teaching Children Mathematics*, *Mathematics Teaching in the Middle School*, and *Mathematics Teacher* will be giving a series of mini-sessions to help you write or referee for one of NCTM's school journals. Inside of 15 minutes, you'll discover how to submit your ideas for publication, volunteer as a referee, or polish an existing manuscript. The editors will explain the peer review process, answer your questions, point you in the right direction, and allay any fears you may have about getting started. All for a price that can't be beat—free!

Here's what's going on:

Get Published!

Discover how simple it is to turn your ideas into articles.

Presented by Sara-Lynn Gopalkrishna,
MTMS editor

Thursday, April 26:

10:40–10:55 a.m. and
1:10–1:25 p.m.

Friday, April 27:

10:30–10:45 a.m. and
1:50–2:05 p.m.

Be a Journal Referee

Find out how critiquing manuscripts can help your career.

Presented by Al Goetz,
MT editor

Thursday, April 26:

11:05–11:20 a.m. and
1:35–1:50 p.m.

Friday, April 27:

10:55–11:10 a.m. and
2:15–2:30 p.m.

Writing Pitfalls

Learn hints on steering clear of those pesky manuscript potholes.

Presented by Beth Skipper,
TCM editor

Thursday, April 26:

11:30–11:45 a.m. and
2:00–2:15 p.m.

Friday, April 27:

11:20–11:25 a.m. and
2:40–2:55 p.m.



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teaching
mathematics

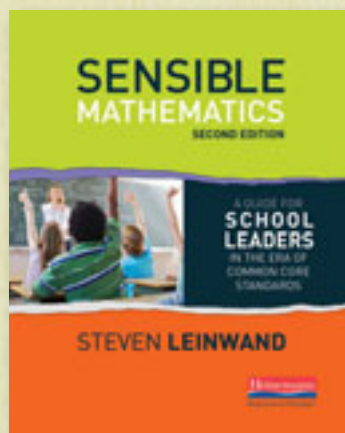
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THURSDAY



Sensible Mathematics

A Guide for School Leaders in the Era of Common Core State Standards
Second Edition

Bestselling author **Steve Leinwand** raises a call-to-arms for positive, realistic changes that will ensure successful implementation of the Common Core State Standards for Mathematics AND prepare all students to become **mathematical thinkers in a 21st century world**. Turn the vision of the Common Core into actual practice. It's only sensible.

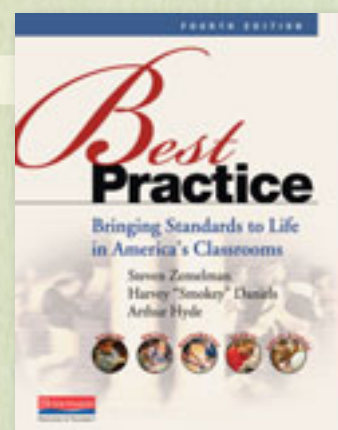
Grades K-12 / 978-0-325-04382-1 / 2012 / 144pp / \$19.25

Best Practice

Bringing Standards to Life in America's Classrooms
Fourth Edition

In a time of unprecedented change, **Steve Zemelman, Harvey "Smokey" Daniels,** and **Arthur Hyde** help you meet our most important challenges with proven, state-of-the-art teaching in reading, writing, math, science, and social studies. *Best Practice* creates common ground for everyone involved in school change with practices drawn from the latest research, professional consensus, and innovative classrooms.

Grades K-12 / 978-0-325-04354-8 / 2012 / 304pp / \$25.82



Contexts for Learning Mathematics

Developed by **Catherine Twomey Fosnot** and her colleagues from Mathematics in the City and the Freudenthal Institute, the Contexts for Learning Mathematics series provides comprehensive support for math workshops. An independent study established that Contexts for Learning Mathematics is the **best K-6 supplemental math program** for teaching strategy development.

Components in each package include read-aloud books and posters, unit books, resource guides, an overview book, and a resources CD-ROM. A handy resource, "Crosswalk Between the CCSS for Mathematics and CFL" is available online.

Level 1: Investigating Number Sense, Addition, and Subtraction

Grades K-3 / 978-0-325-01052-6 / 2007 / \$206.00

Level 2: Investigating Multiplication and Division

Grades 3-5 / 978-0-325-01053-3 / 2007 / \$166.00

Level 3: Investigating Fractions, Decimals, and Percents

Grades 4-6 / 978-0-325-01054-0 / 2007 / \$166.00

Bundle Price (all 3 packages): \$484.20 (SAVE \$53.80)



*Conference discount does not apply to Contexts for Learning Mathematics.



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THURSDAY

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Through Algebra I
GRADES 2–12**

Agenda THURSDAY









HIGHLIGHTS

New Members and First Timers' Orientation (Presentation 3)
63rd Annual Delegate Assembly (Presentation 4)
Learn↔Reflect Kickoff Session (Presentation 69)
New Teacher Workshop and Kickoff (Presentation 281)
Learn↔Reflect Reflection Session (Presentation 283)
NCTM President's Address (Presentation 312)

ICON LEGEND

Presentation Numbers

 Common Core State Standards	11, 59, 67, 82, 102, 125, 130, 183, 238, 289
 Core Math Tools	186, 249
 Learn↔Reflect Strand	69, 131, 132, 139, 141, 142, 143, 153, 155, 163, 166, 169, 174, 175, 178, 184, 185, 222, 226, 227, 229, 235, 239, 241, 245, 283
 NCTM Committee Presentations	4, 161, 188
 New Teacher Strand	281
 Exhibitor Workshop	34.1, 34.2, 34.3, 96.1, 96.2, 96.3, 96.4, 158.1, 158.2, 158.3, 158.4, 189.1, 189.2, 189.3, 189.4, 250.1, 250.2, 250.3, 250.4, 312.1, 312.2

THURSDAY



THE BUZZHUB

The BuzzHub is the hub for networking as well as the showcasing of various NCTM resources. Learn more about your membership, pick up FREE take-home activities, check your email, exchange ideas with your peers and share your experience! Be sure to BYOD (Bring Your Own Device)!



FACEBOOK

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



TWITTER

Use Twitter to follow the Annual Meeting!
#nctm12

REGISTRATION HOURS

7:00 a.m.–4:00 p.m.

EXHIBITS AND BUZZHUB HOURS

8:30 a.m.–5:00 p.m.

BOOKSTORE HOURS

7:00 a.m.–5:30 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 conform to fire codes, it will be necessary to ask persons sitting on the floor or standing to leave the room.

7:15 A.M.–7:45 A.M.

3 New Members and First Timers' Orientation

(General Interest) Session

New to NCTM? Join members of the NCTM Board of Directors to learn how to maximize your membership experience! From journals, online lessons, tools, and activities to networking and career-advancement opportunities, discover all that NCTM has to offer you. First-time attendees, learn how to make the most of your time at the conference.

NCTM Board of Directors

National Council of Teachers of Mathematics, Reston, Virginia

TERRACE BALLROOM 4 (CONVENTION CENTER)

7:30 A.M.–9:00 A.M.



4 63rd Annual Delegate Assembly

(General Interest) Session

This session is a forum for delegates and designated leaders of NCTM Affiliates to make recommendations to the NCTM Board of Directors concerning activities and policies of NCTM and mathematics education.

NCTM Affiliate Services Committee

National Council of Teachers of Mathematics, Reston, Virginia

SALON H (MARRIOTT DOWNTOWN)

8:00 A.M.–9:00 A.M.

5 Digital Math Textbooks: Promise or Reality?

(General Interest) Session

An iPad for every student? Hardbound textbooks a thing of the past? Digital textbooks seem to be all over the news lately, but what exactly is a digital textbook? This presentation will explore different types of digital mathematics textbooks currently available and discuss various models' and formats' benefits and limitations.

Amanda Thomas

University of Missouri—Columbia

Barbara Reys

University of Missouri—Columbia

SALON F (MARRIOTT DOWNTOWN)

7 Mathematics Leadership Requires Growth and Responsibility

(General Interest) Session

Presidents' Series Presentation

Members of the mathematics education community have a responsibility to help one another build personal and professional leadership capacity. This presentation will offer concrete ways to help teachers and leaders build their knowledge, performance, and influence using resources and connections to the Common Core State Standards in Mathematics.

Suzanne Mitchell

National Council of Supervisors of Mathematics, Denver, Colorado

122 A (CONVENTION CENTER)

8 Making Sense with Numbers

(Pre-K–2) Session

Need some ideas to increase your students' number sense? The speakers will emphasize place-value understanding with activities using the arithmetic rack. They will share strategies to enhance mental math skills and basic facts learning through minilessons and strings of related problems. Take home classroom-ready plans, activities, and games.

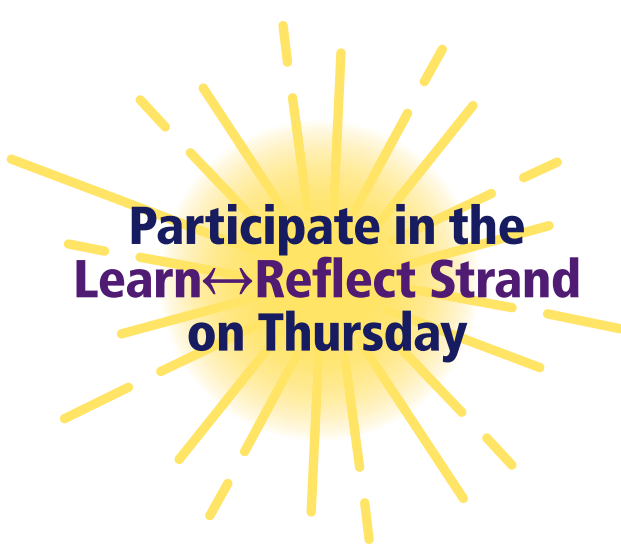
Judy Kidd

James Madison University, Harrisonburg, Virginia

Sue Haley

Rockingham County Public Schools, Harrisonburg, Virginia

113 A (CONVENTION CENTER)



**Participate in the
Learn↔Reflect Strand
on Thursday**

THURSDAY

8:00 A.M.–9:00 A.M.

9 Profiles of Mathematical Thinking and Performance Using the Diagnostic Interview

(Pre-K–2) Session

The DI uncovers thought processes underlying behavior. You can use data obtained from the DI to classify children into “profiles” that can help you understand and teach them. A DI may reveal more about children’s mathematical strengths than standard tests, regardless of socioeconomic or gender differences.

Herbert Ginsburg

Teachers College, Columbia University, New York, New York

Sandra Pappas

Wireless Generation, New York, New York

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

10 One School’s Use of Reflective Teaching to Understand the CCSS

(Pre-K–5) Session

Learn about a school-wide professional development effort challenging teachers to deepen their understanding of elementary school mathematics and the CCSS and to consider changes in instruction to improve students’ learning. The speakers will discuss reflective teaching’s effects and educative curriculum materials developed by teacher teams.

Melfried Olson

Curriculum Research and Development Group, University of Hawaii, Honolulu

Fay Zenigami

Curriculum Research and Development Group, University of Hawaii, Honolulu

Hannah Slovin

Curriculum Research and Development Group, University of Hawaii, Honolulu

114 (CONVENTION CENTER)

ICON LEGEND

 Common Core State Standards

 Core Math Tools

 Learn↔Reflect Strand

 NCTM Committee Presentations

 New Teacher Strand

 Exhibitor Workshop

11 Calling Math Specialists! Addressing Professional Development Assessment Needs for CCSS

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

If you’re an elementary school mathematics specialist or coach, you will help lead your school or district’s transition toward CCSS implementation. The speakers will examine PD considerations and give you PD ideas related to the CCSS content standards, mathematical practices, and the forthcoming assessments.

Francis (Skip) Fennell

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

Beth Kobett

Stevenson University, Baltimore, Maryland

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

12 Fan Out from Fractions

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

Making sense with fractions is a big part of number sense, but how do you move beyond manipulatives? Learn simple games that bridge from concrete to abstract to help your students develop a deeper understanding of fractions while creating a foundation for equations and music. Add dice and colored pencils, you’re ready for class.

Cheryl Ooten

Santa Ana College (Emerita), California

SALON C (MARRIOTT DOWNTOWN)

13 Practices for the Mathematical Practices

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

Not sure how to promote the Common Core State Standards Mathematical Practices in mathematics instruction, or even what they are? This is the session for you. Come experience the Mathematical Practices as a teacher and learner for more effective mathematics instruction.

Thomaseia Adams

University of Florida, Gainesville

202 A/B (CONVENTION CENTER)

THURSDAY

Join Us For Music, Math, and Fun!

Math Upgrade Elementary School Lessons Using Songs, Video, and Games

Session 96.3: Thursday 10 am, Convention Center Room 115B

Math Upgrade is an exciting alternative for elementary math success. Find out how teachers transform their classes using interactive whole class lessons and individual online courses.

Pre-Algebra Upgrade Interactive Lessons Using Songs, Video, and Games

Session 158.1: Thursday 11:30 am, Convention Center Room 115B

Pre-Algebra Upgrade features music and animation to make middle school math understandable. Find out how teachers transform their classes using interactive whole class lessons and individual online courses.

Algebra Upgrade Interactive Lessons Using Songs, Video, and Games

Session 189.4: Thursday 1 pm, Convention Center Room 115B

Algebra Upgrade features music and animation to make challenging concepts understandable. Find out how teachers transform their classes using interactive whole class lessons and individual online courses.

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8:00 A.M.–9:00 A.M.

14 Using Specially Designed Instruction in English (SDAIE) Strategies to Teach Mathematics to English Learner Students

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

Conducting a mathematics lesson in Vietnamese, the presenter will demonstrate and analyze the SDAIE strategies necessary to relate mathematics concepts to limited-English-proficiency students in a classroom setting.

Kien Pham

California State University, Fresno

121 B (CONVENTION CENTER)

15 Essential Understanding of Fractions: Can You Picture It?

(3–8) Session

To illustrate big ideas from the NCTM Essential Understanding series, the speaker will create diagrams for meanings of fractions, equivalent fractions, comparing fractions, and the four operations. These diagrams help students understand fraction concepts and lead to developing the rules for simplifying fractions and fraction arithmetic.

Thomas Sonnbend

Montgomery College, Rockville, Maryland

123 (CONVENTION CENTER)

16 Missing Math Skills: Supporting the Struggling Learner

(3–8) Session

Every math teacher faces this dilemma: how to help students who, from a lack of prerequisite skills, struggle with any new math lesson. Learn how to design and deliver whole-group instruction that provides scaffolded support for struggling students, as well as how to manage guided math groups that help lagging learners catch up.

Annette Holmstrom

University Place School District, Washington

Jeff Loupas

University Place School District, Washington

115 C (CONVENTION CENTER)

17 Mathematical Fluency: A Key to Mathematical Proficiency

(6–8) Session

This presentation will address the crucial role mathematical fluency plays in achieving mathematical proficiency. It will focus on two particular aspects of math fluency—translating mathematical symbols into words, and using proper, math-specific language rather than watered-down language that teachers and students alike often encounter.

David Ginsburg

Ginsburg Educational Consulting and Coaching, LLC,
Philadelphia, Pennsylvania

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

18 Mathematical Humor with a Point: Communicating Effectively with Students

(6–8) Session

Humor can give students an offbeat view of topics while reinforcing concepts. The speaker will share anecdotes, jokes, cartoons, bad ads, and news clippings illustrating how miscommunicated math leads to ridiculous conclusions. See the importance of being mathematically literate: your students' not-so-funny errors are similar to adults'.

David Spangler

University of Chicago, Illinois

TERRACE BALLROOM 4 (CONVENTION CENTER)

19 Use Formative Assessment to Differentiate Instruction

(6–8) Session

Hear experiences of a math teacher team collaborating with a college professor to use a research-based, formative assessment framework to differentiate instruction. See their formal unit preassessments and informal daily check-ins. Hear how they used data from these to guide instruction and help students direct their own learning.

Leslie Laud

Wellesley Public Schools, Massachusetts

Marty Wagner

Wellesley Public Schools, Massachusetts

Susan Hirsh

Wellesley Public Schools, Massachusetts

108 A (CONVENTION CENTER)

THURSDAY

8:00 A.M.–9:00 A.M.

20**Some Outstanding Problems:
Use Them To Teach Reasoning,
Problem-solving, Mathematics****(6–8, Preservice and In-Service) Session**

Since the beginning of the problem-solving movement, many problems have come and gone. Others have remained as outstanding. Why? What makes them so? This interactive session will examine some classic problems and show how to use them to teach reasoning, problem solving, and the mathematics of your curriculum.

Stephen Krulik

Temple University, Philadelphia, Pennsylvania

117 (CONVENTION CENTER)

21**Algebra Wasn't Always about
Symbol Manipulation****(6–12) Session**

Symbols have only been in common use for 300 years. For 5,000 years Babylonians, Arabs, and others have thought algebraically and represented their thinking numerically, geometrically, and verbally. Come look at this history and find clues about how humans learned to think algebraically, which can reflect how our students learn the same thing.

Ruth Miller

Greenhills School, Ann Arbor, Michigan

119 A (CONVENTION CENTER)

22**And We Have Liftoff: NASA's
Exploring Space through Algebra 1****(6–12) Session**

Students blast off to a better understanding of linear functions with activities from Exploring Space through Math. Math educators collaborated with scientists and engineers to create inspiring activities that have students apply math concepts to real NASA data.

Paulette GrangerNational Aeronautics and Space Administration (NASA),
Houston, Texas**Monica Trevathan**National Aeronautics and Space Administration (NASA),
Houston, Texas

204 B (CONVENTION CENTER)

23**Archimedes and the
Emergence of Pi****(6–12) Session**

Return to a time circa 250 B.C. and watch pi emerge by infusing Archimedes' method with the technology of today. With the use of spreadsheets and GeoGebra (free interactive geometry software), pi will come alive for you and your students.

Evonne Pankowski

Pines Middle School, Pembroke Pines, Florida

Edward Knot

Broward County Public Schools, Fort Lauderdale, Florida

107 A/B (CONVENTION CENTER)

24**Geometry Projects:
Escher, Sierpinski, and
Snowflakes in Your Classroom****(6–12) Session**

This presentation will focus on hands-on, student-created geometry projects. These projects help students visualize concepts such as similarity, rotations, reflections, translations, and symmetry.

Paul Kelley

Anoka High School, Minnesota

120 C (CONVENTION CENTER)

25**Mathematics of Game Shows Plus****(6–12) Session**

How should players bet in Final Jeopardy? What's the cash value of a spin in Press Your Luck? How do they pick games for Minute to Win It? These questions lead to topics in probability, statistics, and game theory. Examine games from two perspectives: those who play the games, and those who design the games. Audience members will win prizes.

Bowen Kerins

Education Development Center, Newton, Massachusetts

David Hammett

Oakwood School, North Hollywood, California

TERRACE BALLROOM 1 (CONVENTION CENTER)

8:00 A.M.–9:00 A.M.

26 Using Structure to Make Sense of Mathematics

(6–12) Session

How can we help students tap into the mathematical structures they know in order to make sense of area formulas of polygons? Engage in a hands-on, problem-solving situation that brings alive the seventh Standard for Mathematical Practice—Making Use of Structure. Discuss this standard and its connections to classroom practice.

Connie Laughlin
University of Wisconsin—Milwaukee

Beth Schefelker
Milwaukee Public Schools, Wisconsin

201 B (CONVENTION CENTER)

27 What Is a Solution?

(6–12) Research Session

One's ability to solve equations is central to success in algebra. The speaker will explore students' conceptions of solutions, classify student's descriptions, and link them to the ability to solve linear equations successfully, including identities and equations with no solution. She will discuss several specific misconceptions.

Rebecca Walker
Grand Valley State University, Allendale, Michigan

125 (CONVENTION CENTER)

28 Advanced Quantitative Reasoning: Tasks, Tools, and Talk

(9–12) Session

NCTM says, "Every student should study mathematics every year through high school, progressing to a more advanced level each year." This talk will present cognitively demanding problems (tasks) that seniors have found engaging and that connect a wide range of mathematics, statistics, and modeling using technology (tools) and discourse (talk).

Gregory Foley
Ohio University, Athens

Blake Regan
Ohio University, Athens

103 A (CONVENTION CENTER)

29 Reasoning in a Calculator's Presence on the SAT

(9–12) Session

How can the SAT mathematics test engage students in reasoning and sense making in a calculator's presence? How does a calculator offer additional solution options for SAT questions? What have we learned about how students use their calculators on the SAT? Come hear the answers to these questions and more.

Robin O'Callaghan
College Board, New York, New York

Andrew Schwartz
College Board, New York, New York

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

30 Teaching Proof: Lessons from an Action Research Study

(9–12, Higher Education) Session

With the NCTM's recent *Reasoning and Sense Making* documents comes an increased emphasis on mathematical proof. Come explore the classroom implications from a research study comparing two very different approaches to teaching proof.

Pete Johnson
Eastern Connecticut State University, Willimantic

126 B (CONVENTION CENTER)

31 Triple Play: DeMorgan to Stirling to Euler to Maclaurin

(9–12, Higher Education) Session

A strange numeric algorithm for $n!$ in an 1838 probability book by Augustus Demorgan led to an investigation of Stirling's formula, by way of the gamma function and the Maclaurin series. The process also developed enrichment activities spanning intermediate algebra through multivariable calculus.

Sidney Kolpas
Delaware County Community College, Media, Pennsylvania

203 A/B (CONVENTION CENTER)

THURSDAY

8:00 A.M.–9:00 A.M.

32**Investigating Technology's Effect on Students' Solutions**

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

Examining technology's effect on students' problem solving, teachers must recognize how students' solution methods with dynamic software differ from their solutions with paper and pencil. Come explore the way technology changes students' thinking in solving algebra word problems.

Sirin Coskun

University of South Florida, Tampa

109 A/B (CONVENTION CENTER)

33**Solving Classic Problems Using Dynamic Mathematics Technology**

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

Classic problems in school mathematics take on new dimensions when explored using new dynamic tools. Drawing on cases from several professional development projects, the speakers will discuss the processes of problem solving and posing and how dynamic technologies can enrich teachers' mathematical experience and didactical reflections.

Lingguo Bu

Southern Illinois University, Carbondale

Frackson Mumba

Southern Illinois University, Carbondale

Mary Wright

Southern Illinois University, Carbondale

SALON D (MARRIOTT DOWNTOWN)

34**I Love Math: How Do I Become a Mathematics Specialist?**

(Preservice and In-Service) Session

Learn more about what a mathematics specialist does and how to become certified, and see an elementary mathematics specialist program from the inside out. Experience problem-based learning projects, products from goal setting using the PRIME Leadership Framework, and case studies developed by the students.

Beth Bos

Texas State University, San Marcos

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

8:30 A.M.–9:30 A.M.

ew 34.1**Embracing the Common Core State Standards with Technology**

(General Interest) Exhibitor Workshop

Presented by Mike Reiners. Imagine a classroom where students take ownership of their learning! Through meaningful investigations, experience highlights of Casio's powerful professional development program and Prizm technology that will inspire teachers to implement best teaching practices and the CCSS seamlessly into their classroom and empower students.

Casio America, Inc.

Dover, New Jersey

118 B (CONVENTION CENTER)

ew 34.2**Manipulatives Support the Common Core State Standards (CCSS)**

(K–5) Exhibitor Workshop

Developmental Math Group has manipulatives to support the teaching of the new CCSS. Young students can build visual images to support the important number concepts needed to be successful in mathematics. Come and see how five-frames, ten-frames, double ten frames and an interactive number line can be used in the classroom.

Developmental Math Group

Hilliard, Ohio

113 B (CONVENTION CENTER)

ew 34.3**enVisionMATH Common Core: What Does Teaching through Mathematical Practice Look Like?**

(Pre-K–8) Exhibitor Workshop

Through activities in this exhibitor workshop, participants will develop an understanding of each of the Standards for Mathematical Practice and see how various types of learning tasks and questioning strategies can engage students in order to develop understanding and proficiency in mathematics.

Pearson

Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

8:30 A.M.–10:00 A.M.

35 Activities to Help English Learners Develop Number Sense and Operations

(Pre-K–2) Gallery Workshop

The speaker will present effective instructional and alternative assessment strategies using hands-on learning games and activities, tested in actual classrooms with English language learners; discuss students' actual work samples and rubrics with participants; and provide handouts containing activity ideas for use as assessment tools.

Insook Chung
Saint Mary's College, Notre Dame, Indiana

126 A (CONVENTION CENTER)

36 Visual Scaffolding for Money Games: Making Them Accessible for All

(Pre-K–2) Gallery Workshop

Good games motivate students and reinforce many mathematical objectives. Students with weakly internalized number structure, however, could find them inaccessible. Using money as context, the speakers will showcase examples of visual scaffoldings and how you can use them in conjunction with some common money games to benefit all students.

Shukkuen Tse
Brookline Public Schools, Massachusetts

Geetanjali Advani
Brookline Public Schools, Massachusetts

FRANKLIN HALL 6/7 (MARRIOTT DOWNTOWN)

THURSDAY

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Problem Solving That Supports Common Core

Exemplars assists schools transitioning to CCSS by offering:

- Real world **problem-solving** that engages students.
- **Differentiated** tasks to meet individual students' instructional needs.
- **Alignments** to Common Core, NCTM and state standards.
- **Assessment rubrics** that support *CCSS for Mathematical Practice*. The use of mathematical reasoning, representations and communication are primary components.
- **Annotated anchor papers** that demonstrate examples of student work at the 4 levels of the Exemplars rubric.



For Math Instruction:

Real-world tasks that PROMOTE conceptual understanding, problem solving and higher-order thinking skills.

For Math Assessment:

A tool to IDENTIFY students' problem-solving strengths and weaknesses and understand what their work demonstrates about their mathematical understanding.

8:30 A.M.–10:00 A.M.

37 Gardening Activities to Cultivate and Nurture Mathematical Thinking and Practices

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

Receive classroom-ready activities, graphic organizers, and assessment strategies for prekindergarten through grade 2 students. The garden theme will enhance children's number sense, measurement, and estimation knowledge. See how to infuse whiteboard technology effectively into your instruction.

E. Todd Brown

University of Louisville, Kentucky

Lana Thomas

University of Louisville, Kentucky

FRANKLIN HALL 9/10 (MARRIOTT DOWNTOWN)

39 Bridging Thinking through Interventions

(Pre-K–5) Gallery Workshop

Providing interventions for struggling students requires a step-by-step instructional approach using visual models. Visual models bridge the thinking between concrete and abstract. Coupling visual models with direct, explicit instruction orchestrates the nature of intervention instruction. Intervention is bridging thinking.

Rob Nickerson

ORIGO Education, Saint Charles, Missouri

111 A/B (CONVENTION CENTER)

40 Closing the Mathematical Language Gap

(Pre-K–5) Gallery Workshop

Students struggle with math language. They read equations symbolically but don't connect symbols to the operations' conceptual meanings. Join the speaker as she examines strategies that develop students' mathematical language, build connections across the strands, increase tasks' cognitive demand, and assess for depth of understanding.

Sandy Atkins

Creating AHAs, Saint Petersburg, Florida

108 B (CONVENTION CENTER)

41

Chapter Tests: Do They Assess What You Think They Assess?

(3–5) Gallery Workshop

Items on chapter tests accompanying mathematics curricula may not actually assess what a quick perusal indicates. Come be introduced to several systematic issues with assessment items, analyze items to identify instances of these issues, and discuss how to modify items to improve their effectiveness.

Patricia Hunsader

University of South Florida, Sarasota-Manatee

Barbara Zorin

Consultant, University of South Florida, Tampa

Denisse Thompson

University of South Florida, Tampa

124 (CONVENTION CENTER)

42

Extreme(ly Fun) Challenges: Connecting Science, Technology, Engineering, and Mathematics (STEM)

(3–5) Gallery Workshop

Participate in extreme engineering and math activities developed by classroom teachers and museum educators. Take a leap into parachute design and use your STEM skills. This hands-on, minds-on challenge will require participants to conduct experiments and work as a team in order to engineer a technology that can survive extreme environments!

Melissa Higgins

Museum of Science, Boston, Massachusetts

Sharon Horrigan

Museum of Science, Boston, Massachusetts

Liz ParryNorth Carolina State University College of Engineering,
Raleigh

118 A (CONVENTION CENTER)

ICON LEGEND

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 NCTM Committee Presentations

 New Teacher Strand

 Exhibitor Workshop

8:30 A.M.–10:00 A.M.

43

Reaching All Learners through Rich, Nontraditional Problems

(3–5) Gallery Workshop

Explore rich tasks with multiple solutions in which students develop and share their own problem-solving strategies to allow them access to the curriculum and help them develop their own identity. Learn how to support students in using academic discourse, making conjectures, justifying conclusions, and constructing viable arguments.

Nita Walker

Santa Ana Unified School District, California

Barbara Post

Retired, Orange, California

SALON I/J (MARRIOTT DOWNTOWN)

44

Why Mental Math? A Guide to Effective Calculation

(3–5) Gallery Workshop

Help your students save time and paper using mental calculation! Using methods from Korean classrooms, the speakers will demonstrate how teachers help students use efficient, accurate, and flexible mental math strategies. Participants will practice strategies that foster students' mental computational skills. Handouts will be available.

Jongsoo Bae

Seoul National University of Education, Republic of Korea

Mangoo Park

Seoul National University of Education, Republic of Korea

Do-Yong Park

Illinois State University, Normal

204 C (CONVENTION CENTER)

45

Connecting Spatial, Algebraic, and Data Reasoning for Common Core State Standards

(3–8) Gallery Workshop

Participants will work on an amazing set of problems. Each problem will use spatial reasoning, encourage organization of collected data, and lead to solutions followed by generalization and algebraic reasoning. The speakers will share students' work and discuss how this mathematics supports Common Core State Standards for Mathematical Practice and content.

James Matthews

Siena College, Loudonville, New York

Jenny Tsankova

Roger Williams University, Bristol, Rhode Island

201 A (CONVENTION CENTER)

46

Exploring Geometry with Kites: Connecting Mathematics, Science, and Art

(3–8) Gallery Workshop

Plan and implement a hands-on geometry unit on kites. Explore geometry, measurement, and problem solving to build several kites. Investigate math-science-art integration, kite activities, construction materials, resource books, and literature connections. Come if you believe that mathematics consists of doing as well as knowing.

Nick Stupiansky

Edinboro University of Pennsylvania

Sandra Waite-Stupiansky

Edinboro University of Pennsylvania

116 (CONVENTION CENTER)

47

Group Work That Works

(3–8) Gallery Workshop

Tired of materials manager and time tracker as your only group roles? Learn how more meaningful job roles can create students' deeper discourse during group work activities. Change your views of group roles from a management tool to a scaffold toward higher-order thinking. Experience these roles for yourself through pattern and function examples.

Juliana Rohrlack

Chute Middle School, Evanston, Illinois

Liz Gates

Chute Middle School, Evanston, Illinois

103 C (CONVENTION CENTER)

Have a tip to share with
a 1st time attendee?
Look for attendees
wearing a blue
1st Timer ribbon!

THURSDAY

8:30 A.M.–10:00 A.M.

48 Open-Ended Assessments: Reveal What Your Students Know

(3–8) Gallery Workshop

Open-ended assessments are useful tools for evaluating students' strengths as well as their misconceptions. This presentation will show how to create, score, and use open-ended assessments to measure students' progress and plan instruction. Leave the presentation with several classroom-ready items and a guide for creating your own assessments.

Kimberly Morrow-Leong
George Mason University, Fairfax, Virginia

122 B (CONVENTION CENTER)

49 Toy Cars and Box-and-Whiskers Plots: Statistics and Science Students Love

(3–8) Gallery Workshop

The speakers will use science concepts related to force and motion to design and build a jet toy car that either (1) travels the farthest or (2) travels the fastest. They will gather and analyze data to create box-and-whisker plots to help determine the “best” toy car.

Kim Hartweg
Western Illinois University—Macomb Campus

Laverne Logan
Western Illinois University—Quad Cities Campus, Moline

FRANKLIN HALL 3/4 (MARRIOTT DOWNTOWN)

50 Using Hands-On Equations® and Gestures to Teach Basic Algebra

(3–8) Gallery Workshop

The speakers will illustrate how to model important algebraic concepts, such as the distributive property and the subtraction property of equality, using gestures and Hands-On Equations, so that even your weakest students can succeed in understanding and solving linear equations with unknowns on both sides.

Joyce Hardaway
Borenson and Associates, Inc., Allentown, Pennsylvania

Kathryn Dillard
Borenson and Associates, Inc., Allentown, Pennsylvania

120 A/B (CONVENTION CENTER)

51 Six Degrees of Kevin Bacon: Discrete Mathematics for Middle Grades

(6–8) Gallery Workshop

Discrete mathematics is a branch of contemporary mathematics with many applications in business and industry. Discrete mathematics topics also provide ways to enhance the uses of problem solving, modeling, and structure. You will receive engaging, classroom-ready activities for the middle grades.

Ann McCoy
University of Central Missouri, Warrensburg

113 C (CONVENTION CENTER)

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matheta@ou.edu
www.mualphatheta.org

8:30 A.M.–10:00 A.M.

52

Study Team Strategies: Getting Teams to Work Effectively in Class

(6–8) Gallery Workshop

Participants will discuss and practice ways to implement effective teamwork in the classroom, investigate several ways to set up teams, and experience various fun strategies for encouraging students to work cooperatively. Strategies will include Numbered Heads, Hot Potato, Jigsaw, Fortune Cookie, and Whiparound.

Joy Weikert

Conewago Valley School District, New Oxford, Pennsylvania

Rhonda Bauriedl

Conewago Valley School District, New Oxford, Pennsylvania

115 A (CONVENTION CENTER)

53

Transforming Algebra and Geometry into Art and Design

(6–8) Gallery Workshop

Represent linear equations with line designs. Draw geometric designs and transform them into puzzles. Create three variations of spirals by hand and with technology. Help students make connections between mathematics and art while investigating similar figures, the Pythagorean theorem, triangles, and midpoints.

Marilyn Dibble

Topeka Public Schools, Kansas

Jane Whitmire

Central Washington University, Ellensburg

SALON A/B (MARRIOTT DOWNTOWN)

54

Birdhouse Diagrams and Models: Enhancing Preservice Teachers' Subject Matter Knowledge

(6–8, Preservice and In-Service) Gallery Workshop

Explore how inquiry and engagement can enhance geometric reasoning and spatial sense. The presenter will share research results and engage attendees in activities and discussion that link diagram drawing and birdhouse building to furthering teachers' pedagogical subject matter knowledge.

Sherri Cianca

Niagara University, Lewiston, New York

121 C (CONVENTION CENTER)

55

Coming Full Circle

(6–12) Gallery Workshop

This presentation will explore the progression of students' understanding of circles from kindergarten (recognition) to high school (relationships created by angles and special segments). Use hands-on activities to investigate formulae and theorems, prove their origin, engage the learner, and promote understanding.

Melody Bushley

Chesterfield County Public Schools, Richmond, Virginia

Michele Giglio

Chesterfield County Public Schools, Richmond, Virginia

DeAnna Moreau

Chesterfield County Public Schools, Richmond, Virginia

119 B (CONVENTION CENTER)

56

Fun Practice with the TI-84 Plus™

(6–12) Gallery Workshop

Bored with the usual day-to-day, drill-and-kill practice? Learn how to use algebra applications on a TI-84 Plus to make practice fun and engaging. The focus will be on integers, rational numbers, and functions. Students won't want to leave math class. Apps are a tool that teachers can use to differentiate instruction while reviewing important content.

James Early

Boston Public Schools, Massachusetts

Neelia Jackson

Retired, Boston Public Schools, Massachusetts

201 C (CONVENTION CENTER)

57

How to Win Games Using Math

(6–12) Gallery Workshop

Engage students with combinatorial games, and challenge them to make and prove conjectures about winning strategies. Come play and explore games, used in both classes and after-school math clubs, which highlight ideas of symmetry, number systems, functions, systems of equations, and mathematical models.

Kristin Camenga

Houghton College, New York

105 A/B (CONVENTION CENTER)

THURSDAY

8:30 A.M.–10:00 A.M.

58 Powerful, Playful Pretzels

(6–12) Gallery Workshop

Discover how to use variously shaped pretzels as manipulatives to motivate students to learn mathematical concepts in algebra, geometry, trigonometry and precalculus. Participate in hands-on activities and games that appeal to students with diverse ability levels. Bring a graphing calculator, your imagination, and an appetite for fun.

Jan Gray
North Rockland High School, Thiells, New York

SALON E (MARRIOTT DOWNTOWN)

59 Reasoning and Sense Making with Technology: Interactive Math Boxes

(6–12) Gallery Workshop

Technology can be a productive tool for engaging students in activities that support the Common Core State Standards related to statistics and mathematical practices. Interactive math boxes and dynamic, interactive applets enable students to make sense of core concepts in statistics, from correlation to sampling distributions.

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

BALLROOM A (CONVENTION CENTER)

60 Designing Monte Carlo Simulations Using TI-Nspire™ Technology

(9–12) Gallery Workshop

How can you use technology to simulate the probabilities of the sum of three fair dice, that an airline will be overbooked, or of getting a sports trading card in a cereal box? Design Monte Carlo simulations using the TI-Nspire to explore these and several other neat applications. Some familiarity with TI-Nspire technology is suggested.

Natalie Jakucyn
Glenbrook South High School, Glenview, Illinois

204 A (CONVENTION CENTER)

61 Multisensory Geometry: A Hands-On Approach to Reasoning, Proof, and Logic

(9–12) Gallery Workshop

Geometric reasoning's language and abstract concepts are very difficult for many students, especially those with language and learning difficulties. Learn how to present abstract geometric concepts for logic and reasoning, proofs, parallel lines, and transversals using multisensory strategies, structured language, and inexpensive manipulatives.

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

SALON K/L (MARRIOTT DOWNTOWN)

62 Triangle Points of Concurrency: What's the Point?

(9–12) Gallery Workshop

Visualization plays a major role in understanding geometric concepts. Integrating technology fosters this understanding, offering visual images of mathematical ideas. Using Geogebra, engage in an activity that capitalizes on geometric intuitions by exploring the special points of a triangle.

Tashana Howse
University of Central Florida, Orlando

Mark Howse
Florida A&M University, Tallahassee

SALON G (MARRIOTT DOWNTOWN)

63 Uncovering Math Curriculum through Language: Boosting English Language Learners' Achievement

(9–12) Gallery Workshop

This gallery workshop will be highly interactive, with discussion, hands-on activities, and examples of strategies, games, and collaborative group work. Participants will gain insight into the role of language use in mathematics and investigate the role of vocabulary and comprehension in learning math-specific vocabulary.

Brenda Strassfeld
Touro College, New York, New York

Carol Bearse
Touro College, New York, New York

118 C (CONVENTION CENTER)

8:30 A.M.–10:00 A.M.

64 What Is under a Velocity Curve?

(9–12) Gallery Workshop

Participants will work through a selection of activities from a high school precalculus unit on area under the curve. This unit develops the ideas of integral calculus through a variety of explorations, beginning with the area under a velocity curve and progressing to more formalized algorithms and notation.

Maureen Honeychuck

Susquehannock High School, Glen Rock, Pennsylvania

FRANKLIN HALL 12/13 (MARRIOTT DOWNTOWN)

65 Preparing Our Mathematics Teachers with Poetry as an Instructional Technique

(Preservice and In-Service) Gallery Workshop

Explore a variety of instructional approaches that introduce math poems into the mathematics classroom across all grade levels. Working collectively, individually, or both, compose math poems, investigate poetry patterns, solve poem problems, and model selected implementation and assessment strategies.

John Hammett III

Saint Peter's College, Jersey City, New Jersey

FRANKLIN HALL 1 (MARRIOTT DOWNTOWN)

9:30 A.M.–10:30 A.M.

66 Access to Math for Students with Moderate and Severe Disabilities

(General Interest) Session

State-adopted standards require that students with moderate to severe disabilities have access to the same mathematics as other students. What does this look like for students challenged with significant disabilities? An experienced educator shows how differentiated instruction, materials, and technology pave the way for these learners.

Colette Kruc

Anwatin Middle School, Minneapolis, Minnesota

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)



67 Achieving Uncommon Results with the Common Core State Standards for Mathematics (CCSSM)

(General Interest) Session

The CCSSM and NCTM share a view that important mathematics includes both content and mathematical processes. Examine connections between CCSSM standards for mathematical practice and NCTM Process Standards, and their respective implementations, as a key to improving instruction and students' learning and to closing the achievement gap.

Matt Larson

Board of Directors, National Council of Teachers of Mathematics; Lincoln Public Schools, Nebraska

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

68 Assessing Students on the Common Core State Standards: Take Charge

(General Interest) Session

This session will give an update on the efforts of two multistate consortia producing math assessments—high-stakes, benchmarking, and formative—for use in 2014–15. The speaker will make recommendations for using and interpreting these assessments, as well as for giving feedback during their development.

Henry Kepner

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

BALLROOM B (CONVENTION CENTER)



69 Guidelines for Choosing and Using Technology in the Mathematics Classroom

Learn↔Reflect Kickoff Session

(General Interest) Session

Technology can give powerful leverage to affording opportunities to learn mathematics, including real-world contexts and tasks requiring reasoning and sense making. The question “what does technology buy me,” in the sense of new affordances created for learning and teaching, should guide us in choosing technology and implementing it well.

Thomas Dick

Oregon State University, Corvallis

114 (CONVENTION CENTER)

THURSDAY

9:30 A.M.–10:30 A.M.

70 What Makes Students Opt Out of Upper-Level Mathematics Courses?

(General Interest) Research Session

There's a national push to prepare more students for careers in science, technology, engineering, and mathematics, but students opt out of upper-level high school mathematics courses. Why? The speaker will give results of a qualitative study that outlines the reasons. How can math educators encourage participation in these courses?

Kate Degner
University of Iowa, Iowa City

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

71 Conceptual Place Value: What Strategies Do Your Students Use?

(Pre-K–5) Session

What does mathematical thinking sound like? What skills do students need to reason mathematically? The speaker will use Math Recovery diagnostic assessments to give insights into students' math reasoning. She will examine videos of students solving two- and three-digit addition and subtraction problems to decide next steps in instruction.

Vicki Breneman
Moorhead Public Schools, Minnesota

204 B (CONVENTION CENTER)

72 Understanding Place Value: A Real Hands-on Approach

(Pre-K–5) Session

Engage in activities designed to develop a deep understanding of place value. The speaker will show how to use concrete materials, based on the most powerful representation of ten, to develop strong number sense and efficient mental computation strategies.

Brian Tickle
Consultant, Taree, Australia

TERRACE BALLROOM 4 (CONVENTION CENTER)

73 Volume and Capacity: What Space Do These Words Occupy?

(Pre-K–5) Session

Engage with the different ways that widely used elementary school curricula use the terms volume and capacity.

Daniel Clark
Michigan State University, East Lansing

Aaron Mosier
Michigan State University, East Lansing

107 A/B (CONVENTION CENTER)

74 iLearn with iPad

(3–5) Session

This talk will demonstrate how teachers and students in upper elementary school math classes use the iPad. It will share apps used with students to learn math, with a focus on measurement, and for teachers to use in teaching. Examine, discuss, and share iPad apps and ideas for implementation with students to help motivate, engage, and learn.

Donna Gee
Angelo State University, San Angelo, Texas

Trey Smith
Angelo State University, San Angelo, Texas

Jerita Whaley
Walden University, Minneapolis, Minnesota

123 (CONVENTION CENTER)

75 Addressing the Barriers of Struggling Math Learners

(3–8) Session

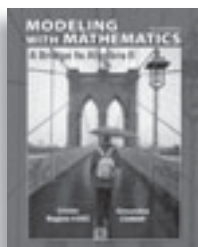
This session will identify common math barriers of struggling learners and explore strategies to address these difficulties. These strategies combine with several aspects of the precision teaching method, which uses explicit instruction, daily measurement of students' progress, and individual analysis of students' skill acquisition.

Bryan Brander
Hill Center, Durham, North Carolina

117 (CONVENTION CENTER)

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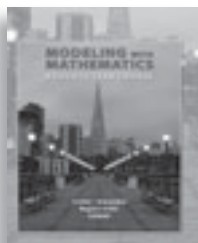
ALGEBRAIC CONNECTIONS



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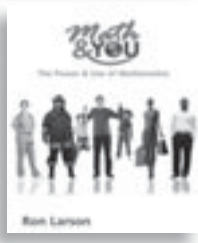
MODELING WITH MATHEMATICS: A Fourth Year Course

Nancy Crisler • Gary Simundza •
Region IV Educational Service Center •
COMAP, Inc.



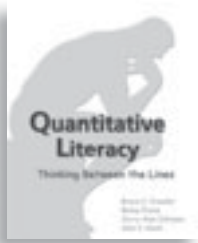
FOR ALL PRACTICAL PURPOSES: Mathematical Literacy in Today's World, Ninth Edition

COMAP, Inc.



MATH & YOU The Power and Use of Mathematics

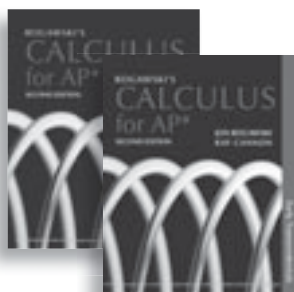
Ron Larson



QUANTITATIVE LITERACY Thinking Between the Lines

Bruce Crauder • Benny Evans •
Jerry Johnson • Alan Noell

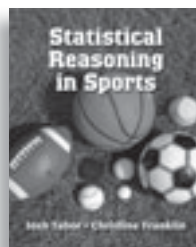
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STATISTICS



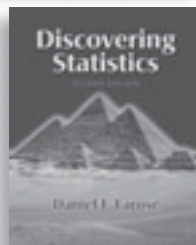
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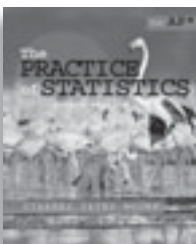
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9:30 A.M.–10:30 A.M.

76 Reasoning without Common Denominators to Compare Fractions

(3–8) Session

Allowing students to develop more than just a common-denominator strategy for comparing fractions gives them a foundation for thinking flexibly about fraction-comparison situations. Come explore various reasoning strategies for comparing fractions and learn instructional techniques to help students develop fluency fractions processes.

Jennifer Tobias
Illinois State University, Normal

126 B (CONVENTION CENTER)

77 Using Formative Assessment to Improve Number-Sense Instruction

(3–8) Session

Number sense is essential for students' success with mathematics, and conducting formative assessments is essential for effective classroom instruction. The speaker will present a Web-based assessment tool, developed with support from the Bill and Melinda Gates Foundation, that will soon be available to schools nationwide.

Marilyn Burns
Math Solutions, Sausalito, California

TERRACE BALLROOM 1 (CONVENTION CENTER)

78 From the Eye of Horus to Napier's Bones

(6–8) Session

Delve into a little history and culture. Explore historical and alternative computation methods, and examine their algebraic foundations. The speaker will emphasize why we use specific algorithms.

Chris Henderson
East Lawrence High School, Trinity, Alabama

125 (CONVENTION CENTER)

79 Let's Mix Drinks: Ratio in Japanese and Singapore Textbooks

(6–8) Session

The Common Core State Standards have students learn about unit rate and equivalent ratios in grade 6. See how to bring to these ideas to life using Asian textbooks, bar models, and lesson study. Watch video clips of students solving and discussing a fun, engaging problem involving a fruit punch recipe.

William Jackson
Scarsdale Public Schools, New York

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

80 Math Talk: A Way to Build Students' Engagement

(6–8) Session

Math talks are quick routines that you can use in your classroom. Looking at a variety of math talks, you will be amazed by student's engagement and flexible mental math strategies. The speakers will facilitate math talks using SMART Board technology, highlight connections to the Common Core State Standards, and analyze classroom video clips.

Nancy Mueller
University of Illinois at Chicago

Margie Pligge
University of Illinois at Chicago

SALON F (MARRIOTT DOWNTOWN)

81 Strategies for Helping Prealgebra Students Develop Symbol Sense

(6–8) Session

As number sense is to success in arithmetic, so symbol sense is to success in algebra. We tend to be much more comfortable with the former. Learn specific ways to scaffold the development of symbol sense with topics, including meanings and uses of variables, how variables and properties behave, and how the symbolic world relates to the real one.

Ann Lawrence
Consultant, Washington, D.C.

115 C (CONVENTION CENTER)

9:30 A.M.–10:30 A.M.



82

Essential Understandings for Teaching Statistics

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

This presentation will highlight essential understandings communicated in NCTM's *Developing Essential Understanding of Statistics for Teaching Mathematics in Grades 6–8*. The speaker will emphasize the statistical process so that it addresses the statistical content and mathematical practices articulated in the Common Core State Standards.

Tim Jacobbe

University of Florida, Gainesville

119 A (CONVENTION CENTER)

83

Fostering Teachers' Knowledge That Connects to Students' Achievement

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

Recent research has identified connections between grades 4–8 teachers' knowledge and their students' achievement. This presentation will share findings and lead a discussion of teachers' responses to mathematical content and pedagogical knowledge items, addressing implications for professional development and teacher education.

Patricia Campbell

University of Maryland, College Park

103 A (CONVENTION CENTER)

84

Building Digital Materials to Enhance Learning in Algebra

(6–12) Session

Come explore a free collection of digital learning objects for teaching algebra, including video podcasts, supplementary self-check problems, and tutorials for students. You will walk away from this multimedia presentation able to use free technologies to create these materials easily for your own classroom.

Jennifer Kosiak

University of Wisconsin—La Crosse

Heather Mathison

University of Wisconsin—La Crosse

Bob Hoar

University of Wisconsin—La Crosse

113 A (CONVENTION CENTER)

85

Overcoming Fundamental Algebra Difficulties

(6–12) Session

Understanding the complex concepts of variable and slope are challenges for students learning algebra. This presentation will discuss reasons for these difficulties, means of assessing students' knowledge of the concepts, and activities to promote their understanding.

Carole Sokolowski

Merrimack College, North Andover, Massachusetts

Susan Gray

University of New England, Biddeford, Maine

Barbara Loud

Regis College, Weston, Massachusetts

SALON C (MARRIOTT DOWNTOWN)

86

Connecting Teachers and Students through Skype

(9–12) Session

Learn how to connect your class with others across the country through Skype and other free, Web-based technologies. Hear how a statistics class in D.C. collaborated in real time with classes in four other states. Through simple uses of current technology, your class can do the same. The speakers will offer examples of real lessons.

Paul Buckley

Gonzaga College High School, Washington, D.C.

Douglas Tyson

Central York High School, Pennsylvania

120 C (CONVENTION CENTER)

87

Fishing for Great Mathematical Explorations? Then "CAS"t a Bigger Net

(9–12) Session

Computer algebra systems (CAS), when used appropriately, allow students to explore important mathematical concepts that they could not access easily without this technology. This session will present investigations that use CAS to connect algebra, geometry, and data. The speaker will offer classroom-ready handouts.

Donald Porzio

Illinois Mathematics and Science Academy, Aurora, Illinois

108 A (CONVENTION CENTER)

THURSDAY

9:30 A.M.–10:30 A.M.

88
V Is for Vector

(9–12) Session

Vectors are an efficient, elegant, yet accessible mathematical tool. Learn how introducing vectors into a geometry course helps students combine algebraic thinking and spatial reasoning, to support a deeper understanding of fundamental concepts while emphasizing strategic problem solving.

Amanda Simmons
Nichols School, Buffalo, New York

109 A/B (CONVENTION CENTER)

89
Exciting Activities with TI-Nspire™ for the Algebra 2

(9–12, Higher Education) Session

This presentation will explore exciting activities for key topics in the standards for Algebra 2, such as baseball's power-speed number (rational equations), the time for pizza to cool (exponential and log functions), the Monte Hall Dilemma (probability), and several more. Receive handouts and a Web site for free TI-Nspire files.

Brendan Kelly
University of Toronto, Ontario, Canada

201 B (CONVENTION CENTER)

90
Resources for Constructing Application Problems and Using Spreadsheets

(9–12, Higher Education) Session

The presenters will share Web resources for collecting real data that you can use for writing application problems for beginning to college algebra. They will share instructions for using Microsoft Excel to create charts, graphs, and trend lines. Get hands-on experience constructing your own application problems.

Andrea Hendricks
Georgia Perimeter College, Clarkston, Georgia

Oiyin Chow
Harrisburg Area Community College, Pennsylvania

Todd Hendricks
Georgia Perimeter College, Clarkston, Georgia

SALON D (MARRIOTT DOWNTOWN)

91
Taking It to the Limit: Understanding the Derivative Concept

(9–12, Higher Education) Session

This presentation will explore activities, embedded in real-world contexts, that informally highlight the limit definition and the concept of the derivative. Students will work together to discover how instantaneous rate of change stems from an average rate of change.

Erin Goodykoontz
West Virginia University, Morgantown

Marjorie Darrah
West Virginia University, Morgantown

Douglas Squire
West Virginia University, Morgantown

122 A (CONVENTION CENTER)

92
When Socrates Visited a Calculus Class

(9–12, Higher Education) Session

Come along as Socrates introduces approximating transcendental functions by Taylor polynomials. He will connect technology, algebra, and regression while putting the mathematics into historical context. Socrates will stimulate flexible thinking by encouraging students to adapt and extend previous learning, make connections, and generalize.

James Carpenter
Iona College, New Rochelle, New York

William Gratzner
Iona College, New Rochelle, New York

121 B (CONVENTION CENTER)

93
3-D Modeling with Google™ SketchUp™

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

Do your students confuse prisms with pyramids? Do they mix up slant height and shape height? Do they know where conic sections come from? Transform your classroom as you engage students with three-dimensional geometry. The speakers will share classroom activities that reinforce vocabulary, measurement, and visualization skills.

Mark Augustyn
Muncie Community Schools, Indiana

Kathryn Shafer
Ball State University, Muncie, Indiana

SALON H (MARRIOTT DOWNTOWN)

9:30 A.M.–10:30 A.M.

94

Sinuosity, the Crookedest Street in the World, Rivers, and $y = \sin x$

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

Lombard and Vermont Streets in San Francisco are two of the most crooked streets in the United States. Use Sketchpad and Nspire to explore sinuosity, a ratio used to measure the crookedness of these streets, rivers, and $y = \sin x$. Connections to mathematical topics will include trigonometry, circles, distance between two points, and arc length.

Ron Lancaster

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

202 A/B (CONVENTION CENTER)

95

Connecting and Mentoring Beginning Teachers through Online Support Communities

(Higher Education, Preservice and In-Service) Session

Explore the effectiveness of online support communities to help mentor preservice or beginning teachers and encourage them to discuss, reflect on, and incorporate pedagogical theory into practice in their math classrooms. Discuss successful strategies for guiding these beginning teachers as they deal with their classroom challenges.

Nina Girard

University of Pittsburgh—Johnstown

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

96

Using Mathematical Technology with Prospective Teachers to Develop Mathematical Practices

(Preservice and In-Service) Session

Interactive geometry, dynamic statistics, and algebra technologies create venues for engaging prospective teachers in the mathematical practices advocated in the Common Core State Standards. The speaker will offer examples of activities and research-based suggestions for using technologies to deepen engagement in these mathematical practices.

M. Kathleen Heid

Pennsylvania State University, University Park

203 A/B (CONVENTION CENTER)

10:00 A.M.–11:00 A.M.

ew 96.1

Common Core State Standards (CCSS)—Aligned Supplemental Curricula for Mathematically Talented Students

(K–5) Exhibitor Workshop

Support advanced mathematics students in grades K–5 with *Project M²: Mentoring Young Mathematicians* and *Project M³: Mentoring Mathematical Minds*. These supplemental curriculum units increase math achievement and foster greater interest in mathematics through engaging investigations that align to many CCSS mathematical practice and content standards.

Kendall Hunt Publishing Co.

Dubuque, Iowa

113 B (CONVENTION CENTER)

ew 96.2

SS = CC? (State Standards = Common Core?)

(K–5) Exhibitor Workshop

Common Core State Standards through Investigations and the Common Core. Interactive whiteboard, assessment, and differentiated activities that focus on Standards for Mathematical Content and embed Standards for Mathematical Practice will be shared for use in your classroom.

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103 B (CONVENTION CENTER)

ew 96.3

Math Upgrade: Elementary School Lessons Using Songs, Video, and Games

(3–6) Exhibitor Workshop

Math Upgrade is an exciting alternative for elementary math success. Find out how teachers transform their classes using interactive whole class lessons and individual online courses. Join us for math, music, and fun!

Learning Upgrade LLC

Escondido, California

115 B (CONVENTION CENTER)

THURSDAY

10:00 A.M.–11:00 A.M.

ew 96.4
"Cracking the Code of Algebra" or
"Cracking One's Head on Algebra?"

(3–9) Exhibitor Workshop

How does Hands-On Equations® enable 80 percent of inner city fourth graders to succeed with such basic equations as $4x + 3 = 3x + 10$? If algebra is a foreign language to your students, this exhibitor workshop is for you!

Borenson and Associates, Inc.
 Allentown, Pennsylvania

118 B (CONVENTION CENTER)

10:30 A.M.–12:00 NOON

97
A Powerful, Visual Model for
Number and Place-value:
The 4-Group

(Pre-K–2) Gallery Workshop

What does a four group have to do with our base-ten number system? Come see how this alternative, visual model for conceptualizing the quantity of a number, a model that remains consistent across place values, creates opportunities for all students to engage confidently in reasoning and sense making while manipulating the abstract symbols of numbers.

Lynn Kuske
 Kuske Math, Inc., Bellevue, Washington

Beth Campbell
 Kuske Math, Inc., Bellevue, Washington

SALON G (MARRIOTT DOWNTOWN)

98
Developing Children's Early Number
Sense through Problem Solving

(Pre-K–2) Gallery Workshop

Young children can often solve mathematical situations before any formal mathematics teaching begins. This presentation will show how to use everyday problems and situations situated in familiar contexts to help kindergartners develop early number sense.

Michael Lowe
 Penn Alexander School, Philadelphia, Pennsylvania

Penny Silver
 Penn Alexander School, Philadelphia, Pennsylvania

Melissa Trusty
 Penn Alexander School, Philadelphia, Pennsylvania

116 (CONVENTION CENTER)

99
Dynamic Problem Solving and
Reasoning in Meaningful Context

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

Engage in several research-based, dynamic subtraction problems in meaningful context. Enjoy solving problems with manipulatives in a variety of innovative ways. New mathematicians develop their own understanding with reasoning. Analyze student's videotaped solutions. Walk away with ready-to-use materials.

Judit Kerekes
 City University of New York—College of Staten Island

Iris Montagna
 City University of New York—College of Staten Island

Mandy Ng
 City University of New York—College of Staten Island

118 C (CONVENTION CENTER)

100
Creating STEM Experiences for
Elementary School Students with
the Mathematician's Notebook

(Pre-K–5) Gallery Workshop

Need a fresh approach to integrating a notebook in your classroom? See how the Mathematician's Notebook can change the way you teach mathematics and how your students learn and experience mathematics. The notebook becomes a dynamic place where language, data, and problem-solving experiences operate jointly to form meaning for the science, technology, engineering, and mathematics (STEM) student.

Tammy Jones
 TLJ Consulting Group, Nashville, Tennessee

Scott Eddins
 TLJ Consulting Group, Nashville, Tennessee

BALLROOM A (CONVENTION CENTER)

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10:30 A.M.–12:00 NOON

101 Math Games + SMART Board™: Formula for Learning and Fun

(3–5) Gallery Workshop

Involving students in learning is essential to success in math. Connecting games with the SMART Board creates a powerful tool to practice, apply, and reinforce math skills. Engage actively in games that promote learning and fun. Receive a CD of the games.

Carolyn Belson
Retired, Chesapeake, Virginia

Sharon Huber
Chesapeake Public Schools, Virginia

SALON E (MARRIOTT DOWNTOWN)

102 Strengthening Number Sense in the Intermediate Grades

(3–5) Gallery Workshop

Participate in newly developed lessons, activities, and games that target the Common Core State Standards (CCSS) for number and operations and foster using CCSS Mathematical Practices. Learn to differentiate instruction to support and challenge the full range of learners in the framework of a single lesson, activity, or game.

Gail Gerdemann
Oregon State University, Corvallis

Kathleen Barta
Teacher to Teacher Publications, Portland, Oregon

204 C (CONVENTION CENTER)

103 Teachers' Resources for Using Virtual Manipulatives to Teach Fraction Concepts

(3–5) Gallery Workshop

Children often lack understanding when comparing fractions and identifying fraction equivalencies. Engage in technology-based activities, tried and tested in elementary school classrooms, that address common misconceptions with fractions. Examine students' work and receive copies of task sheets to use in your classrooms.

Katie Anderson
Utah State University, Logan

Arla Westenskow
Utah State University, Logan

Patricia Moyer-Packenham
Utah State University, Logan

120 A/B (CONVENTION CENTER)

THURSDAY

Cracking the Code of Algebra

Thursday, April 26
10:00 a.m. - 11:00 a.m.
Room 118B • Convention Center

Speaker:
Dr. Carolyn Talton

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ICON LEGEND

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- Core Math Tools
- Learn ↔ Reflect Strand
- NCTM Committee Presentations
- New Teacher Strand
- Exhibitor Workshop

10:30 A.M.–12:00 NOON

104 Using Origami Activities to Teach Mathematics

(3–5) Gallery Workshop

The speaker will construct and explore different origami projects. He will explain how these models can present mathematics concepts and skills, including geometric terms, fractions and exponents. Interactive handouts used for instruction provide an innovative way to help students follow the steps needed to construct the models and learn.

Enrique Ortiz

University of Central Florida, Orlando

FRANKLIN HALL 3/4 (MARRIOTT DOWNTOWN)

105 SCRATCH Brings Math to Life

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

Animation brings number sense, operations, geometry, integers, and Cartesian planes to life. SCRATCH, a new, free programming language from the Massachusetts Institute of Technology, helps ignite interest in science, technology, engineering, and mathematics and support the Common Core State Standards Mathematical Practices. Bring your laptop (with battery power).

Mary Zocchi

Northwest Vista College, San Antonio, Texas

FRANKLIN HALL 6/7 (MARRIOTT DOWNTOWN)

106 The Global Positioning System and Elementary School Mathematics: Some Major Connections

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

The GPS is one of today's most high-tech systems. Although you all know what GPS devices can do, do you know how they work? Can you help children understand how they work? More important, can you use it to help children learn the required curriculum? Yes, yes, and yes will be your answers after you attend this presentation.

James Schwartz

Saint John Fisher College, Rochester, New York

108 B (CONVENTION CENTER)

107 Connecting Number-Systems Multiplication Using the Rectangular Area Model

(3–8) Gallery Workshop

Journey from single-digit multiplication to completing the square in algebra, using the rectangular area model as a unifying theme. Replace the traditional algorithms for multiplying whole numbers, mixed numbers, fractions, decimals, and completing the square with a single, coherent multiplication model.

Peter Andreozzi

Rhode Island College, Providence

Lloyd Richardson

University of Missouri—St. Louis

126 A (CONVENTION CENTER)

108 It Takes More than Good Teaching to Help All Students

(3–8) Gallery Workshop

Presidents' Series Presentation

Students require a solid content foundation and must demonstrate their understanding in various situations. With our changing demographics, how can we offer rich mathematics content that is accessible and supports all students as they strive for excellence? As educational leaders, we can make a difference to help students achieve.

José Franco

TODOS: Mathematics for ALL; WestEd, Oakland, California

121 A (CONVENTION CENTER)

109 Making Sense of Division of Fractions: Connecting Models, Contexts, Symbols

(3–8) Gallery Workshop

Examine ways to help students make sense of fractions division. Use a variety of contexts and models, including manipulative materials and free online tools, to help students understand fractions division and extend their previous understandings of whole-number division to fractions division.

Nadine Bezuk

San Diego State University, California

204 A (CONVENTION CENTER)

10:30 A.M.–12:00 NOON

110

My Math Teacher Writes in Secret Code! I Don't Understand!

(3–8) Gallery Workshop

Manipulatives hold the key to understanding for this student. Strategies for creative manipulative use will foster understanding so students see what *3br*, *lvb*, $x + 2y$, and others really mean. A concrete foundation for math notation and symbols will demystify “that code only my math teacher knows.” Let’s help students learn the secret code.

Janie L. Zimmer

Research-Based Education, Reading, Pennsylvania

Robert O. Jesberg

Consultant, Chalfont, Pennsylvania

105 A/B (CONVENTION CENTER)

111

Smarter Together! Groups, Equity, and Rigorous Mathematics in K–8 Classrooms

(3–8) Gallery Workshop

As classrooms become more diverse, teachers must find ways to support all students in learning rigorous mathematics. However, ideas about who is smart can limit some students’ participation and affect access to rich math ideas for all. Come learn how Complex Instruction can improve learning by involving all students in mathematical tasks.

Marcy Wood

University of Arizona, Tucson

Lisa Jilk

University of Washington, Seattle

103 C (CONVENTION CENTER)

112

Building Math: Integrating Algebra and Engineering in the Classroom

(6–8) Gallery Workshop

Participants learn about Building Math, a supplemental program for middle schools. Three books—*Everest Trek*, *Stranded!*, and *Amazon*—each offer engineering design challenges in which the math guides the design. Participants work through two activities: one is hands-on, and the other uses agent-based simulation.

Peter Wong

Museum of Science, Boston, Massachusetts

124 (CONVENTION CENTER)

113

Math Nights That Work!

(6–8) Gallery Workshop

Learn the secrets to success in planning and implementing math activity nights at your school. Be prepared to participate in actual math night activities, including a warm-up, estimation contest, group game, and a featured activity. You will leave with a CD full of activities you can use or modify.

Sally Wood

Estacada Junior High School, Oregon

Elizabeth Warren

Estacada Junior High School, Oregon

SALON K/L (MARRIOTT DOWNTOWN)

114

Serious Fun in the Mathematics Classroom

(6–8) Gallery Workshop

Come explore strategies for infusing fun in the math classroom while maintaining academic rigor. Research shows schools can relieve many stressors in school by creating a learning environment that acknowledges and encourages the appropriate use of humor. Having fun provides a healthy setting that leads to students’ improved achievement in math.

Kim Loucks

Teaching and Learning Connected, Sunset Beach, North Carolina

Carolyn Hirst-Loucks

Teaching and Learning Connected, Sunset Beach, North Carolina

FRANKLIN HALL 1 (MARRIOTT DOWNTOWN)

115

Using Origami to Explore Proportional Reasoning

(6–8) Gallery Workshop

Students’ success in mathematics and science depends on developing a deep understanding of proportionality. Investigate proportional and nonproportional relationships of origami paper cups in three guided-discovery lessons appropriate for middle grades students.

Cindia Stewart

Shenandoah University, Winchester, Virginia

Harry Holloway

Powhatan School, Boyce, Virginia

118 A (CONVENTION CENTER)

THURSDAY

10:30 A.M.–12:00 NOON

116 Walk the Talk: Pedometer Technology for Mathematics-Science Integration

(6–8, Preservice and In-Service) Gallery Workshop

Pedometer technology can drive inquiry-based learning that integrates mathematics and science. Engage in posing and answering questions through “feet-on” and “minds-on” activities that use pedometers and engage learners in measurement, data collection and analysis, and communication.

Jim Rye
West Virginia University, Morgantown

201 C (CONVENTION CENTER)

117 Beyond Pi: Helping Students Develop an Understanding of Irrational Numbers

(6–12) Gallery Workshop

Most students know pi is irrational, but some can't name any other irrational number, or explain why pi is irrational. The speaker will explore ways to describe irrational numbers. Then participants will work individually and in groups with geoboards, origami paper, and adding-machine tape to create models that make sense of irrational numbers.

Margaret Coffey
Fairfax County Public Schools, Alexandria, Virginia

121 C (CONVENTION CENTER)

118 Promoting Mathematical Practices Using Rubrics

(6–12) Gallery Workshop

Rubrics can be an effective method to encourage students to develop strong mathematical habits. This presentation will explore and analyze rubrics designed to promote specific behaviors across a variety of assessments. Participants will use this analysis to create a rubric to support the Common Core State Standards of Mathematical Practice.

Joseph Biernat
Bronx Academy of Letters, New York

FRANKLIN HALL 12/13 (MARRIOTT DOWNTOWN)

119 Similarity: Developing the Big Ideas about Perimeter-Area-Volume Ratios

(6–12) Gallery Workshop

Work through several well-designed activities that help students discover the patterns related to the ratios of perimeters to areas to volumes of similar figures, and then apply these big ideas to a collection of real-life problems.

Laurie Boswell
Riverside School, Lyndonville, Vermont

119 B (CONVENTION CENTER)

120 Exploring Finite Differences through Multiple Representations of Functions

(9–12) Gallery Workshop

Explore finite differences to develop a deeper understanding of functions through hands-on activities and the use of graphing technology. Determine characteristics that make functions linear, quadratic, or exponential on the basis of finite differences. Discuss pedagogical implications for including such activities in your classroom.

Anne Papakonstantinou
Rice University, Houston, Texas

Richard Parr
Rice University, Houston, Texas

201 A (CONVENTION CENTER)

121 Extraordinary Activities for Extraordinary Precalculus Students

(9–12) Gallery Workshop

This presentation will demonstrate some precalculus graphing activities, including regression modeling from data, parametric graphing, and writing transformation equations from graphs or pictures. The speaker will share games such as Polar Battlestar and Plinko, original projects for polar graphing and transformations, and other fun activities.

Wendy Meyer
Edgerton High School, Wisconsin

SALON A/B (MARRIOTT DOWNTOWN)

10:30 A.M.–12:00 NOON

122 **Illuminating the Standards for Mathematical Practice: Light It Up**

(9–12) Gallery Workshop

The NCTM Illuminations website is an excellent resource for lessons that promote the Common Core State Standards for Mathematical Practice. This presentation will use the website's Light It Up lesson to show how to accomplish this.

Linda Griffith

University of Central Arkansas, Conway

SALON I/J (MARRIOTT DOWNTOWN)

123 **Investigations to Improve Students' Understanding of Limits and Derivatives**

(9–12) Gallery Workshop

The speaker will describe investigations and explorations using a graphing calculator that he has found effective for helping students develop a real understanding of limits and derivatives. He will share copies of all the investigations and offer suggestions for developing similar ones and incorporating them into your class.

Ken Collins

Charlotte Latin School, North Carolina

122 B (CONVENTION CENTER)

124 **Little-Known Properties of Platonic Solids and Duals**

(9–12) Gallery Workshop

Three-dimensional Platonic solids contain surprising, hidden geometric properties. Take a look at properties related to duals of Platonic solids using hands-on, three-dimensional PolyPaks. Receive a handout summarizing the activity.

Jane Whitmire

Central Washington University, Ellensburg

Marilyn Dibble

Topeka Public Schools, Kansas

115 A (CONVENTION CENTER)



125 **Meeting the Common Core State Standards (CCSS) Challenge: Reasoning and Sense-Making Tasks**

(9–12) Gallery Workshop

Selecting tasks that promote reasoning and sense making, as NCTM's Focus in High School Mathematics discusses, is the first step in helping your students meet the standards in the CCSS for Mathematical Practice. This presentation will offer a how-to guide to identifying promising tasks, giving what to look for, where to look, and how to use them.

Eric Robinson

Ithaca College, New York

W. Gary Martin

Auburn University, Alabama

111 A/B (CONVENTION CENTER)

126 **Identifying Appropriate Use of Technology in an Algebra Classroom**

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

The gateway to enhancing mathematics instruction with technology use is identifying technology's appropriate use. The speakers will present activities that demonstrate appropriate use of technology to promote reasoning. Participants will get several fruitful activities and gain knowledge of various types of technology, new and old.

Stephen Bismarck

Keene State College, New Hampshire

Jeremy Zelkowski

University of Alabama, Tuscaloosa

FRANKLIN HALL 9/10 (MARRIOTT DOWNTOWN)

127 **Playful Ways to Develop Serious Critical-Thinking Skills**

(Preservice and In-Service) Gallery Workshop

Be a mind reader. Solve a three-dimensional puzzle. Untangle a human knot. Sound strange for a mathematics classroom? Not if you are learning experientially. This problem-solving gallery workshop will focus on classroom-tested activities that will motivate both you and your students. Come join the fun.

Gail Kaplan

Towson University, Maryland

R. Michael Krach

Towson University, Maryland

113 C (CONVENTION CENTER)

THURSDAY

11:00 A.M.–12:00 NOON

128



Breathing Life into Data and Chance with Tinkerplots 2.0

(General Interest) Session

Choose: explore an example from the Common Core State Standards for Mathematics and see whether words in a grade 7 science book are gener-

ally longer than those in one for grade 4, or design and run a “factory” that makes virtual cats, use simulation to model a Georgia O’Keefe painting, and analyze real data to evaluate global-warming arguments.

Cliff Konold is director of the Scientific Reasoning Research Institute, University of Massachusetts Amherst. A trained psychologist, he studies how people reason and learn about chance and data, applying his research to designing educational materials and software. He leads the team that created TinkerPlots, which continues with grants from the National Science Foundation.

Cliff Konold
University of Massachusetts Amherst

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

129

From Grade 5 to High School: An Algebraic Investigation

(General Interest) Session

The speakers will trace a trajectory for a probability investigation, the sums distribution from throwing several dice, that they introduced into a grade-5 class and that led to a sequence culminating in a grade-12 treatment of generating polynomials. See how the fifth graders’ work previewed the mathematics used in grade 12.

Al Cuoco
Education Development Center, Newton, Massachusetts

Alicia Chiasson
Triton Regional School District, Newbury, Massachusetts

SALON C (MARRIOTT DOWNTOWN)



130

Leading a CCSS Implementation: Effective Strategies and New Resources

(General Interest) Session

Learn about effective strategies and the latest resources to lead a CCSS implementation in your school, department, district, or state. Resources include ready-to-use professional development on the mathematical practices and tools that CCSS uses to analyze instructional materials.

Diane Briars
Consultant, Pittsburgh, Pennsylvania

TERRACE BALLROOM 4 (CONVENTION CENTER)



131

Can You Count Them for Me?

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

Come see and hear what children say as they read popular counting books that adults may identify as problematic. The speaker will present suggestions on how to use these books effectively with children and the role technology can play in the process. Leave with an evaluation instrument and a list of recommended books and activities.

Pamela Halpern
Salem State University, Massachusetts

126 B (CONVENTION CENTER)

NCTM1201

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11:00 A.M.–12:00 NOON



132

Formative Assessment of Common Core State Standards (CCSS) in Primary Grades

(Pre-K–5) Session

Informed instructional decisions derive from formative assessment. This session will focus on how to use formative assessment with the CCSS in the primary grades. Explore various tools for formative assessment, and receive print materials and ideas for using free technologies.

John SanGiovanni

Howard County Public Schools, Ellicott City, Maryland

Kay Sammons

Howard County Public Schools, Ellicott City, Maryland

117 (CONVENTION CENTER)

133

Fostering Place-Value Understandings through Number-Sense Routines

(Pre-K–5) Session

Understanding place value is crucial to students' mathematical development. Learn effective, interactive ways to help students develop strong understandings of place value through number-sense routines. Specific classroom examples will highlight how to facilitate math talk around the big ideas of place value.

Jessica Shumway

Utah State University, Logan

113 A (CONVENTION CENTER)

134

Introducing Equality and Relating It to the Equal Sign

(Pre-K–5) Session

Video of students ages 4–7 will highlight a sound approach for introducing children to equality. First, the students work with readily available, concrete materials. Only then is this learning related to the abstract equal sign. See the unexpected problem that one child had with $1 + 3 + 2 = 1 + \dots$, and the unique remedy found.

Henry Borenson

Borenson and Associates, Inc., Allentown, Pennsylvania

115 C (CONVENTION CENTER)

135

Portraits of Students' Work from a Problem-Based Learning (PBL) Curriculum

(Pre-K–5) Research Session

The speakers will present findings from a research study that examined the mathematical behavior of grade 2 students, identified as mathematically promising, while they engaged in PBL curricula. The results indicate the curricula's structure helped identify underrepresented groups of students.

Christine Trinter

University of Virginia, Charlottesville

Tonya Moon

University of Virginia, Charlottesville

Catherine Brighton

University of Virginia, Charlottesville

SALON H (MARRIOTT DOWNTOWN)

136

Standards for Mathematical Practice and Problem Solving: Time for Change

(Pre-K–5) Session

We need to reconceptualize our problem-solving instruction to meet the Standards for Mathematical Practice. Come explore problems, stories, and tasks that heighten students' involvement and support mathematical sense making for all students. Leave with concrete ideas for reinvigorating and differentiating problem solving in your classroom.

Linda Dacey

Lesley University, Cambridge, Massachusetts

103 A (CONVENTION CENTER)

137

Successful Strategies to Master Mental Mathematics for All Operations

(Pre-K–5) Session

Everyone needs to be confident with mental mathematics. This session will outline a teaching model for achieving this, successfully implemented in core curricula and intervention programs, starting with basic number facts and leading to larger numbers. The speaker will show how the model uses pictorial materials and games to reach its goals.

Calvin Irons

Queensland University of Technology, Brisbane, Australia

114 (CONVENTION CENTER)

THURSDAY

11:00 A.M.–12:00 NOON

138 Connecting Multiplicative Thinking with Number, Geometry, and Algebra

(3–5) Session

Developing multiplicative reasoning is an important emphasis in middle grades mathematics. This presentation will focus on activities in number, geometry, and algebra that the speakers have used with students in grades 3–5 to help them build their multiplicative thinking.

Anne Reynolds
Kent State University, Ohio

Sandra Trowell
Valdosta State University, Georgia

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

139 Dynamic Fractions in the Elementary School Classroom

(3–5) Session

Experience the power of interactive Sketchpad 5 fraction tools that students use to build area models of any fraction, to divide and subdivide segments into equal parts, and to construct points on number lines at fractional locations. The presentation will feature videos of students, interactive examples, and classroom-ready activities.

Janice Manning
Public School 503—The School of Discovery and Exploration,
Brooklyn, New York

Matt Silverman
Public School 503—The School of Discovery and Exploration,
Brooklyn, New York

Daniel Scher
Key Curriculum Press Technologies, Emeryville, California

120 C (CONVENTION CENTER)

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 Core Math Tools

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 NCTM Committee Presentations

 New Teacher Strand

 Exhibitor Workshop

140 The Number Line's Importance in Understanding Fractions

(3–8) Session

The speakers will examine how to use the number line to help students understand fractions. Learn how to use the number line effectively to reinforce that fractions are numbers, develop an understanding of magnitude, and make comparisons. Strategies for addressing the Common Core State Standards will be presented.

Lauri Susi
Conceptua Math, Petaluma, California

Jon Wray
Howard County Public Schools, Ellicott City, Maryland

201 B (CONVENTION CENTER)

141 Using an iPod App to Develop Computational Estimation Strategies

(3–8) Session

The estimation calculator is an application for the Web, iPad, and iPod with which users must make a reasonable estimate prior to the calculator revealing the output. The application gives users visual feedback of estimates to computational problems. Interactions with the application support the development of computational estimation strategies.

Robert Berry
Board of Directors, National Council of Teachers of
Mathematics; University of Virginia, Charlottesville

Peter Malcolm
University of Virginia, Charlottesville

108 A (CONVENTION CENTER)

142 Make It Move: Modeling Middle School Math with Technology

(6–8) Session

The Common Core State Standards ask students to “model with mathematics” and “use appropriate tools strategically.” What does that look like in middle school? Use Sketchpad and TinkerPlots to explore geometry, probability, and statistics with dynamic models and representations, and help students ask “what if” questions about shapes and data.

Elizabeth DeCarli
Key Curriculum Press, Emeryville, California

121 B (CONVENTION CENTER)

11:00 A.M.–12:00 NOON



143

Math Learning 2.0: New Vision for a Web 2.0 World

(6–8) Session

Come see examples of how Web 2.0 and dynamic math software can transform math learning and teaching. Experience activities that incorporate compelling software environments, including spreadsheets, interactive geometry, and Web applets that will help you engage students in gaining a deeper understanding of powerful mathematical ideas.

Ihor Charischak

Council for Technology in Math Education (CLIME), White Plains, New York

107 A/B (CONVENTION CENTER)

144

Using Mathematics to Increase Civic Participation: The Case of Philadelphia

(6–8) Session

Not all students have the same access to information for participating in institutional processes that will enhance their educational opportunities. This session will present how mathematics lessons can use real data of consequence to urban middle school students, such as data on high school choices, to increase the students' mathematics and civic engagement.

Vivian Lim

University of Pennsylvania, Philadelphia

Nina Hoe

University of Pennsylvania, Philadelphia

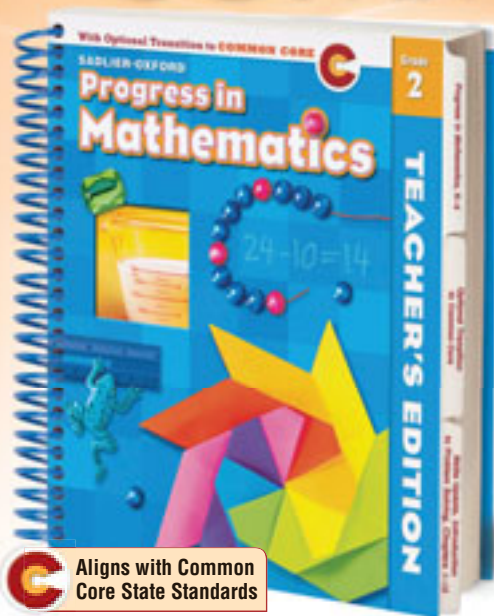
Janine Remillard

University of Pennsylvania, Philadelphia

BALLROOM B (CONVENTION CENTER)

THURSDAY

GETTING STARTED WITH COMMON CORE



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11:00 A.M.–12:00 NOON

145 Helping All Students Gain Mathematical Understanding through Geometric Reasoning

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

This presentation will show teachers how to frame questions that will help students of varied experiences and mathematical knowledge use geometric thinking to gain deep understanding of mathematical concepts and make sense of the mathematics they are learning.

Carol Malloy

Retired, University of North Carolina at Charlotte

TERRACE BALLROOM 1 (CONVENTION CENTER)

146 Ready or Not, Here Come the Common Core State Standards!

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

As middle school teachers prepare to teach under the CCSSM, questions arise on how the new standards compare with the status quo. This session will highlight general and specific similarities and differences between the mathematics content in prior standards and the new CCSSM in grades 6–8.

Barbara Reys

University of Missouri—Columbia

Amanda Thomas

University of Missouri—Columbia

Barbara Dougherty

Board of Directors, National Council of Teachers of Mathematics; University of Missouri—Columbia

109 A/B (CONVENTION CENTER)

147 Essential Elements for Intervention: Not Business as Usual

(6–12) Session

Learn about a successful, conceptually based algebra intervention program that supports struggling students with modules targeting common barriers to algebraic success, offers teachers support in each lesson, implements flexibly, aligns with the Common Core State Standards and Response to Intervention, and supports English language learners.

Mardi Gale

WestEd, Redwood City, California

SALON D (MARRIOTT DOWNTOWN)

148 Making Podcasts to Assess Students' Learning

(6–12) Session

Learn how to use podcasting in your classroom to capture your students' mathematical thoughts better and to encourage more reflective mathematical practices. Also, learn about the free software that you can use to make the podcasts easily.

Heather Mathison

University of Wisconsin—La Crosse

Jenni McCool

University of Wisconsin—La Crosse

Jon Hasenbank

University of Wisconsin—La Crosse

203 A/B (CONVENTION CENTER)

149 Persistence in Problem Solving

(6–12) Session

Many students equate excellence in math with speed in problem solving. If they cannot find an answer quickly, they cannot or will not persist. Learn a method for encouraging students to investigate a single problem at length and communicate mathematical thinking. Receive detailed directions and sources of problems.

Mary Pat Sjostrom

Chaminade University, Honolulu, Hawaii

122 A (CONVENTION CENTER)

150 Incorporating TI-Nspire™ CAS into an Inclusion Classroom

(9–12) Session

TI-Nspire with computer algebra system (CAS) can help struggling students learning a new topic understand the process without getting stuck with the calculations. The speaker will share strategies, specific activities, and ready-to-use lessons. Participants new to CAS are welcome.

Anna Panova

Montgomery High School, Skillman, New Jersey

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

11:00 A.M.–12:00 NOON

151 Tell Me a Story

(9–12) Session

Everyone loves a story. Come hear adventures of the greatest philosopher of all time, Socrates, and his pupil, Amphibi-anes. Join Sigma the square's search for higher dimensions. Reacquaint yourself with the Cat in the Hat. Groan to forced rhymes of fill-in-the-blank poems. Experience the creative side of mathematics, and even sing a song or two.

Dane Camp

Board of Directors, National Council of Teachers of Mathematics; New Trier High School, Winnetka, Illinois

202 A/B (CONVENTION CENTER)

152 The ACT Program and the Common Core State Standards (CCSS)

(9–12) Session

ACT data gives a solid understanding of college and career readiness. Now, you can see how students' readiness looks through the lens of the CCSS. New, interpretive material shows a typical student's progression relative to the CCSS. Get beyond the mystique of the CCSS, ask questions about the ACT, and talk about assessment issues.

Ken Mullen

ACT, Iowa City, Iowa

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

153 The Intersection of Math, Music, and Technology

(9–12) Session

Students can now explore periodic functions and the musical concept of timbre easily with programs like Audacity, Mathematica, and GarageBand. The speaker will discuss how adding sinusoids together can simulate different instruments' sounds, and what makes real instruments sound the way they do. Come see a new way to integrate technology into math.

Michael Thayer

Summit High School, New Jersey

125 (CONVENTION CENTER)

154 What? A Math Class That Is Not All Lecture?

(9–12, Higher Education) Session

This presentation will describe a standards-based, innovative mathematics class integrating algebra, statistics, and computer science. The course has been implemented with college and high school students who have struggled with mathematics.

Heidi Hansen

Bemidji State University, Minnesota

Glen Richgels

Bemidji State University, Minnesota

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

155 Reasoning and Sense Making with Technology

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

Students have many opportunities to engage in reasoning and sense-making while learning mathematics and using technology. This session will highlight examples from NCTM's *Focus on High School Mathematics: Reasoning and Sense Making with Technology*. The speaker will demonstrate technological tools and discuss problems from various content areas.

Karen Hollebrands

North Carolina State University, Raleigh

204 B (CONVENTION CENTER)

156 Preparing for Your Institution's NCATE Program Review

(Higher Education) Session

Learn to navigate the NCATE/CAEP program review process and prepare the required documents. The speaker will give the latest information about the overall program review system. She will outline specifically what is needed to prepare mathematics education program reports and explore report templates, program standards, and mistakes to avoid.

Judy O'Neal

North Georgia College and State University, Dahlonega

123 (CONVENTION CENTER)

THURSDAY

11:00 A.M.–12:00 NOON

157 Deepening Grades K–8 Teachers' Understanding of Multiplication through Lesson Study

(Higher Education, Preservice and In-Service) Session

This session reports on a research project in which 27 grades K–8 teachers work with college faculty in lesson-study groups to deepen the teachers' thinking about multiplication content and pedagogy. Each group implemented lesson plans and revised, retaught, and reflected on teaching. Lessons and meetings were video recorded and analyzed.

Anne M. Goodrow
Rhode Island College, Providence

Donna Christy
Rhode Island College, Providence

Robert Afonso
Rhode Island College, Providence

119 A (CONVENTION CENTER)

158 Preparing Smart Teachers to Teach with SMART™ Technology

(Higher Education, Preservice and In-Service) Session

Appropriate use of technology is an essential component of preparing preservice teachers to teach mathematics. The presenters will share lessons, activities, strategies, and tools they have used with the SMART Board in their work with preservice mathematics teachers in content, pedagogy, and technology courses.

Mary Lou Metz
Indiana University of Pennsylvania

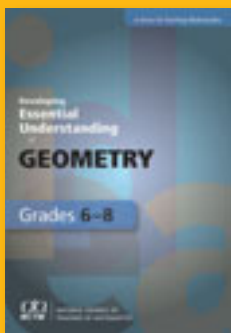
Edel Reilly
Indiana University of Pennsylvania

Francisco Alarcon
Indiana University of Pennsylvania

SALON F (MARRIOTT DOWNTOWN)

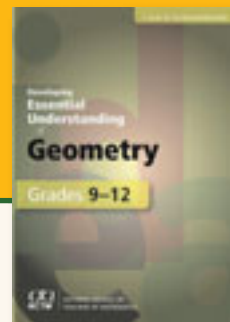
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11:30 A.M.–12:30 P.M.

ew 158.1
Prealgebra Upgrade: Interactive Lessons Using Songs, Video, and Games

(6–8) Exhibitor Workshop

Prealgebra Upgrade features music and animation to make middle school math understandable. Find out how teachers transform their classes using interactive whole class lessons and individual online courses. Join us for math, music, and fun!

Learning Upgrade, LLC
Escondido, California

115 B (CONVENTION CENTER)

ew 158.2
Common Core State Standards (CCSS)–Aligned Mathematics for the Middle Grades

(6–8) Exhibitor Workshop

Learn about Math Innovations, a middle grades curriculum in a digital format aligned to the CCSS focusing on reasoning, sense making, questioning, and mathematical discourse while increasing students' conceptual understanding, and about the interactive eBook and integrated learning tools—whiteboard activities, practice games, and more.

Kendall Hunt Publishing Co.
Dubuque, Iowa

113 B (CONVENTION CENTER)

ew 158.3
Meaningful Math Instruction for Students across All Disabilities

(6–8) Exhibitor Workshop

Equals Math and Equals Prealgebra and Pregeometry are math curricula, aligned to state standards, for students with mild, moderate, and severe disabilities. See an overview with demonstrations of materials and assistive technology supporting active learning. Receive a differentiation guide and sample lesson.

AbleNet
Roseville, Minnesota

118 B (CONVENTION CENTER)

ew 158.4
Pearson's *digits* Program: Where Math Clicks!

(6–8) Exhibitor Workshop

Experience *digits*, the only middle grades math curriculum built for today's digital students with all Interactive Whiteboard lessons, online assessments, robust Response to Intervention, and automatic grading and reporting. Find out how *digits* harnesses the power of technology to optimize your time and individualize their learning, both in and out of the classroom.

Pearson
Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

12:30 P.M.–1:30 P.M.

159
Doctorates in Mathematics Education: A Shortage Continues, and Jobs Exist

(General Interest) Session

The speakers will discuss the shortage of doctorates in mathematics education, job opportunities, and recruitment of doctoral students; offer suggestions for identifying institutions with doctoral programs; and share challenges of classroom teachers returning as graduate students and then transitioning into a career in higher education.

Robert Reys
University of Missouri—Columbia

Robert Glasgow
Southwest Baptist University, Bolivar, Missouri

Christa Jackson
University of Kentucky, Lexington

201 B (CONVENTION CENTER)

THURSDAY

Pick-up a copy of the onsite ***Daily News*** for up-to-date conference information

12:30 P.M.–1:30 P.M.

160 **Effects and Affordances of Virtual Manipulatives on Students' Achievement**

(General Interest) Research Session

Studies show that virtual manipulatives have positive effects on students' achievement. Have you ever wondered why? This presentation will report results from a metaanalysis of virtual manipulative research. Connect research with your practice by exploring five unique, interrelated affordances with evidence that they promote students' achievement.

Patricia Moyer-Packenham
Utah State University, Logan

Arla Westenskow
Utah State University, Logan

113 A (CONVENTION CENTER)



161 **Linking Research and Practice at NCTM**

(General Interest) Session

This presentation will focus on linking research and practice, highlighting articles published in practitioners' and research journals. Specifically, it will highlight research pertinent to practitioners' and researchers' work, offer recommendations applicable to practitioners' practice, and use rich examples to illuminate rich ideas.

NCTM Research Committee
National Council of Teachers of Mathematics, Reston, Virginia

TERRACE BALLROOM 4 (CONVENTION CENTER)

162 **TODOS Live: Webinar Series for Practitioners Committed to Mathematics for All**

(General Interest) Session

TODOS Live is a pilot webinar series aimed at giving practitioners sustained access throughout the school year to policy, research, and practice-based sessions. It focuses on making mathematics instruction more rigorous and equitable. The presenters will report on this online professional development series's design, implementation, and evaluation.

Sandra Crespo
Michigan State University, East Lansing

Bob McDonald
Mark T. Atkinson Middle School, Phoenix, Arizona

126 B (CONVENTION CENTER)



163 **Computers in Early Childhood: The Best of All Possible Worlds**

(Pre-K–2) Session

Technology use in grades pre-K–2 is increasing. The speakers will show how you can use it to provide the “best of all possible worlds”—the worlds of mathematics, physical models, and software models; of number, geometry, measurement, and patterning; and the appropriate, combined pedagogy in the worlds of activities, problem-solving, and tools.

Julie Sarama
University at Buffalo, State University of New York

Douglas Clements
University at Buffalo, State University of New York

204 B (CONVENTION CENTER)

164 **Guided Math in Kindergarten**

(Pre-K–2) Session

Learn how a team of kindergarten teachers and math coaches use problem-solving assessment data to plan small-group instruction that helps students build a solid foundation for a deep understanding of mathematics. Videos of guided math will show how to implement these informative math sessions.

Lauren Nye
Fairfax County Public Schools, Falls Church, Virginia

Lorna Torres Cordero
Fairfax County Public Schools, Falls Church, Virginia

Kassia Omohundro Wedekind
Fairfax County Public Schools, Falls Church, Virginia

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

THURSDAY



**Visit the BuzzHub
located in the
Exhibit Hall!**

12:30 P.M.–1:30 P.M.

165 Response to Intervention (RtI) in Mathematics for the Primary Grades: Current Research

(Pre-K–2) Session

This session will demonstrate the explicit instruction needed to build deep understanding of whole numbers in first graders considered at risk for failure in mathematics. The speakers will take exemplars from FUSION and Number Rockets, two rigorous field studies of interventions, and present findings from a large, four-state study.

Russell Gersten

Instructional Research Group, Los Alamitos, California

Eric Rolfhus

Edvance Research, San Antonio, Texas

Ben Clarke

University of Oregon, Eugene

114 (CONVENTION CENTER)

166 Using Primary School Classroom Computer Gaming for Number Sense

(Pre-K–2) Session

Enhancing classroom math using video games develops number sense. Involving gaming keeps students' engagement and motivation high. The speakers created the games from Singapore Math, because of its alignment to the Common Core State Standards. They will demonstrate social media that promote students' success and further motivation.

Ashish Amresh

Arizona State University, Tempe

Tricia Salerno


Singapore Math Now! LLC, Scottsdale, Arizona

125 (CONVENTION CENTER)

ICON LEGEND

 Common Core State Standards

 Core Math Tools

 Learn↔Reflect Strand

 NCTM Committee Presentations

 New Teacher Strand

 Exhibitor Workshop

167 Excelling at Mental Arithmetic: How to Teach Facts, Plus More

(Pre-K–5) Session

Learning facts takes memory, but relying on memory alone is inefficient. Brain science shows an order and structure that succeeds where random drill fails. Easy to teach and fun for young students, this approach builds mental fluency fast—even some multidigit arithmetic—while developing properties of operations and strong algebraic habits of mind.

E. Paul Goldenberg

Education Development Center, Waltham, Massachusetts

Cindy Carter

Rashi School, Dedham, Massachusetts

203 A/B (CONVENTION CENTER)

168 Integrating Formative Assessment Strategies with Tasks That Promote Students' Learning

(3–5) Session

Through the lens of formative assessment, look at levels of thinking and types of knowledge and identify how to select the appropriate tasks to move our students' learning forward. You will engage in discussions to experience this powerful strategy for task selection.

Mari Muri

Project to Increase Mastery of Mathematics and Science, Wesleyan University, Middletown, Connecticut

Jeane Joyner

Meredith College, Raleigh, North Carolina

119 A (CONVENTION CENTER)

169 iPad, SMART Board and Website Use in the Elementary School Classroom

(3–5) Session

The speaker will share different ways to embed technology use into a math program, including using Illuminations, iPads, and SMART Boards. Technology use enhanced conceptual understanding and encouraged practice and communication amongst the students. Although most examples will be from a grade 3 classroom, some apply to grades K–7.

Janice Novakowski

University of British Columbia, Vancouver, Canada

SALON F (MARRIOTT DOWNTOWN)

THURSDAY

12:30 P.M.–1:30 P.M.

170**Coaching Connections through Collaborative Action Research**

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

A math coordinator and a classroom teacher share their journey to improve students' learning through action research. Learn how to strengthen instruction and assessment by studying their effects on students. Gain tools, including an analysis of classroom videos, for collaborating to influence teachers' practice and students' outcomes.

Janna Smith

Far Hills Country Day School, New Jersey

Jennifer Wagar

Far Hills Country Day School, New Jersey

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

171**Doing What Works: Focus on Developing Effective Fractions Instruction**

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

Doing What Works is a website with multimedia support for research-based practices on topics such as teaching fractions, crucial foundations for algebra, and Response to Intervention. Learn what works, see how it works, and do what works, focusing on the *IES Practice Guide on Developing Effective Fractions Instruction K–8*.

Clare Heidema

RMC Research, Denver, Colorado

109 A/B (CONVENTION CENTER)

172**Real Research on Virtual Manipulatives: Strategies for Using Mathematics Technology**

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

This session will demonstrate practical, research-based applications of virtual manipulatives in elementary school classrooms, emphasizing what research says about using virtual manipulatives and their impact on students' learning. Come learn strategies for integrating virtual and physical manipulatives into everyday instruction.

Jenna Edelman

University of Wyoming, Laramie

Linda Hutchison

University of Wyoming, Laramie

SALON H (MARRIOTT DOWNTOWN)

173**Using TCM to Assist Students with Hidden or Unmet Potential**

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

This session will describe how prospective teachers used articles published in *Teaching Children Mathematics (TCM)* to meet the academic needs of students with hidden or unmet potential in elementary school mathematics. Discussed cases will evince the benefits of using *TCM*'s ever-present, high-quality instructional strategies.

Peter Sheppard

University of Louisiana at Lafayette

202 A/B (CONVENTION CENTER)

LCR**174****Making the Common Core State Standards (CCSS) Accessible with Technology**

(3–8) Session

Teaching with technology isn't limited to graphing calculators. This session will focus on using free, Web-based tools (e.g., virtual manipulatives, Google docs, and wiki pages) to help students develop mathematical proficiency while exploring the CCSS domain progressions of number and operations—fractions (3–5) and the number system (6–8).

Ronald Twitchell

Provo City School District, Utah

Jodi Mantilla

Nebo School District, Spanish Fork, Utah

Sheryl Rushton

Channing Hall, Draper, Utah

120 C (CONVENTION CENTER)



12:30 P.M.–1:30 P.M.



175

Mobile Math: Promoting Inquiry-Based STEM Learning through Mobile Technology

(3–8) Session

This engaging session will showcase how to create engaging, inquiry-based science, technology, engineering, and math (STEM) projects in the math classroom. Participants will learn how such projects can use mobile technologies, such as iPads and wireless probes.

Jane Lundin

Saint Xavier University, Chicago, Illinois

Julie Reinhart

Saint Xavier University, Chicago, Illinois

117 (CONVENTION CENTER)

176

Learn to Fix What Kids Don't Know about Measurement Concepts

(6–8) Session

The speaker will present data showing middle school students' understandings of measurement concepts and strategies for correcting misconceptions. She will connect arithmetic reasoning to concepts of unit and dimension and the role of multistep problems.

Carol Findell

Boston University, Massachusetts

123 (CONVENTION CENTER)

177

Teaching Elections: An Integrated Approach

(6–8) Session

How can we teach about elections in our math classroom? Learn the importance of teaching about elections, the many resources available, and the many math concepts it can cover. See how to get your grade-level team involved. This session will focus on teaching math in a voting rights context, but it will discuss other options.

Monique Despres Hodziewich

Arizona Charter Academy, Surprise

Jeremy Collins

Arizona Charter Academy, Surprise

TERRACE BALLROOM 2/3 (CONVENTION CENTER)



178

Using Microsoft® Software to Illustrate Fraction and Decimal Concepts

(6–8) Session

The presenter will show how to use Microsoft Paint, Excel, and Draw programs to illustrate conceptual understanding of fractions and decimals. The students like to use the technology to learn abstract concepts such as adding, subtracting, multiplying, and dividing fractions and decimals using concrete models.

Estella De Los Santos

University of Houston—Victoria, Texas

108 A (CONVENTION CENTER)

179

Writing to Develop and Diagnose Proportional Reasoning Skills

(6–8) Session

Writing is an excellent diagnostic tool for teachers, particularly when dealing with topics students often find difficult. This presentation will illustrate what writing reveals, and how students' understanding of proportional reasoning topics develops when they use writing.

Bob Drake

University of Cincinnati, Ohio

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

180

"Oh Say, Can You See" ... the Math?

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

Where would our nation be without Franklin's bifocals? Learn strategies to enable your students to see the mathematical connection of triangular prisms and angles with scientific elements of light, prisms, reflection, and refraction and their effect on such technological advances as eyeglasses, rear-view mirrors, and color television.

Jody Blohm

Gwynedd-Mercy College, Gwynedd Valley, Pennsylvania

103 A (CONVENTION CENTER)

THURSDAY

12:30 P.M.–1:30 P.M.

181 Dissections and Decompositions: Connection Tools for Geometry, Algebra, and Number

(6–12) Session

Explore the merits of dissections and decompositions. Investigations on dissecting and analyzing shapes and decomposing or recomposing numbers allow students to strengthen and expand their reasoning skills. The speaker will share examples and explorations designed to reveal ways to integrate geometry, algebra, and number into problem solving.

Margaret Kenney
Boston College, Chestnut Hill, Massachusetts

SALON C (MARRIOTT DOWNTOWN)

182 A Conjecture Lab on a Sheet of Paper

(9–12) Session

Participants will fold creases to a single point on a sheet of paper. They then make conjectures about the necessary and sufficient conditions for the sheet to fold flat at that point. By cutting the folded paper they can generate arguments to support their conjectures and observe angle and circle theorems in an unfamiliar context.

Philip Mallinson
Phillips Exeter Academy, Exeter, New Hampshire

115 C (CONVENTION CENTER)

183 The Ethics of Using Advanced Technologies in a CCSSM Environment

(9–12) Session

Using computer algebra systems (CAS) and other advanced technologies raises ethical questions in classrooms. Is it fair for some students to have CAS when others don't? Is it ethical to prepare students with these technologies if they are not allowed on high-stakes tests? The speaker will discuss these and other ethical questions.

Zalman Usiskin
University of Chicago, Illinois

BALLROOM B (CONVENTION CENTER)

184

Ten Terrific Applets for Teaching Statistical Inference

(9–12, Higher Education) Session

Want to estimate an unknown population parameter? Decide if one experimental treatment is better than another? Examine whether an association between two variables is statistically significant? This presentation will look at ten dynamic applets for learning inference concepts, from the Common Core State Standards to AP Statistics.

Daren Starnes
Lawrenceville School, New Jersey

107 A/B (CONVENTION CENTER)

185

Using Videos to Capture Data in Precalculus and Calculus

(9–12, Higher Education) Session

The speaker will use videos as a data source for precalculus and calculus problems. Using LoggerPro, collect the data and explore a swing's motion and related rates. Handouts with questions and instructions, and Excel and movie files containing the collect data collected, will be available.

Maria Hernandez
North Carolina School of Science and Mathematics, Durham

121 B (CONVENTION CENTER)



Receive a Free T-shirt

Join or renew your NCTM membership on-site at the NCTM Member Showcase, located in the BuzzHub.

12:30 P.M.–1:30 P.M.

CMT

186



An Overview of CCSSM-Oriented Core Math Tools

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

Core Math Tools, a suite of Java-based mathematical software, includes a computer algebra system;

spreadsheet; and interactive geometry, statistics, and probability tools that support strategic technology use recommended in the Common Core State Standards for Mathematics (CCSSM). The software is available free from NCTM at www.nctm.org/coremathtools.

Christian Hirsch is a graduate mathematics and mathematics education professor and distinguished faculty scholar at Western Michigan University. A member of the original NCTM Commission on Standards for School Mathematics and chair of the grades 9–12 curriculum-writing group for *Curriculum and Evaluation Standards for School Mathematics*, he currently chairs NCTM's Core Tools Task Force. His interests include secondary school mathematics curriculum design and development and innovative curricula's impact on students' learning.

Christian Hirsch

Western Michigan University, Kalamazoo

Brin Keller

Michigan State University, East Lansing

TERRACE BALLROOM 1 (CONVENTION CENTER)

187

Proof in Geometry Textbooks: Not All Opportunities Are Created Equal

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

Engage in exploring the nature of reasoning-and-proving tasks in six high school geometry textbooks. Specifically, the types of statements students encounter in textbook narratives differ from exercises. Discuss possible confusion between proving general statements and proving particular situations.

Nicholas Gilbertson

Michigan State University, East Lansing

Samuel Otten

Michigan State University, East Lansing

SALON D (MARRIOTT DOWNTOWN)



188

Are These the Right Standards for Preparing Future Mathematics Teachers?

(Higher Education) Session

A proposal from the NCTM NCATE Program Standards Task Force: NCTM is currently revising the standards for mathematics teacher education programs, for use in the NCATE program review process and other venues. Come hear about the draft standards; your feedback will help shape the final document.

NCTM NCATE Task Force

National Council of Teachers of Mathematics, Reston, Virginia

122 A (CONVENTION CENTER)

189

Worthwhile Assessments for the Elementary Mathematics Methods Class

(Higher Education, Preservice and In-Service) Session

Elementary methods students often have no experience with how mathematics is taught today. To meet this challenge, the speakers have developed a series of assessments to guide and evaluate their students' progress. This presentation will discuss these assessments, their effectiveness, and how the assessments have evolved over time.

Joan Jones

Eastern Michigan University, Ypsilanti

Carla Tayeh

Eastern Michigan University, Ypsilanti

Barbara Leopard

Eastern Michigan University, Ypsilanti

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

1:00 P.M.–2:00 P.M.

ew

189.1

Professional Development (PD) and Classroom Assessment for Elementary School Mathematics

(General Interest) Exhibitor Workshop

Looking for a PD program that uses assessment to change teacher's thinking about the teaching and learning of mathematics? Add+VantageMR classroom assessments identify students' strengths and areas of need. This exhibitor workshop will describe how structuring numbers facilitates basic fact understanding and how the assessments work in the classroom.

U.S. Math Recovery Council

Brentwood, Tennessee

118 B (CONVENTION CENTER)

THURSDAY

1:00 P.M.–2:00 P.M.

ew 189.2
Getting It: A Mathematics Assessment Philosophy That Works
(1–5) Exhibitor Workshop

Explore the assessment philosophy of the *Math Trailblazers* curriculum for grades 1–5 and how it aligns to the new CCSS. Learn how research has guided the development of new curriculum assessment opportunities and tools, and how teachers can obtain additional support during the transition to the new standards.

Kendall Hunt Publishing Co.
Dubuque, Iowa

113 B (CONVENTION CENTER)

ew 189.3
Improving Students' Success through Better Engagement: MathXL® for School
(6–12) Exhibitor Workshop

Through rich, multimedia resources, MathXL® for School allows 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—Alignment to Common Core State Standards!

Pearson
Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

ew 189.4
Algebra Upgrade: Interactive Lessons Using Songs, Video, and Games
(9–12) Exhibitor Workshop

Algebra Upgrade features music and animation to make challenging concepts understandable. Find out how teachers transform their classes using interactive whole-class lessons and individual online courses. Join us for algebra, music, and fun.

Learning Upgrade, LLC
Escondido, California

115 B (CONVENTION CENTER)

1:00 P.M.–2:30 P.M.

190
Connect Tactile and Technology Tools for Early Learners, Grades Pre-K–2
(Pre-K–2) Gallery Workshop

This make-and-take involves interactive games for numeracy, model making for capacity, and multiple representations for number sense. Implement new ideas developed from recent brain research on how children learn. As you power up and power down, this presentation will balance new developments in tactile learning with technological innovations.

Aldo Bacallao
Henry County Schools, McDonough, Georgia

121 C (CONVENTION CENTER)

191
Making Sense of Numbers beyond Counting (MSNBC)
(Pre-K–2) Gallery Workshop

Students who receive daily, long-term opportunities to work with, play with, and investigate numbers grow in mathematical thinking, confidence, and enthusiasm. The speakers will share engaging, standards-based lessons that build the foundation of number sense using hundreds boards, number lines, playing cards, cubes, and iPad apps.

Cindy Cliche
McFadden School of Excellence, Murfreesboro, Tennessee

Martha Short
Show-Me Professional Development, Jackson, Missouri

119 B (CONVENTION CENTER)

192
Measurement Mania: Standards-Based Measurement Activities for the Active Classroom
(Pre-K–2) Gallery Workshop

Attend this gallery workshop to experience hands-on, Standards-based activities that facilitate developing measurement concepts. Participate in activities that explore measurement attributes such as length, capacity, and area and the associated tools. Receive literature connections.

Latrenda Knighten
Board of Directors, National Council of Teachers of Mathematics; Melrose Elementary School, Baton Rouge, Louisiana

115 A (CONVENTION CENTER)

1:00 P.M.–2:30 P.M.

193 **Stop! Help! I Thought You Understood the Properties of Operations**

(Pre-K–2) Gallery Workshop

This presentation will focus on Van de Walle's rich mathematical reasoning throughout the primary grades. Engage in various operations and algebraic activities that will enrich and expand students' and teachers' knowledge of operations and algebraic tasks. Look at various error patterns that occur.

Laura Gray
Norfolk Public Schools, Virginia

Brenda Dorman
Norfolk Public Schools, Virginia

FRANKLIN HALL 9/10 (MARRIOTT DOWNTOWN)

194 **The Power of Ten: Framing Students' Understanding**

(Pre-K–2) Gallery Workshop

This hands-on presentation will use ten frames as a valuable teaching tool that incorporates the Common Core State Standards in your classroom. Explore a variety of activities, including basic starting steps, games, and open-ended problems. Video clips and students' work will let you glimpse how this could look in the classroom.

Lisa Rogers
Math Solutions, Sausalito, California

Amy Mayfield
Math Solutions, Sausalito, California

SALON K/L (MARRIOTT DOWNTOWN)

194.1 **Inspiring Students to Be Geometry Problem Solvers**

(Pre-K-2) Gallery Workshop

Experience each of the components of quality mathematics problem-solving lessons. Participate in solving geometry tasks intended to reach a diversity of students' abilities. The speakers will focus on questioning, scaffolding students' sharing, and extending topics for depth. Take away a CD with problem-solving lessons.

Ann McMahon
Oregon Council of Teachers of Mathematics, Portland

Winnie Miller
Oregon Council of Teachers of Mathematics, Lake Oswego

SALON A/B (MARRIOTT)

195 **Packing a Powerful Punch with Patterns: Foundations of Algebraic Thinking**

(Pre-K–5) Gallery Workshop

This gallery workshop will focus on patterns, relations, and algebraic thinking, important elements of NCTM's algebra Content Standard. Engage in a hands-on approach that, when taken back to the classroom, will help grades K–5 students build the concept of equality and develop the thinking and reasoning processes they need for success in algebra.

Carollee Norris
School District #60 Peace River North, Fort Saint John, British Columbia, Canada

204 A (CONVENTION CENTER)

196 **Singapore Math Strategies You Can Count On!**

(3–5) Gallery Workshop

With today's diverse classrooms, teachers need robust instructional toolkits. Come see specific Singapore Math strategies that will deepen and improve students' number sense and problem solving skills. Learn practical, technology-friendly strategies that align with and support the Common Core State Standards.

Char Forsten
Staff Development for Educators, Peterborough, New Hampshire

111 A/B (CONVENTION CENTER)

197 **Get Connected: Response to Intervention (RtI) in Mathematics for Struggling Students**

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

Are you looking for practical, research-based methods and strategies aligned with RtI to help students before they fall too far behind in mathematics? If so, then you want to participate in this dynamic presentation. Receive outstanding, powerful RtI ideas and hands-on techniques that you can take back to your classroom and use immediately.

Gina Gresham
University of Central Florida, Orlando

105 A/B (CONVENTION CENTER)

THURSDAY

We don't change
the way you teach,
we revolutionize
the way
your students
practice.



Children don't like to practice math.
Why? Because there's no immediate feedback.

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Active Learning causes Myelin to grow and thicken around fibers that connect the brain's neurons. Increased Myelin makes signals within the neural network faster, stronger, and longer lasting. The result is quicker thinking, better retention and students who are energized to learn.

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1:00 P.M.–2:30 P.M.

198 Integrating Technology and Literature into the Mathematics Classroom

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

Come get engaging, hands-on activities to bring back to your students. Examine ways to integrate technology and literature effectively into the classroom. All activities have been field-tested and are appropriate for elementary school students and preservice teachers candidates. Participants will receive an extensive bibliography.

Adam Goldberg

Southern Connecticut State University, New Haven

Maria Diamantis

Southern Connecticut State University, New Haven

108 B (CONVENTION CENTER)

199 Order and Equivalence: Developing Fraction Sense through Multiple Representations

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

This interactive presentation will demonstrate various representations of fractions to help students understand different meanings for fractions. The speaker will discuss students' work samples and model activities that meet the needs of diverse learners. The math content will focus on ordering fractions and creating equivalent fractions.

Cindy Jong

University of Kentucky, Lexington

118 C (CONVENTION CENTER)

200 Do Algebraic Reasoning and Critical Thinking Have Strong Connections? Yes!

(3–8) Gallery Workshop

What do critical thinking, Venn diagrams, and algebra have in common? Discover how using a variety of hands-on tasks and logic puzzles can improve algebraic reasoning. Explore Venn diagram puzzles, balance puzzles with common objects, and other activities designed to help students understand mathematics more deeply.

Leanne Luttrell

Gwinnett County Schools, Lawrenceville, Georgia

113 C (CONVENTION CENTER)

201 Math Trifecta: Combining Children's Literature, Foldables®, and Math Curriculum Standards

(3–8) Gallery Workshop

Learn by doing in this fast-paced, hands-on gallery workshop aimed at successfully merging mathematics curriculum, children's literature, and 3-D, interactive Foldables graphic organizers. Leave with a memorable learning and assessment tool ready to use on Monday.

Debbie Bynum

Region 18 Education Service Center, Midland, Texas

Nancy Wisker

Dinah Zike Academy, Comfort, Texas

BALLROOM A (CONVENTION CENTER)

202 SMART Boards™: Connect Manipulatives, Discovery, Understanding, and Students' Total Involvement

(3–8) Gallery Workshop

Love interactive whiteboards but concerned about passiveness? Attend this presentation! Become engaged in, and leave with, files for simulated manipulatives; problem solving; interactive, conceptually based templates; games for differentiation; and techniques to create them all. Topics will include fractions, decimals, multiplication, and transformations.

Paul Lawrence

LL Teach, Inc., Bridgewater, New Jersey

SALON G (MARRIOTT DOWNTOWN)

203 Activities to Enrich the Middle Grades Math Class

(6–8) Gallery Workshop

When students build models that connect to the mathematical ideas being taught, they absorb the concepts more concretely. The speaker will share classroom-tested successful activities, accessible to all ability levels. This is a hands-on gallery workshop during which participants will create some of these exciting and fun-filled projects.

Lynn Rakatansky

Lesley University, Cambridge, Massachusetts

201 A (CONVENTION CENTER)

1:00 P.M.–2:30 P.M.

204 Connecting Math with Our Global Society

(6–8) Gallery Workshop

As global citizens, students need to be mathematically literate. Understanding budget deficits, environmental challenges, changing demographics, and more requires a command of basic middle school math skills. Engage in hands-on activities that integrate math with social studies and science to grasp issues shaping our future. Receive a free CD-ROM of activities.

Pamela Wasserman

Population Connection, Washington, D.C.

FRANKLIN HALL 6/7 (MARRIOTT DOWNTOWN)

205 Creating a Cultural Toolkit for the Mathematics Classroom

(6–8) Gallery Workshop

Participants will develop a cultural toolkit to use in the mathematics classroom to assess and support students' mathematical learning. In a guided discussion, participants will discuss their own culture, students' cultures, and school cultures and create a set of goals and skills that support teaching and learning mathematics for all learners.

Tonya DeGeorge

University of Georgia, Athens

Dorothy White

University of Georgia, Athens

Eileen Murray

State University of New York—College at New Paltz

124 (CONVENTION CENTER)

206 Dynamic Data and Probability Modeling in the Middle Grades

(6–8) Gallery Workshop

Delve into the middle school Common Core State Standards for statistics and probability using hands-on explorations and TinkerPlots. Through a series of activities exploring variability, modeling and simulating data, and investigating probability and sample spaces, learn ways to engage students in answering statistical questions. Bring a laptop (with battery power).

Jocelyn Van Vliet

Kendall Hunt Publishing Company, Dubuque, Iowa

121 A (CONVENTION CENTER)

207 Model Drawing for Challenging Word Problems, the Singapore Way

(6–8) Gallery Workshop

Come on a tour of how to successfully solve challenging word problems using model drawing. This revolutionary tool will help students understand word problems by first drawing a picture and eventually moving to the equation. Don't miss out on this high-impact presentation that will include manipulatives to help students truly understand the problem.

Anni Stipek

Staff Development for Educators, Peterborough, New Hampshire

122 B (CONVENTION CENTER)

208 Engaging Activities for Your Classroom: Technology in Middle Grades Mathematics

(6–12) Gallery Workshop

Come see how to use wireless slates, motion detectors, TI-Nspire handhelds, Internet resources, software, and TI-Navigator to investigate patterns and relationships that lead to understanding of algebraic concepts. The speakers will show ways to engage all learners using manipulatives and technology for instruction and assessment.

Ruth Casey

Teachers Teaching with Technology, Frankfort, Kentucky

Margaret Bambrick

Volusia County Schools, DeLand, Florida

103 C (CONVENTION CENTER)

209 Exploring Data: Making Analysis Inquiry-Based

(6–12) Gallery Workshop

Have you ever thought of using math to figure out how many birds are on the river? This hands-on gallery workshop will model quirky questions like these using math. Participants will discover how to incorporate real-life applications into inquiry-based teaching methods, which will also promote a critical stance in the data analysis process.

Nicole Williams

Winona State University, Minnesota

April Kerby

Winona State University, Minnesota

204 C (CONVENTION CENTER)

THURSDAY

1:00 P.M.–2:30 P.M.

210**Getting to the Core of Algebraic Thinking Using Virtual/Physical Manipulatives****(6–12) Gallery Workshop**

Engage in hands-on activities using both virtual and physical manipulatives to explore the connections between algebra and geometry. The speaker will use technology to integrate interactive virtual and physical manipulatives to discover basic algebraic concepts, and he will share those discoveries and articulate them in algebraic terms.

John Thomson

jft Consulting, Rochester, New York

SALON E (MARRIOTT DOWNTOWN)

211**Helping At-Risk Students Visualize Mathematics through Technology****(6–12) Gallery Workshop**

At-risk students struggle to visualize math concepts. Using graphing software and an interactive whiteboard, the presenter will show how the technologies enhance students' understanding of algebra and geometry topics. These activities, professional development, and technology access helped the presenter's district earn state and national awards.

James Kearns

Salem State Collaborative Project, Massachusetts

118 A (CONVENTION CENTER)

212**It's All Connected: Similarity as a Geometric Building Block****(6–12) Gallery Workshop**

Experience math activities centered on similarity. Investigate similarity with rubber band drawings, leading to a special case of similarity, called congruence. Solve a fun problem.

Rhonda Bauriedl

Conewago Valley School District, New Oxford, Pennsylvania

Joy Weikert

Conewago Valley School District, New Oxford, Pennsylvania

126 A (CONVENTION CENTER)

213**Making Your Mathematics Lessons ELL-Friendly****(6–12) Gallery Workshop**

Teaching English language learners (ELLs) mathematics is a challenge that all teachers face. The task of adapting your lesson to make it ELL-friendly may overwhelm you. The speaker will use an activity from *Mathematics Teaching in the Middle School* to model how to make mathematics lessons that you have already prepared appropriate for ELL students.

Matthew Winsor

Illinois State University, Normal

SALON I/J (MARRIOTT DOWNTOWN)

214**Conics: Connecting Paper Folding to TI-NSpire™ Handheld Tools****(9–12) Gallery Workshop**

Develop a deeper understanding of the definition of parabolas, ellipses, and hyperbolas with paper folding. Discover that what looks like each conic section is really the “envelope” of tangent lines. Find where the loci of points actually are, mimic the same actions on the TI-NSpire, and compare and contrast the ellipse with the hyperbola.

Arthur Mabbott

Seattle Public Schools, Washington

FRANKLIN HALL 3/4 (MARRIOTT DOWNTOWN)

215**Reasoning and Sense Making: Keys to the CCSS****(9–12) Gallery Workshop**

Participants will work with three resources developed by the NCTM Reasoning and Sense Making Initiative: (1) sample tasks from the Web-based task bank, (2) pedagogical resources from the book *Fostering Reasoning and Sense Making for All Students*, and (3) video clips of students in work clusters engaged in reasoning and sense making.

J. Michael Shaughnessy

President, National Council of Teachers of Mathematics; Portland State University, Oregon

Marilyn Strutchens

Auburn University, Alabama

120 A/B (CONVENTION CENTER)

1:00 P.M.–2:30 P.M.

216

Tactile Trigonometry: A Hands-On, Technology-Focused Approach

(9–12) Gallery Workshop

Radian Reeses? Spaghetti sine curves? Cosine tide patterns? Come experience new approaches to presenting trigonometry topics from radian measurement and right triangles to graphs and the law of sines. Go back to school on Monday ready to reach a classroom full of diverse learners using hands-on labs and technology-based projects.

Ingrid Williams

Shawnee High School, Medford, New Jersey

Amy Gersbach

Seneca High School, Tabernacle, New Jersey

FRANKLIN HALL 1 (MARRIOTT DOWNTOWN)

217

Genres of Mathematical Tasks with High Cognitive Demand for Students

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

This presentation will actively engage participants in different genres of mathematical tasks designed for secondary school students. Attendees will analyze the tasks, their level of cognitive demand, and a range of possibilities to adjust them to other topics according to their students' needs.

Greisy Winicki Landman

California State Polytechnic University, Pomona

FRANKLIN HALL 12/13 (MARRIOTT DOWNTOWN)

218

Classroom Management and Mathematics: Preserving Cognitive Demand during Instruction

(Preservice and In-Service) Gallery Workshop

What elements of classroom management can you use as best practices for preserving mathematical tasks' cognitive demand? Receive suggestions for managing the implementation of interactive mathematical lessons while maintaining the tasks' cognitive demand during instruction.

Candace Barriteau Phaire

New York University, New York

201 C (CONVENTION CENTER)

219

Using Students' Misunderstanding to Deepen Teachers' Understanding

(Preservice and In-Service) Gallery Workshop

Collaboratively discussing students' errors and misunderstandings can lead to richer, deeper understanding of mathematics for both students and teachers. The speaker will (1) work on a problem presented to students and (2) examine the research lesson plan and revisions made following postlesson discussions.

Patsy Wang-Iverson

Gabriella and Paul Rosenbaum Foundation, Bryn Mawr, Pennsylvania

116 (CONVENTION CENTER)

2:00 P.M.–3:00 P.M.

220

Improving Assessment, Inquiry with Technology: TI-Nspire™ CX CAS and SMART™

(General Interest) Session

Experience the latest interactive handheld learning tool. Hear about inquiry learning resources from NASA, Texas Instruments, and publishers focused on improving high school math instruction. See how to use the TI-Nspire CX Navigator with interactive whiteboards for formative assessment or review and preparation for high-stakes tests.

Sean Bird

Covenant Christian High School, Indianapolis, Indiana

SALON F (MARRIOTT DOWNTOWN)

221

Technology in Mathematics Is More than a Calculator

(General Interest) Session

Electronic games, the Internet, cell phones, iPads, and other technologies are common to students. Even with multiple sets of standards, teachers must consider how to use different forms of technology and how their students are using this technology. The real question is are you as a teacher ready to deal with today's technology in the classroom?

Johnny Lott

Past President, National Council of Teachers of Mathematics; Retired, University of Mississippi, Oxford

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

THURSDAY

2:00 P.M.–3:00 P.M.



222

I.M.P.A.C.T. (Inexpensive Math Projects All Children Touch) Math

(Pre-K–2) Session

Have you ever gone math bowling? Ever do the ice cube shake? How about played popsicle math? These easy, hands-on, inexpensive math projects, plus many more, will have your students asking for more. Learn how to integrate technology, and receive practical, creative ways to reach your students.

Kimberly Mueller

Board of Directors, National Council of Teachers of Mathematics; Lumberton Township School District, New Jersey

120 C (CONVENTION CENTER)

223

Making Addition and Subtraction Concepts Meaningful

(Pre-K–2) Session

How do we help children develop deep understanding of addition and subtraction and their related number facts? These mathematical ideas require children to move away gradually from the concrete objects to more abstract expressions. Language bridges this support, using stories, pictures, and guidelines for developing number facts.

Rosemary Irons

Queensland University of Technology, Brisbane, Australia

BALLROOM B (CONVENTION CENTER)

224

Zero Is My Hero

(Pre-K–2) Session

Understanding our number system is the key to understanding mathematics. Our number system, in its beauty and simplicity, uses ten symbols to express an infinity of numbers. Travel with Zero to find his important place in our numbers and connect young students to Zero's unique role and struggle for acceptance.

Jane Cooney

Greenfield-Central Schools, Greenfield, Indiana

203 A/B (CONVENTION CENTER)

225

Connecting Research to the Classroom: Effective Fractions Instruction Grades K–8

(Pre-K–5) Session

What evidence-based strategies can educators use to help students better understand fractions? Content experts will present findings from the What Works Clearinghouse's practice guide, *Developing Effective Fractions Instruction for Kindergarten through Eighth Grade*.

Jon Wray

Howard County Public Schools, Ellicott City, Maryland

Francis (Skip) Fennell

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

Laurie Thompson

DePaul University, Chicago, Illinois

114 (CONVENTION CENTER)



226

Online Resources Connecting Home and School for Math Sense Making

(Pre-K–5) Session

This session will focus on specific, Common-Core-aligned Web resources for math instruction and share how a classroom teacher and technology learning facilitator have placed these tools at students', parents', and teachers' fingertips. The speakers will highlight resources that provide sense making for math concepts and support various learners.

Marianne Strayton

Clarkstown Central School District, New City, New York

John Calvert

Clarkstown Central School District, New City, New York

121 B (CONVENTION CENTER)



227

Teaching as Design: Reprofessionalizing Elementary School Mathematics Teachers

(Pre-K–5) Session

Math teaching's mounting challenges—increasingly rigorous standards, Response to Intervention, high-stakes testing—require a shift in approach to planning and teaching. Teachers must be active decision makers instead of program implementers, using textbooks as tools to meet their goals. Teaching as design can help, and it's easier than you think.

Jonathan Schulz

Montgomery County Public Schools, Christiansburg, Virginia

Susan Schulz

Montgomery County Public Schools, Christiansburg, Virginia

126 B (CONVENTION CENTER)

THURSDAY

2:00 P.M.–3:00 P.M.

228 Shared Classroom Experience: Teachers, Coaches, Principals Learning in Math Class

(3–5) Session

How can teachers, math coaches, and principals learn together alongside students in math class? During this session, you will see video of students solving fraction problems as teachers, coaches, and principals experience the lesson together during a professional development structure named the Shared Classroom Experience.

Dana Cargill

Pampa Independent School District, Texas

Janice Bradley

New Mexico State University, Las Cruces

113 A (CONVENTION CENTER)

229 Using Technological Probes to Enhance Mathematical Learning in Early Grades

(3–5) Session

Probes to measure temperature, light, motion, and more, with connection to a computer and user-friendly software, can open the doors to some exciting opportunities for elementary school children to use math skills to learn more about science. Come learn more about various probes, how they can enhance math learning, and how to connect children's literature!

Sandi Cooper

Baylor University, Waco, Texas

Ellen Wiech


Baylor University, Waco, Texas

108 A (CONVENTION CENTER)

ICON LEGEND

 Common Core State Standards

 Core Math Tools

 Learn↔Reflect Strand

 NCTM Committee Presentations

 New Teacher Strand

 Exhibitor Workshop

230

Who Would Have Thought? Using Historical Mathematicians to Differentiate

(3–5) Session

Motivate students through the study of Carl Gauss and Sophie Germain, along with other famous mathematicians. This session will help participants discover how studying history can develop computational fluency and problem-solving strategies. Stories, manipulatives, and problems provided are easily differentiated to meet the needs of all learners.

Julie Eastburn

Council Rock School District, Holland, Pennsylvania

Sam Smith

Council Rock School District, Holland, Pennsylvania

SALON D (MARRIOTT DOWNTOWN)

231

Mathematics Coaching Knowledge's Effect on Teacher Practice for Grades K–8

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

Coaching is a collaborative process for increasing teachers' effectiveness and students' achievement. Explore domains of knowledge—coaching, mathematics content—that affect teachers' practice, what research tells us about coaching knowledge, and what mathematics teachers need to know and do in order to be good coaching consumers.

John Sutton

RMC Research, Denver, Colorado

Clare Heidema

RMC Research, Denver, Colorado

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

232

Grow Beasts: Growing Understanding through Active Engagement and Inquiry

(3–8) Session

Grow beasts: plunk 'em in water, and four days later they've grown! Students measure, estimate, predict growth rates, measure some more, compile data, make choices, crunch numbers, and get excited, using math to make sense in an inquiry environment. Come to this session and time warp through the process. Leave with a plan and a grow beast.

Mark Roddy

Seattle University, Washington

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

THURSDAY

2:00 P.M.–3:00 P.M.

233 Promoting Algebraic Thinking with Quality Questioning

(3–8) Session

What is algebraic thinking? How can you promote it in your classroom? What questioning strategies can you use to develop algebraic thinking and to assess your students formatively? Come find out how you can help your students to be prepared for, and be successful in, algebra.

DesLey Plaisance

Nicholls State University, Thibodaux, Louisiana

115 C (CONVENTION CENTER)

234



Teaching Mathematics to Students with Disabilities: Using the CSA Model

(3–8) Session

Research suggests that using the concrete-semiconcrete-abstract (CSA) model can potentially move students to a balanced understanding of mathematical concepts. This session will discuss using CSA as a framework for assessment, show the use of diagnostic interviews, and provide an example from the Common Core State Standards.



A former special education teacher, Amy Shearer Lingo is currently an associate professor in special education at the University of Louisville, where she codirects the Academic and Behavior Response to Intervention project. Her research involves academic interventions for struggling students and schoolwide implementation of Response to Intervention models.

Karen Karp is a professor of mathematics education, University of Louisville, Ky., and was an elementary school teacher on Long Island, N.Y. She coauthored *Feisty Females: Inspiring Girls to Think Mathematically*, which aligns with her research interests on teaching mathematics to diverse populations. Karp continues work with classroom teachers to support their mathematics instruction of students with disabilities.

Amy Lingo

University of Louisville, Kentucky

Karen Karp

University of Louisville, Kentucky

TERRACE BALLROOM 1 (CONVENTION CENTER)

LOR 235

Virtual Manipulatives = Big Impact on Math Learning Deficits

(3–8) Session

Using virtual manipulatives can empower students with disabilities that negatively impact their progress in a math class and help those students to succeed with little additional teacher preparation time required. Specific virtual manipulatives, as well as the targeted learning deficits that each addresses, will be discussed.

Debbie Gochenaur

Shippensburg University, Pennsylvania

Kelly Kozain

Northern High School, Dillsburg, Pennsylvania

125 (CONVENTION CENTER)

236

Modeling and the Common Core State Standards (CCSS): Pythagoras on a Virtual Geoboard

(6–8) Session

Modeling is a crucial component of the CCSS; the Pythagorean theorem is one of the most important discoveries in mathematical history. Help Pythagoras live with SMART Board technology and a virtual geoboard. This rich instruction unit is guaranteed to be full of “ahas.”

Suzanne Hossler

Clark County School District, Las Vegas, Nevada

SALON H (MARRIOTT DOWNTOWN)

237

Teachers' Pedagogical Content Knowledge and Students' Understanding of Integer Operations

(6–8) Research Session

This study examined whether professional development for 22 teachers improved pedagogical content knowledge related to integers, and whether that correlated to students' improved understanding. The teachers and students explored operations with integers using vectors on a number line and engaged in argumentation.

Sarah Brasiel

Edvance Research, Inc., San Antonio, Texas

Stephanie Peacock

University of Texas at Austin

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

2:00 P.M.–3:00 P.M.

238
The Common Core State Standards (CCSS): A Challenge and an Opportunity

(6–8) Session

Little doubt exists that implementing the CCSS poses a great challenge to all. We can view this challenge as an opportunity to improve mathematics instruction. This session will demonstrate strategies, activities, and technology that can enhance teaching and learning rational numbers and algebra.

Eric Milou
Rowan University, Glassboro, New Jersey

201 B (CONVENTION CENTER)

239
Eliciting Mathematical Reasoning with Digital Tools: Engaging Students and Teachers

(6–12) Session

Learn how to use digital tools—podcasts, interactive applets, and collaboration sites—to engage diverse students, including English learners, in making sense of mathematics and sharing their mathematical reasoning. Receive activities and work samples with resources to transform your practice with new technologies.

Mark Ellis
Board of Directors, National Council of Teachers of Mathematics; California State University, Fullerton

107 A/B (CONVENTION CENTER)

240
Learn to Love Polynomials through Colorful Visualizations of Polynomiography

(6–12) Session

Through a unique software called Polynomiography, grades K–12 teachers and students discover a fantastic, very powerful, easy-to-use medium where visualizing polynomial equations not only creates beautiful and diverse artworks, but also leads to discovering mathematical concepts and creative ideas. Polynomials turn into objects of desire.

Bahman Kalantari
Rutgers University, Piscataway, New Jersey

Bob Mann
Western Illinois University, Macomb

SALON C (MARRIOTT DOWNTOWN)

241
Mathema-Tech: Great Ways to Use Technology in the Mathematics Classroom

(6–12) Session

This presentation will overview emerging technologies for teaching middle and high school mathematics—digital data collection tools, iPad Apps, open-source and low-cost software, and the new, exciting FluidMath system that converts your handwriting to dynamically linked equations, graphs, and tables.

James O’Keefe
Lesley University, Cambridge, Massachusetts

204 B (CONVENTION CENTER)

242
How Effective Is Your Homework?

(9–12) Session

The speaker will review relevant research regarding the efficacy of homework, as well as different types of assignments he has used in classes from Algebra 1 through AP Calculus BC. He will discuss how to use different technological tools to give, receive, and assess homework.

James Wysocki
Catlin Gabel School, Portland, Oregon

TERRACE BALLROOM 4 (CONVENTION CENTER)

243
More than a Crutch: Connecting Functional Representations Using Graphing Calculators

(9–12) Session

Are students making connections among multiple representations of functions from paper to calculator or vice versa? Or are they just punching buttons? How do we know? This presentation will explore these questions and will discuss interventions for helping students make explicit connections. Bring your graphing calculator.

Janet Tomlinson
Carnegie Learning, Inc., Pittsburgh, Pennsylvania

Suzanne Mathis
Lucey C. Laney High School, Augusta, Georgia

123 (CONVENTION CENTER)

THURSDAY

2:00 P.M.–3:00 P.M.

244

Reasoning and Sense Making: Classroom Activities from Mathematics Teacher

(9–12) Session

Rediscover activities from the past 100 years of *Mathematics Teacher* that promote reasoning and sense making across the mathematics curricula. Engage in these classic high school mathematics activities, and walk away with a series of student-centered lessons for use in your classes.

Sarah Kasten

Northern Kentucky University, Highland Heights

Jill Newton

Purdue University, West Lafayette, Indiana

202 A/B (CONVENTION CENTER)

LCR

245

Tag! Using Technology to Address Understanding in Algebra and Geometry

(9–12) Session

From maximizing soda-can packaging to generating algebraic equations describing community resources from digital images, engage in real-world, problem-solving tasks that connect algebra and geometry through technology. Technologies will include Ti-Nspire graphing handhelds, digital cameras, and interactive geometry software.

Trena Wilkerson

Baylor University, Waco, Texas

Rachelle Meyer

Baylor University, Waco, Texas

117 (CONVENTION CENTER)

246

Archimedes' Quadrature of Parabola: Algebraic and Technology Versions

(9–12, Higher Education) Session

This presentation will offer methods of solving a parabolic quadrature, the area bounded by a parabola and the x-axis, using Archimedes' ideas of infinite area sums and limits. The algebraic version derives from a parabolic segment's dissection into many triangles. The technology version uses an exploratory approach with The Geometer's Sketchpad.

Gunhan Caglayan

Columbus State University, Georgia

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

247

Reasoning and Sense Making: Translating Vision into Practice

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

A group of math teachers met regularly to discuss *Focus in High School Mathematics: Reasoning and Sense Making*. In response, each teacher created a vision for their classroom and took action to put it into practice. This presentation will share their actions, their challenges, and the effect on their students' learning.

Lindsay Umbeck

Purdue University, West Lafayette, Indiana

103 A (CONVENTION CENTER)

248

Preparing Teachers to Teach Mathematics with Technology

(Higher Education, Preservice and In-Service) Session

Presidents' Series Presentation

This presentation will describe a course designed to prepare grades 5–12 teachers to teach mathematics with technology. Bring your questions and ideas for helping teachers work with mathematics software, applets, and calculators.

Kay Wohlhuter

University of Minnesota Duluth

122 A (CONVENTION CENTER)

CMT

249

Embedding Core Math Tools in Preservice Teacher Preparation

(Preservice and In-Service) Session

An examination of opportunities for preservice teachers to use the Core Math Tools while doing mathematics in content courses, building student tasks and lessons in methods courses and implementing their use with students doing engaging mathematics in secondary courses - both in the classroom and beyond. Participants will share and reflect.

Mary Mooney

Milwaukee Public Schools, Wisconsin

Henry Kepner

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

109 A/B (CONVENTION CENTER)

2:00 P.M.–3:00 P.M.

250 Supporting Preservice Teachers in Practicing Instructional Explanations Using Free Technology

(Preservice and In-Service) Session

Teacher training programs rarely offer practice explaining mathematical concepts. Who has time to listen to 30 students explain the same idea? Using online learning environments and screencasts, preservice teachers can practice, critique, revise, and improve explanations while solidifying content knowledge.

Ellen Clay

Math Forum @ Drexel University, Philadelphia, Pennsylvania

Valerie Klein

Math Forum @ Drexel University, Philadelphia, Pennsylvania

119 A (CONVENTION CENTER)

2:30 P.M.–3:30 P.M.

ew 250.1 Smiles of Success for Students, Parents, and Teachers: Britannica Smartmath!

(K–8) Exhibitor Workshop

Engage in a lively, interactive demonstration of Web-based practice and assessment for elementary school students. Move students toward computational fluency while using tools that allow teachers to differentiate, assess, track, and evaluate in real time. Students enjoy doing math at home or in the classroom.

Britannica Digital Learning
Chicago, Illinois

115 B (CONVENTION CENTER)

ew 250.2 Common Core Print Books Are Now Interactive

(3–8) Exhibitor Workshop

Presenting engaging and dynamic resource content to increase success on ACT and Common Core testing. Join us to see how our Common Core books become interactive on your Android devices, iPhones, iPads, SMART Boards, and Promethean Boards using our Augmented Reality technology.

American Book Company
Woodstock, Georgia

118 B (CONVENTION CENTER)

ew 250.3 Financial Algebra: A Third to Fourth-Year Math Course

(9–12) Exhibitor Workshop

Financial Algebra is a comprehensive learning program aligned to the Common Core State Standards. It is an applications-rich, algebra-based, technology-oriented program that incorporates mathematical skills from Algebra 2, Precalculus, Calculus, Probability, and Statistics in real-world contexts. Presented by Richard Sgroi and Robert Gerver.

Cengage Learning
Belmont, California

113 B (CONVENTION CENTER)

ew 250.4 Understanding Children's Thinking in the Era of Common Core

(Higher Education) Exhibitor Workshop

For in-service teachers, this session will explore how teachers can identify some of the most common reasons children struggle, as well as the role of analysis of student artifacts, and whole class discussion in supporting children's mathematical thinking within an era of Common Core State Standards.

Pearson
Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

3:00 P.M.–4:30 P.M.

251 Developing Algebra, Number Sense, and Geometry through NCTM's Free E-Examples

(Pre-K–2) Gallery Workshop

Make your classroom come alive while developing algebra, number sense, and geometry concepts through NCTM's E-examples. From geoboards and tangrams to hundreds boards and interpreting graphs, the newly revised, interactive e-examples offer online resources that demonstrate important topics in classrooms and for students to explore on their own.

Sarah DeLeeuw
National Council of Teachers of Mathematics, Reston, Virginia

SALON E (MARRIOTT DOWNTOWN)

3:00 P.M.–4:30 P.M.

252 Hands-On Approach to Number Sense in the Primary School Classroom

(Pre-K–2) Gallery Workshop

Engage in activities designed to develop an in-depth understanding of number sense and to encourage math conversation. Explore the use of daily number talks, children's literature, and games. The speaker will present students' work and recorded classroom vignettes and provide activity directions and a bibliography.

Lori Price

Saint Johns County School District, Saint Augustine, Florida

FRANKLIN HALL 12/13 (MARRIOTT DOWNTOWN)

253 Shuffling into Math: Primary Math Games

(Pre-K–2) Gallery Workshop

Come play card, dice, and domino math games that help your primary school students achieve success in numeration, operations, place value, and graphing. The speaker will share take-home ideas, gameboards, and students' samples. Great for regular, English language learner, Title 1, and after-school programs.

Jane Felling

Box Cars & One-Eyed Jacks, Edmonton, Canada

124 (CONVENTION CENTER)

254 Using Math Games to Encourage Learning and Differentiate Learning

(Pre-K–2) Gallery Workshop

Math games provide an engaging context for differentiating learning. Play and evaluate a variety of games, exploring ways to implement Common Core State Standards, engage students, differentiate instruction, and focus on the processes and concepts needed for making sense of number and operations at school and at home.

Daniel Veldkamp

Grand Valley State University, Allendale, Michigan

Esther Billings

Grand Valley State University, Allendale, Michigan

Leah Wischmeyer

Grand Valley State University, Allendale, Michigan

201 A (CONVENTION CENTER)

255 What's in Store with the Common Core?

(Pre-K–2) Gallery Workshop

Are you wondering what the Common Core State Standards (CCSS) will look like in your primary school math classroom? Explore CCCSS practices through hands-on activities. Leave with many instructional ideas that you can use with grades K–2 students.

Cheryl Akers

Howard County Public Schools, Ellicott City, Maryland

Heather Dyer

Howard County Public Schools, Ellicott City, Maryland

116 (CONVENTION CENTER)

256 Developing Early Numeracy Concepts: Visual Models, Manipulatives, and Literature Books

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

Teachers lay the foundation for developing number sense in prekindergarten through grade 2. Teachers' knowledge of the essential early number concepts is crucial for developing and facilitating students' learning. Develop concept knowledge through activities using manipulatives, calculators, and connections to literature.

Karen Boreman

Developmental Math Group, Hilliard, Ohio

108 B (CONVENTION CENTER)

257 Camping In: Math Style

(Pre-K–5) Gallery Workshop

Are you hiking through the world of mathematics looking for great ideas? Hike to math "trail posts" (stations), solve problems in your camp journal, and earn camp badges. Fill your backpack with great ideas! Learn how to implement and replicate a math camp-in for your school or classroom. Handouts and s'mores provided.

Kelli Shrewsberry

Teaching and Learning Collaborative, Columbus, Ohio

Jessica Cahill

South Western City Schools, Grove City, Ohio

Phyllis Bates

Teaching and Learning Collaborative, Columbus, Ohio

118 A (CONVENTION CENTER)

3:00 P.M.—4:30 P.M.

258 Understand and Apply Math Meaningfully through Music Activities

(Pre-K–5) Gallery Workshop

The speakers will describe a series of math-music lessons that covered various math concepts. A “function piano,” with which students compose music, helps them discover the input and output numbers in a function table derived from their music work. Students in groups explore the patterns by playing their own music works by using hand bells.

Song An

Texas A&M University, College Station

Min Kim

Frank C. Leal Elementary School, Cerritos, California

FRANKLIN HALL 9/10 (MARRIOTT DOWNTOWN)

259 Bring Math Alive with Livescribe

(3–5) Gallery Workshop

See how using a Livescribe pen to develop student’s communication skills plays an important role in implementing the eight Common Core mathematical practices. This presentation will focus on students’ engagement, formative assessment, center use, parental communication, and professional development opportunities.

Joan Tellish

Howard County Public Schools, Ellicott City, Maryland

Jennifer Stairs

Howard County Public Schools, Ellicott City, Maryland

Sorsha Mulroe

Howard County Public Schools, Ellicott City, Maryland

115 A (CONVENTION CENTER)

Thank you to the
Volunteer and Program
Committee members.
Your time and dedication
made this year’s Annual
Meeting a huge success!

260 Using Appropriate Tools in Elementary Math: From Physical to Virtual

(3–5) Gallery Workshop

Learn how to engage and extend understanding by using appropriate tools for learning elementary school mathematics concepts. Starting with physical models, extend and expand understanding through virtual models made with Sketchpad. Find out how to make elementary school math accessible to all students.

Karen Greenhaus

Key Curriculum Press, Emeryville, California

105 A/B (CONVENTION CENTER)

261 Encouraging Grades 3–8 Students to Conjecture, Generalize, and Justify

(3–8) Gallery Workshop

Learn about tasks—and ideas for creating tasks—that encourage grades 3–8 students to reason mathematically and to make, justify, refute, refine, and generalize their conjectures. Discussion will emphasize how to encourage generalizing and shape students’ justification in the classroom.

Michael Perkowski

University of Missouri—Columbia

John Lannin

University of Missouri—Columbia

SALON G (MARRIOTT DOWNTOWN)

262 L.E.A.P. into SMART Notebook™: Lessons, Explorations, Activities, Play

(3–8) Gallery Workshop

Are you using your SMART Board to its full potential? Learn how to create games and lessons that can enhance your teaching and address both content and process standards. Explore the gallery items, math tools, and basic functions of SMART notebook software. Leave with a CD of game templates and lesson ideas you can use on Monday.

Ginalouise Pflanz

Council Rock School District, Richboro, Pennsylvania

Anna LaForgia

Council Rock School District, Newtown, Pennsylvania

Wendy Nelsen

Council Rock School District, Richboro, Pennsylvania

SALON A/B (MARRIOTT DOWNTOWN)

THURSDAY

3:00 P.M.—4:30 P.M.

263

Response to Intervention (RtI): Math Interventions for At-Risk Grades K–8 Learners

(3–8) Gallery Workshop

Do you have students who struggle with whole numbers, fractions, and problem-solving? The speaker will share evidence-based strategies for use in both the general classroom and tiered interventions. Engage in a variety of hands-on games and activities, explore materials, and receive handouts containing references and resources.

Linda Forbringer

Southern Illinois University Edwardsville

121 A (CONVENTION CENTER)

264

Come Take a Modeling Journey with Area

(6–8) Gallery Workshop

This presentation will offer a journey through a middle school curriculum illustrating how area is the foundation model for whole-number multiplication, operations with fractions, the distributive property, and probability. Investigate classroom-ready problems that frequently offer a challenge to students using manipulatives, including algebra tiles, as visual models of area.

Erica Warren

College Preparatory Mathematics Educational Program,
Sacramento, California

Christine Mikles

College Preparatory Mathematics Educational Program,
Sacramento, California

204 C (CONVENTION CENTER)

265

Common-Core, Nspired Probability and Statistics Activities for Middle School

(6–8) Gallery Workshop

Participants will explore several Nspire-based investigations dealing with the middle grades Common Core State mathematics standards for probability and statistics.

Denny St. John

Central Michigan University, Mount Pleasant

118 C (CONVENTION CENTER)

266

Crucial Point Assessments and Interventions for Fractions

(6–8) Gallery Workshop

What aspects of fraction knowledge are essential for success? Crucial points were identified using the Common Core and research on fraction learning, to develop diagnostic formative assessments and interventions for use in a Response to Intervention system to address students' struggles with fractions.

DeAnn Huinker

University of Wisconsin—Milwaukee

Judith Winn

University of Wisconsin—Milwaukee

204 A (CONVENTION CENTER)

267

Math and Manufacturing

(6–8) Gallery Workshop

Use geometry to make or manufacture practical projects that you can use in everyday settings. Use precise measurement, symmetry, congruency, constructions, and angle measurement to emphasize quality control.

Robin Roberts

Fairfax County Public Schools, Falls Church, Virginia

Mary Mitchell

Irvington Public Schools, New Jersey

FRANKLIN HALL 1 (MARRIOTT DOWNTOWN)

268

Open Your Eyes! Seeing Linear Equations Differently

(6–8) Gallery Workshop

Many students struggle with linear equations, but it doesn't have to be that way. This presentation will demonstrate hands-on activities, focusing on geometric patterns, to use in developing your students' understanding of linear equations. You will leave with a set of rigorous, interesting tasks to help your students achieve success.

Tamara Pearson

Project GRAD (Graduation Really Achieves Dreams), Atlanta,
Georgia

121 C (CONVENTION CENTER)

3:00 P.M.–4:30 P.M.

270 Are You Informed? Engaging Classroom Strategies to Guide Instruction Intentionally

(6–8, Preservice and In-Service) Gallery Workshop

Learn ways to assess students in math formatively by targeting specific instructional goals, analyzing students' work, and providing clear, descriptive feedback. See the effect of students' self-assessment and goal setting. Find out how you can intentionally integrate a variety of formative assessment tools, including technology, to achieve your goals.

Robyn Whelan

Jefferson County Public Schools, Louisville, Kentucky

Kathryn Williams

Jefferson County Public Schools, Louisville, Kentucky

SALON K/L (MARRIOTT DOWNTOWN)

271 A Visual, Contextual Approach to Important Fraction Concepts

(6–8, Preservice and In-Service) Gallery Workshop

This presentation will demonstrate three ways to compare fractions to determine whether they are equivalent, and to multiply and divide fractions, all using visual strategies to solve realistic problems. Support visual learners and develop students' conceptual understanding. Receive lots of contextual problems. Be prepared to participate and draw.

Matthew Jones

California State University Dominguez Hills, Carson

119 B (CONVENTION CENTER)

272 Coaching Tips for Mathematics Competitions and Clubs

(6–12) Gallery Workshop

The chairs of the American Mathematics Competitions will share tips for coaching students and clubs for mathematics competitions. Learn topics important for contests and how to lead club and contest preparation activities. Award-winning teachers with high-scoring teams will share their tips.

Steven Dunbar

Mathematical Association of America, Lincoln, Nebraska

Leroy Wenstrom

Mathematical Association of America, Lincoln, Nebraska

Margie Raub-Hunt

Mathematical Association of America, Lincoln, Nebraska

SALON I/J (MARRIOTT DOWNTOWN)

273

Calculus Applications of Real NASA Data Introduced Using 2012 Technology

(9–12) Gallery Workshop

Use application problems, developed by the National Aeronautics and Space Administration (NASA), to help calculus students develop and reinforce knowledge and skills necessary to succeed in college. Work with these applications hands-on and familiarize yourselves with the TI-Nspire technology that some of the available material uses.

Natalee Lloyd

NASA Human Research Program Education and Outreach, Houston, Texas

Paulette Granger

National Aeronautics and Space Administration (NASA), Houston, Texas

201 C (CONVENTION CENTER)

THURSDAY

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3:00 P.M.–4:30 P.M.

274 Combining Students' Work through Wireless Connectivity to Form New Functions

(9–12) Gallery Workshop

Use networked technology to enable students to build quadratic functions where each group member controls a different coefficient up front, independently and collectively. A surprise arises when they combine functions by addition, creating a new function. The speakers will promote connections, communication, and reasoning across representations.

Sara Dalton

Kaput Center for Research and Innovation in STEM
Education, University of Massachusetts Dartmouth

Stephen Hegedus

University of Massachusetts Dartmouth

Cathleen Marchessault

Dartmouth High School, Massachusetts

113 C (CONVENTION CENTER)

275 Learning and Appreciating Mathematics by Making Sierpinski Triangles

(9–12) Gallery Workshop

A manipulative tool for enhancing students' mathematical reasoning and creativity, the 4D Frame enables students to construct intangible mathematical concepts as tangible mathematics. Participants will learn how to teach mathematical concepts while making their own Sierpinski triangles. Handouts and sample kits will be available.

Hogul Park

4D Frame Co., Seoul, Republic of Korea

Mangoo Park

Seoul National University of Education, Republic of Korea

FRANKLIN HALL 6/7 (MARRIOTT DOWNTOWN)

ICON LEGEND



Common Core State Standards



Core Math Tools



Learn ↔ Reflect Strand



NCTM Committee Presentations



New Teacher Strand



Exhibitor Workshop

276

Transforming Quadrilaterals and Their Changing Diagonals

(9–12) Gallery Workshop

Make two classroom models that demonstrate the changing relationships among diagonals, angles, and sides as a quadrilateral transforms from parallelogram to rectangle or rhombus to square. The speaker will conduct a hands-on lab, discuss applications in vocational fields, and extend ideas using The Geometer's Sketchpad.

Charlene Keen

Dauphin County Technical School, Harrisburg, Pennsylvania

122 B (CONVENTION CENTER)

277

Induction, Recursion, and Modular Arithmetic with the TI-89 CAS Handheld

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

Technology enhances the concepts of induction, recursion, and modular arithmetic. Generate the Fibonacci and Lucas sequences and form conjectures on their divisibility and periodicity. Explore induction and modular arithmetic to furnish proofs, and witness the blending of number theory and technology.

Jay Schiffman

Rowan University, Glassboro, New Jersey

111 A/B (CONVENTION CENTER)

278

Merging History and Technology: Immersive Strategies for Solving Cubic Polynomials

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

To illustrate novel instructional strategies, the speakers will actively guide participants in using history and technology to solve cubic polynomials. They will incorporate multiple representations and technological advances that help students visualize cubics. Rich discussion of historical development will connect to pedagogical knowledge.

Frederick Sakon

Florida State University, Tallahassee

Christopher Thompson

Florida State University, Tallahassee

Angelina Kuleshova

Florida State University, Tallahassee

103 C (CONVENTION CENTER)

3:00 P.M.—4:30 P.M.

279

Problem Solving with Patty-Paper Origamics

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

The speaker will give the basics of patty-paper geometry and then introduce a number of origamics (not origami) problems. In origamics, the problem solver looks for mathematical patterns from a few folds on a patty paper. Participants will select one problem, work on it in cooperative groups, and present their solutions to the entire class.

Michael Serra

Consultant, San Francisco, California

BALLROOM A (CONVENTION CENTER)

280

Giant Polyhedra, Inside and Out: Hands-On Development of 3-D Concepts

(Preservice and In-Service) Gallery Workshop

Build larger-than-life polyhedra using lightweight, brightly colored, giant triangles—no prior knowledge or experience required. This hands-on experience moves through the first three van Hiele levels, developing a deep level of conceptualization about polyhedra, and integrates all the NCTM Process Standards.

Jacqueline Sack

University of Houston Downtown, Texas

Michael Connell

University of Houston Downtown, Texas

126 A (CONVENTION CENTER)



281

New Teacher Workshop and Kickoff

(Preservice and In-Service) Gallery Workshop

Do you have questions on how to make it all work? Together we have answers and ideas on management, parents, homework, keeping your sanity, and more. Join others still in school, just starting, in their early career, or looking for help. Receive gifts, prizes, and good ideas.

David Barnes

National Council of Teachers of Mathematics, Reston, Virginia

120 A/B (CONVENTION CENTER)

3:30 P.M.—4:30 P.M.

282

Historical Topics in Mathematics: A Look at Five Interesting Triangles

(General Interest) Session

The Chinese knew Pascal's triangle 400 years before Pascal. This presentation will focus on five interesting triangles: Pascal, Chinese, Harmonic, Euler, and Prime. The speakers will discuss the triangles' histories, similarities, differences, and patterns, and make connections to algebra, geometry, probability, number sense and sets, and calculus.

Jim Fulmer

University of Arkansas at Little Rock

Tom McMillan

University of Arkansas at Little Rock

SALON C (MARRIOTT DOWNTOWN)



283

Learn↔Reflect Reflection Session

(General Interest) Session

This culminating session, for those who attended the Learn↔Reflect sessions, will be a facilitated discussion of the four reflection questions.

NCTM Professional Development Services Committee

National Council of Teachers of Mathematics, Reston, Virginia

204 B (CONVENTION CENTER)

284

March Madness, the Bowl Championship Series (BCS) Bowl, and SABRmetrics

(General Interest) Session

Why does a #10 seed play a #7? How does the BCS committee choose who gets to play for the national championship? OPS, WHIP, GDP, Holds, FPOM, ERA, and more: these are not your father's or mother's baseball stats anymore. Come find out why!

Steve Yurek

Lesley University, Cambridge, Massachusetts

114 (CONVENTION CENTER)

THURSDAY

3:30 P.M.–4:30 P.M.

285 Strength in Numbers: Equitable Groupwork in Secondary School Mathematics

(General Interest) Research Session

Drawing on research on equitable math teaching, the speaker will contribute a perspective on collaborative learning to improve achievement for all students. This approach helps teachers see students' diverse mathematical backgrounds as a productive launching point for rich conversations. Learn strategies that address status issues and enhance students' learning at different achievement levels.

Ilana Horn

Vanderbilt University's Peabody College, Nashville, Tennessee

121 B (CONVENTION CENTER)

286 The Making of *Flatland 2: Sphereland*

(General Interest) Session

This presentation will give exclusive clips and behind-the-scenes insight from the new film, *Flatland 2: Sphereland*. Join the speakers for this sneak peek into the mathematics of making the new animated film, and catch exclusive clips from the movie featuring math lessons.

Seth Caplan

Flat World Productions, Austin, Texas

Dano Johnson

Flat World Productions, Austin, Texas

TERRACE BALLROOM 4 (CONVENTION CENTER)

287 Johnny Has Two Apples, Suzie Has Three: Really?

(Pre-K–2) Session

Do you get blank stares from your students when they hear or read a story problem? If you need not only more meaningful problems to promote thinking, but also problems and strategies to get students involved and build their confidence, this presentation is for you. Take back 16 problems and 10 strategies ready for use on Monday morning.

Carol McGehe

K12, Inc., Herndon, Virginia

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

288 Teaching Teachers about Effective Scaffolding during Classification Tasks with Kindergarteners

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

In a dynamic systems approach, scaffolding is a reciprocal process of interaction patterns, with both teacher and student actively involved. This session will present findings from a data analysis of kindergarteners during a classification task. The patterns allow improved insight into teaching efforts for scaffolding kindergarten students.

Geerdina van der Aalsvoort

Saxion School of Education, Deventer, Netherlands

Jan Auwke Diepenhorst

Saxion University of Applied Sciences, Deventer, Netherlands

126 B (CONVENTION CENTER)

289 Classroom Assessment of the CCSS: A Multidimensional Approach

(Pre-K–5) Session

Have you thought about how you will align classroom assessment with the Common Core State Standards (CCSS)? This session will show you how to apply the SPUR (Skills, Properties, Uses, and Representations) framework to create or modify assessments that help you gauge students' multidimensional understanding of concepts addressed in the CCSS.

Sarah Bleiler

University of South Florida, Tampa

Denisse Thompson

University of South Florida, Tampa

107 A/B (CONVENTION CENTER)

290 No More Borrowing, Ever, Really!

(Pre-K–5) Session

Computational strategies to subtract whole numbers, fractions, and decimals should be simple, flexible, and make sense. Avoid the common errors of borrowing. Use hopping, skipping, and changing to find differences. These motivational strategies will have your kids begging for more subtraction problems. Learn them today and teach them tomorrow!

George Poole

East Tennessee State University, Johnson City

Christy Poole

Elizabethton City Schools, Tennessee

122 A (CONVENTION CENTER)

3:30 P.M.–4:30 P.M.

291 A Dynamic Number Approach to Multiplication

(3–5) Session

Come learn about the experiences of two classroom teachers who implemented a new, technology-based approach to teaching multiplication that focuses on understanding, engagement, and mastery. Examples will feature classroom and interview videos, interactive examples from The Geometer's Sketchpad, and the new Hop Along iPad app.

Kristen Johnson

Penn Alexander School, Philadelphia, Pennsylvania

Maryann Milewski-Moskal

Penn Alexander School, Philadelphia, Pennsylvania

Scott Steketee

Key Curriculum Press Technologies, Emeryville, California

202 A/B (CONVENTION CENTER)

292 Model and Solve Word Problems with Thinking Blocks

(3–5) Session

Learn how to model and solve a variety of math word problems with Thinking Blocks, a freely available, online resource. The speakers will present detailed examples, share actual classroom results, and demonstrate how to use Thinking Blocks to implement the Common Core State Standards for Mathematical Practice.

Colleen King

Math Playground, Wellesley, Massachusetts

Kathleen McClaskey

EdTech Associates, Amherst, New Hampshire

SALON H (MARRIOTT DOWNTOWN)

293 Constructivist Cautions: Promoting Concept Development with Computers and Manipulatives

(3–5, Higher Education) Session

How do children learn math meaningfully with teachers' help? NCTM's Standards embrace constructivism, but teachers naturally tend toward telling. The speaker will review constructivist environments, Illuminations and National Library of Virtual Manipulatives applets, and novel manipulative use, and offer teaching suggestions and cautionary tales.

Roger Johanson

Coe College, Cedar Rapids, Iowa

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

294 Fractions Talks That Strike a Chord with Students

(3–8) Session

Engage your classroom in meaningful discussion about fractions where music, art, and community are the center of the action. Experience 10 math talks featuring musical performance, motivating topics, hands-on manipulatives and free, online technology. Help students discover the true joy in mastering the math that lies within favorite activities.

Arjan Khalsa

Conceptua Math, Petaluma, California

125 (CONVENTION CENTER)

295 Linking Problem Solving and the Standards of Mathematical Practice

(3–8) Session

In this highly interactive session, you'll try Speak, Write, Reflect, Revise, a cooperative learning process that links problem solving with rich classroom discourse and writing. Examine this process through the lens of mathematical practices and see how every student contributes to a classroom full of successful problem solvers.

Robyn Silbey

Montgomery County Public Schools, Gaithersburg, Maryland

BALLROOM B (CONVENTION CENTER)



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THURSDAY

3:30 P.M.–4:30 P.M.

296 Engaging Students with Self-Assessment Strategies

(6–8) Session

This session will focus on students' self-assessment as an essential component of the learning process. Explore and discuss formative-assessment classroom strategies shown in videos of a real classroom. Receive templates and examples that will help you enable your students to gauge whether they are meeting a learning goal.

Cheryl Tobey

Education Development Center, Newton, Massachusetts

Nancy Philbrook

Maine School Administrative District 17, Oxford

108 A (CONVENTION CENTER)

297 Learning Algebraic Generalization with eXpresser

(6–8) Session

This talk will present eXpresser software, in which tasks involve interpreting and constructing dynamic patterns. The system helps students aged 11–14 go beyond such patterns, grasp the relevance of mathematical generalizations, and move from the specific to the general, a fundamental way of mathematical thinking.

Anna Baccaglini-Frank

Institute of Education, London, United Kingdom

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

298 Analyzing Middle School Students' Algebra-Related Misconceptions and Errors

(6–8, Higher Education) Session

Taking research to practice, examine common algebra-related misconceptions and errors in variables, equality, equation writing, computation, graphing, functions, properties, and proportions. Discuss teaching strategies and interventions to address these misunderstandings.

Sarah Bush

Bellarmine University, Louisville, Kentucky

103 A (CONVENTION CENTER)

299 It's Game Time: Link Probability to Pascal through Plinko

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

Come on down to explore game-show probability. Analyze a Plinko board to determine the best slot to drop a chip from to earn the most money. Simulate the game of Plinko, collect data, determine experimental and theoretical probability, and unravel interesting connections between probability and Pascal's triangle.

Nirmala Naresh

Miami University, Oxford, Ohio

Bridget McMahan

Miami University, Oxford, Ohio

203 A/B (CONVENTION CENTER)

300 Algebra Tasks That Support Math Discussion in Student Groups

(6–12) Session

Finding or creating algebra prompts that generate students' discussion beyond describing procedures is difficult. The speaker will discuss sample tasks and video clips of students working on tasks from Algebra 1 and 2. The video clips will show how you can engage all students in using algebra's academic language to explain their reasoning.

Judith Kysh

San Francisco State University, California

113 A (CONVENTION CENTER)

301 Flip-Flop Teaching with Screencasts

(6–12) Session

Are you teaching an infinite loop of "spend extra time reviewing homework, run out of time for the new lesson, modify homework, repeat?" Learn how to create free screencasts to flip-flop your teaching. Students view the lesson at home and do the "homework" problems in class. This method allows more higher-level thinking to occur.

S. Leigh Nataro

Moravian Academy, Bethlehem, Pennsylvania

115 C (CONVENTION CENTER)

3:30 P.M.–4:30 P.M.

302 Robots, Speed Circles, and Proportions: Empowering Mathematics with Technology

(6–12) Session

Mathematics Meets Robot Programming is a sample whole-class, interactive, technology-supported lesson that integrates math tools into a robotics investigation. Students use tables, plotting points, function machines, equations, graphs, and dynamic variables to determine scaling factors that allow them to drive a robot around circles at any speed.

Ricky Carter
Lesley University, Cambridge, Massachusetts

TERRACE BALLROOM 1 (CONVENTION CENTER)

303 Simulations as a Tool for Reasoning about Probability and Statistics

(6–12) Session

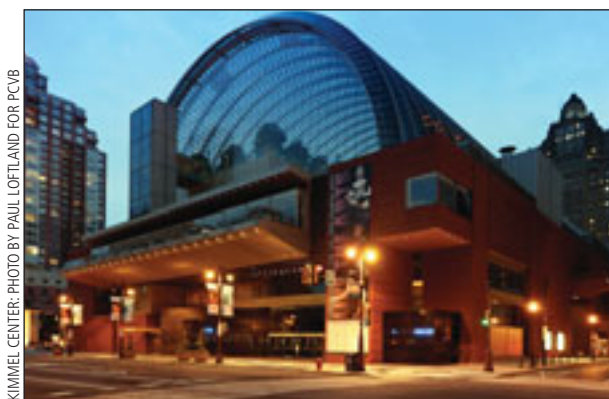
Learn about using various technology tools to conduct simulations to investigate probability and statistics tasks. Discuss building a model, conducting large samples, and visualizing dynamic graphs as ways to promote reasoning among students. The speakers will share classroom scenarios. Bring your favorite technology, and engage in the fun.

Hollylynn Lee
North Carolina State University, Raleigh

Tina Starling
North Carolina State University, Raleigh

Marggie Gonzalez
North Carolina State University, Raleigh

109 A/B (CONVENTION CENTER)



KIMMEL CENTER: PHOTO BY PAUL LOFTLAND FOR PCVB

304 Twenty-first-Century Skills: A Problem-Based Learning Approach

(6–12) Session

The presenters will share interdisciplinary projects designed to teach twenty-first century skills, including critical and creative thinking, collaboration, information technology literacy, and effective communication. They will discuss the assessment process, involving student's and teachers' reflection, and share exemplars.

April Harvey
Westport Public Schools, Connecticut

Stacey Delmhorst
Westport Public Schools, Connecticut

Michele Niedermeier
Westport Public Schools, Connecticut

SALON F (MARRIOTT DOWNTOWN)

305 Using Cognitive Science to Align Prior Knowledge and Instructional Interventions

(6–12) Research Session

When designing a bridge, engineers must operate under the constraints of physics and material science. Likewise, teachers must use cognitive constraints when designing effective math curricula. The speaker will discuss these cognitive constraints and ways that instructors can use their knowledge of them to design effective instructional interventions.

Robert Hausmann
Carnegie Learning, Inc., Pittsburgh, Pennsylvania

SALON D (MARRIOTT DOWNTOWN)

306 Algebra for All, 1901–2012

(9–12) Session

Presidents' Series Presentation

SSMA, the forerunner of NCTM and the National Science Teachers Association, has been publishing its journal since 1901. Some articles have focused on algebra curricula, algebraic reasoning, the history of algebra, and various algebra oddities useful in today's classroom. Come hear some quotes that still resonate with mathematics teachers in 2012.

Don Balka
School Science and Mathematics Association; Saint Mary's College, Notre Dame, Indiana

119 A (CONVENTION CENTER)

THURSDAY

3:30 P.M.—4:30 P.M.

307 Eureka! Ten Teachable Moments from the History of Mathematics

(9–12) Session

How did Archimedes calculate pi? How did Cardano solve cubic equations? Why is secant the reciprocal of cosine? Why did they really invent imaginary numbers? Incorporate the history of math—moments from algebra, geometry, trigonometry, and precalculus—smoothly into the courses you teach. Examples will span two thousand years and many cultures.

Gary Rubinstein

Stuyvesant High School, New York, New York

201 B (CONVENTION CENTER)

308

Accessing the Mathematics behind Calculator-Generated Linear Regression Lines

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

Opportunities that students have to create lines of best fit usually include sketching lines and using graphing technology. Do students who understand linear functions need to wait until calculus to look more deeply into the mathematics behind calculating the least-squares regression line? The speakers think not.

Laura Bristol

Kentucky Center for Mathematics, Highland Heights

Bethany Noblitt

Northern Kentucky University, Highland Heights

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

THURSDAY

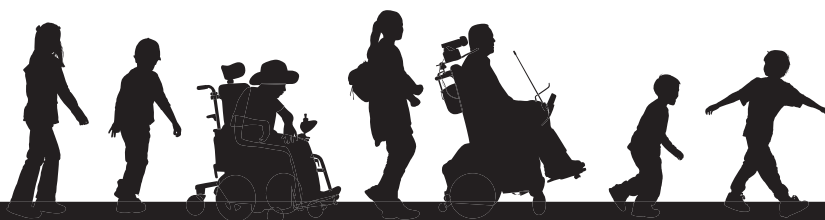
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3:30 P.M.–4:30 P.M.

309

Asking Better Questions Using Graphing Technology

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

This session will demonstrate how using graphing technology can help teachers meet the Common Core State Standards (CCSS) of mathematical practice. Mathematical practice, as outlined in the CCSS, can be a framework for teaching content. Receive sample classroom activities showing how to engage students in higher-order thinking with technology.

Daniel Ilaria

West Chester University, Pennsylvania

120 C (CONVENTION CENTER)

310

Technology-Enhanced Mathematics and Statistics Education

(Higher Education) Session

The Statistics Online Computational Resource (www.socr.ucla.edu) develops, validates, and disseminates portable, online resources for probability and statistics education, technology-enhanced instruction, and statistical computing. SOCR resources include integrated and multilingual applets, computational and graphing tools, activities, and e-books.

Ivo Dinov

University of California at Los Angeles

Nicolas Christou

University of California at Los Angeles

117 (CONVENTION CENTER)

311

Improving Teachers' Discourse by Having Them Talk about Their Talk

(Higher Education, Preservice and In-Service) Session

Engaging teachers in discourse is an important, yet challenging, component of teaching mathematics content courses. Explore an activity, intended to improve discourse, in which teachers reflect on their “talk” after reading NCTM publications. Discuss how to implement the activity in your own practice.

Amy Hillen

Kennesaw State University, Georgia

Elizabeth Hughes

University of Northern Iowa, Cedar Falls, Iowa

123 (CONVENTION CENTER)

3:30 P.M.–5:00 P.M.

312



Continuing Challenges for NCTM in Teaching and Learning Mathematics

(General Interest) Session

Lifetime Achievement Awards Presentation

This session addresses challenges that we face as we work to improve mathematics teaching and learning for all students, including NCTM's Reasoning and Sense Making Initiative, support in the implementation and assessment of the Common Core State Standards for Mathematics, and efforts to reverse the persistently poor attitude towards mathematics in North America.

J. Michael Shaughnessy

President, National Council of Teachers of Mathematics;
Portland State University, Oregon

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

4:00 P.M.–5:00 P.M.

ew 312.1

Reasoning Mind: Solving the Nation's Math Problem

(2–6) Exhibitor Workshop

Reasoning Mind (RM) is changing the paradigm of math education. Using RM's grade 2–6, Web-based program, teachers individualize lessons for each child. Students learn to love mathematics, and teachers appreciate RM's in-classroom support. Learn how these factors work together to provide a first-rate math education to every child.

Reasoning Mind

Houston, Texas

113 B (CONVENTION CENTER)

ew 312.2

Prepare your Students for Success in Algebra

(7–8) Exhibitor Workshop

The algebra fail rate remains high in many schools. Pearson's new solution, a research-based method of explicit instruction, peer-assisted learning, and independent practice with scaffolded supports, is designed to build foundational skills and conceptual understanding in struggling students, one year prior to their algebra class.

Pearson

Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

THURSDAY

Get Published! Be a Journal Referee. Avoid Common Writing Pitfalls!

Find out how at the new Presentation Spotlight Stage
located at the BuzzHub in the exhibit hall.

NCTM's 2012 Annual Meeting and Exposition
April 25–28 • Philadelphia, Pennsylvania

The journal editors from *Teaching Children Mathematics*, *Mathematics Teaching in the Middle School*, and *Mathematics Teacher* will be giving a series of mini-sessions to help you write or referee for one of NCTM's school journals. Inside of 15 minutes, you'll discover how to submit your ideas for publication, volunteer as a referee, or polish an existing manuscript. The editors will explain the peer review process, answer your questions, point you in the right direction, and allay any fears you may have about getting started. All for a price that can't be beat—free!

Here's what's going on:

Get Published!

Discover how simple it is to turn your ideas into articles.

Presented by Sara-Lynn Gopalkrishna,
MTMS editor

Thursday, April 26:

10:40–10:55 a.m. and
1:10–1:25 p.m.

Friday, April 27:

10:30–10:45 a.m. and
1:50–2:05 p.m.

Be a Journal Referee

Find out how critiquing manuscripts can help your career.

Presented by Al Goetz,
MT editor

Thursday, April 26:

11:05–11:20 a.m. and
1:35–1:50 p.m.

Friday, April 27:

10:55–11:10 a.m. and
2:15–2:30 p.m.

Writing Pitfalls

Learn hints on steering clear of those pesky manuscript potholes.

Presented by Beth Skipper,
TCM editor

Thursday, April 26:

11:30–11:45 a.m. and
2:00–2:15 p.m.

Friday, April 27:

11:20–11:25 a.m. and
2:40–2:55 p.m.



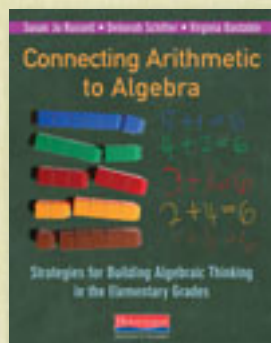
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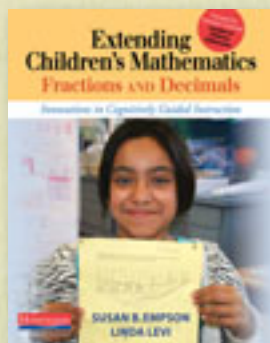
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Connecting Arithmetic to Algebra
Strategies for Building Algebraic Thinking in the Elementary Grades

Susan Jo Russell, Deborah Schifter, and Virginia Bastable

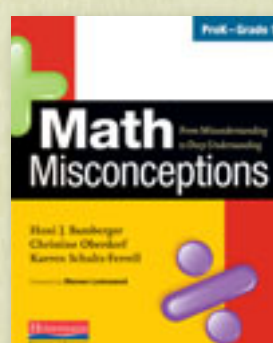
Gr 1-6 / 978-0-325-04191-9 / 2011 / 176pp / \$18.37



Extending Children's Mathematics: Fractions and Decimals
Innovations in Cognitively Guided Instruction

Susan B. Empson and Linda Levi

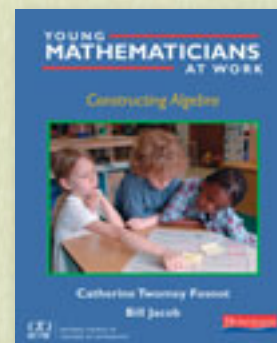
Gr 1-6 / 978-0-325-03053-1 / 2011 / 240pp / \$21.00



Math Misconceptions
From Misunderstanding to Deep Understanding

Honi Bamberger, Christine Oberdorf, and Karren Schultz-Ferrell

Gr PreK-5 / 978-0-325-02613-8 / 2010 / 224pp / \$18.37



Young Mathematicians at Work: Constructing Algebra

Catherine Twomey Fosnot

Gr K-8 / 978-0-325-02841-5 / 2010 / 224pp / \$21.87

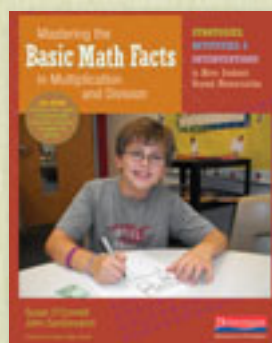


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Strategies, Activities & Interventions to Move Students Beyond Memorization

Susan O'Connell and John SanGiovanni

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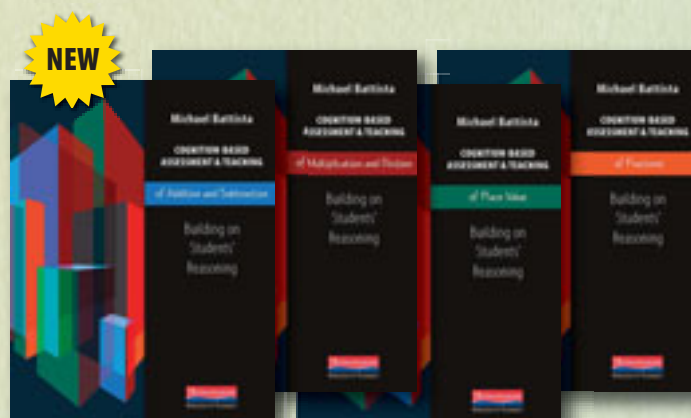


Mastering the Basic Math Facts in Multiplication and Division

Strategies, Activities & Interventions to Move Students Beyond Memorization

Susan O'Connell and John SanGiovanni

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FRIDAY

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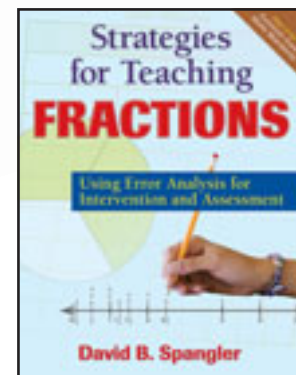
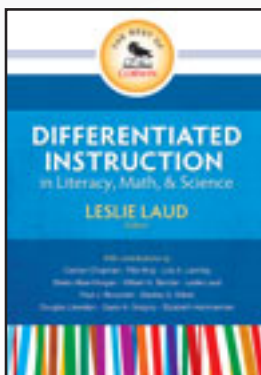
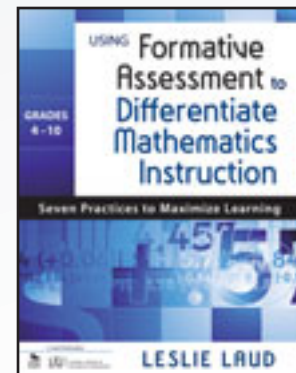
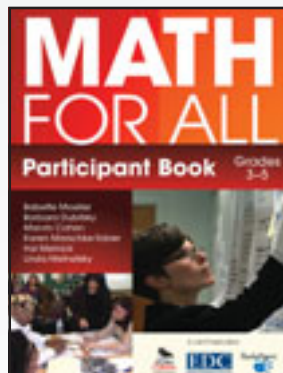
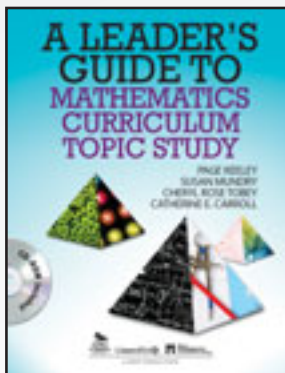
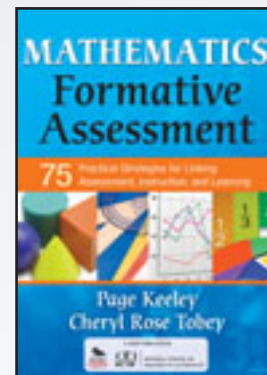
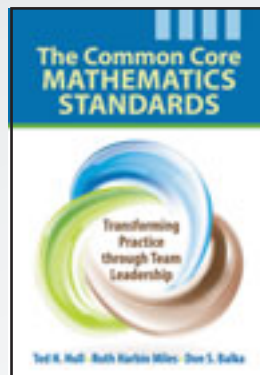
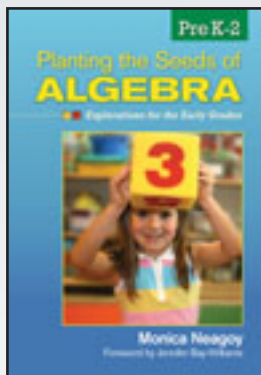


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FRIDAY

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Agenda **FRIDAY**








HIGHLIGHTS

Iris M. Carl Equity Address (Presentation 437)
NCTM Business Meeting (Presentation 530)
NCTM President-Elect's Address (Presentation 543)
New Teacher Celebration (Presentation 621)

ICON LEGEND

Presentation Numbers

 Common Core State Standards	327, 372, 378, 429, 466, 468, 541, 553
 Core Math Tools	337, 607, 615
 NCTM Committee Presentations	380.1, 434
 New Teacher Strand	353, 361, 404, 412, 419, 464, 472, 503, 578, 596, 621
 Exhibitor Workshop	343.1, 343.2, 343.3, 343.4, 404.1, 404.2, 404.3, 404.4, 466.1, 466.2, 466.3, 466.4, 497.1, 497.2, 497.3, 558.1, 558.2, 620.1, 620.2



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FRIDAY

REGISTRATION HOURS

7:00 a.m.–4:00 p.m.

EXHIBITS AND BUZZHUB HOURS

10:00 a.m.–6:00 p.m.

BOOKSTORE HOURS

7:30 a.m.–6:30 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 conform to fire codes, it will be necessary to ask persons sitting on the floor or standing to leave the room.

8:00 A.M.–9:00 A.M.

313 Alternatively Certified Teachers Bring Diverse Mathematical Outlooks to Underserved Students

(General Interest) Session

Benjamin Banneker Association Presentation

Mathematics teachers who choose to enter our urban schools through alternative routes often have wide-ranging previous professional mathematics-related experience. These experiences may bring fresh mathematical outlooks to traditionally underserved students, with the goal of preparing students for future college and employment successes.

Della Leavitt

Benjamin Banneker Association, Chicago, Illinois

Brian Evans

Pace University, New York, New York

Marlene Collins

Chicago Public Schools, Illinois

103 A (CONVENTION CENTER)

314 Educators of Native American Students

(General Interest) Session

The speaker will discuss ways to address Native American students' underrepresentation in all science, technology, engineering, and mathematics fields. He will also have resources for grades K–12 teachers specific to integrating Native American culture into mathematics.

Richard Sgarlotti

Hannahville Indian School, Wilson, Michigan

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

ICON LEGEND



Common Core State Standards



Core Math Tools



NCTM Committee Presentations



New Teacher Strand



Exhibitor Workshop

315 Et Tu, Mathematics? Examining Cultural Assumptions in Mathematics Materials

(General Interest) Session

TODOS: Mathematics for ALL Presentation

Is mathematics neutral? What other lessons, aside from math, do the materials we offer students contain? What values do the problems we choose and the textbooks we use imply and transmit? Analyze textbooks, trade books, and standards and discuss whether these match the values we espouse. Receive a detailed electronic handout.

Anita Bright

American University, Washington, D.C.

Hannah Madoff

Friendship Collegiate Academy, Washington, D.C.

Emily Davis Olson

Cesar Chavez Charter Schools, Washington, D.C.

121 B (CONVENTION CENTER)

316 Lessons from Research

(General Interest) Session

Math education is in a state of dramatic change. At the core are learning trajectories—research-based paths of learning and teaching. What reliable guidance does research give for using new standards, curricula, and teaching strategies? Discuss lessons from recent research.

Douglas Clements

University at Buffalo, State University of New York

Julie Sarama

University at Buffalo, State University of New York

TERRACE BALLROOM 4 (CONVENTION CENTER)

317 Math Leadership: A Small Fish in a Sea of Change?

(General Interest) Session

As funding and support has shifted, learn how the Milwaukee Mathematics Partnership continues supporting and developing math leaders and educators in a large, urban district. The speaker will share a math leadership system of support that moves among and between classrooms to district level and beyond.

Astrid Fossum

Milwaukee Public Schools, Wisconsin

SALON F (MARRIOTT DOWNTOWN)

8:00 A.M.–9:00 A.M.

318 Supporting the Mathematical Practices: What's in Your Coaching Toolkit?

(General Interest) Session

For students to develop the processes and proficiencies of the Common Core State Standards for Mathematical Practice, coaches and teachers must target these practices. Explore and discuss various coaching tools that can support coaches and teachers in helping students become mathematically proficient. You will leave with a collection of tools.

Maggie McGatha
University of Louisville, Kentucky

Jennifer Bay-Williams
University of Louisville, Kentucky

202 A/B (CONVENTION CENTER)

319



Using Title I Funds to Improve Mathematics Achievement

(General Interest) Session

The Title I National Association and NCTM are working together to explore resources and education strategies for mathematics teachers.

The speakers will focus on practices instituted in Title I Distinguished Schools that offer outstanding professional development for teachers and effective math instructional strategies that have helped low-achieving students.

Gayle Pauley, the current National Title I Association President and Washington state's Title I director, has been an elementary school teacher and a district gifted program manager, and has worked the last 18 years at the state's department of education. As a teacher, she worked both with high-achieving students in mathematics and with those who found math difficult. Understanding the need to know more about mathematics teaching, she joined a national committee to explore a partnership that focused on the academic instructional needs of low-achieving mathematics students and laid the ground work for developing teachers' resources.

Gayle Pauley
National Title I Association, Olympia, Washington

Nancy Konitzer
Arizona Department of Education, Phoenix

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

320

Bar-, Pie-, and Picto-Graphs: Young Children's Mathematical Reasoning about Data

(Pre-K–2) Session

What do three-to-six-year-old children understand when they see a graph? What is their understanding's learning trajectory? The speakers will present evidence-based lessons, activities, and teaching strategies that engage pre-K and primary school children in rich discussions about data management, describing three units and offering lesson plans.

Julie Comay
Dr. Eric Jackman Institute of Child Study, University of Toronto, Ontario, Canada

Carol Stephenson
Dr. Eric Jackman Institute of Child Study, University of Toronto, Ontario, Canada

Norah L'Espérance
University of Toronto, Canada

120 C (CONVENTION CENTER)

321

Cowboys and Princesses Problem Solving: Motivating Students to Enjoy Math

(Pre-K–2) Session

Primary grades students love to pretend in the imaginary world of storybooks. Why not have storybook characters inspire your students to solve problems? This presentation will share research-based approaches that motivate students to solve problems through storybooks. Sample lessons connected to the Common Core State Standards will be shared.

Jane Wilburne
Penn State Harrisburg, Middletown, Pennsylvania

Jane Keat
Penn State Harrisburg, Middletown, Pennsylvania

122 A (CONVENTION CENTER)

FRIDAY

8:00 A.M.–9:00 A.M.

322 Let's Make Tens: An Alternative to Memorization

(Pre-K–2) Session

Memorization and number sense may not go hand in hand. Experience fact fluency expressed as tens and ten and some, and larger numbers with purposeful decomposition on numbers. Let's move beyond brute memorization to understanding how numbers work.

Deborah Donovan

Educational Resources Group, Inc., Charleston, South Carolina

114 (CONVENTION CENTER)

323 How I Got Fat from Teaching Math

(Pre-K–5) Session

Students become more interested in any topic when it involves food. Learn how to get students actively engaged in their learning by using different types of candy and other foods to teach a variety of mathematical ideas. Many different concepts will be discussed, such as decimals, fractions, probability, patterns, and algebra.

RuthAnn Kinker

South Hill Elementary School, Virginia

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

324 Iterative Model Building: Eliciting Students' Geometric Thinking through Questioning Techniques

(3–5) Session

The presentation will help teachers better understand student thinking and reasoning by improving teacher questioning techniques. The session will focus on improving questioning strategies to elicit geometric student thinking. Participants will be presented with scenarios and have the opportunity to reflect on their questioning strategies.

Julie Amador

Indiana University Bloomington

Crystal Vesperman

Indiana University Bloomington

Heidi Wiebke

Indiana University Bloomington

109 A/B (CONVENTION CENTER)

325 Thinking Outside the Word Problem

(3–5) Session

Do your students need an alternative to word problems? Do they simply choose two numbers from a word problem and compute an answer without actually reading? Come learn about tasks that immediately engage your students but involve few or no words. These tasks will allow your students to shine when given a chance to think outside the word problem.

Sydney Holbert

University of Mississippi, University

119 A (CONVENTION CENTER)

326 Enhancing Students' Writing and Interpretation Skills in Numerical Expressions

(3–8) Session

Writing and interpreting numerical expressions are very important skills for enhancing students' mathematical and algebraic thinking. The Common Core State Standards recognizes the importance of developing such skills and emphasizes the skills throughout grades K–8. Come learn how Japanese teachers and grades 1–6 textbooks help to develop these skills.

Makoto Yoshida

William Paterson University, Wayne, New Jersey

117 (CONVENTION CENTER)

327 Multiplication to Ratio, Proportion, and Fractions in the CCSS

(3–8) Session

The speakers explicate and exemplify the G6 CCSS's first crucial area. They will show how all multiplication and division situations extend to ratio and rate, first with whole-number ratio pairs and later with fractional unit ratios. Students differentiate ratios and fractions and solve a wide variety of problems involving both.

Karen Fuson

Consultant, Fallbrook, California

Sybilla Beckmann

University of Georgia, Athens

113 A (CONVENTION CENTER)

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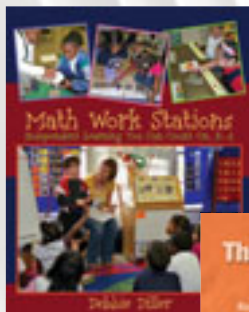
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Debbie Diller

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Marco Ramirez

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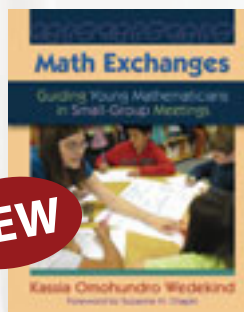


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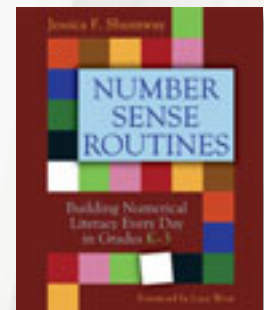


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Jessica F. Shumway

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8:00 A.M.–9:00 A.M.

328 Exploring Middle Grades Geometry Using Google SketchUp®

(6–8) Session

Learn about the basics of Google's free, 3-D geometry software, and a variety of classroom-ready explorations on cross-sections and scaling. The speakers encourage bringing a laptop (with battery power) with Google SketchUp downloaded (sketchup.google.com) so you can participate actively in the presentation.

Suzanne Harper
Miami University, Oxford, Ohio

Shannon Driskell
University of Dayton, Ohio

BALLROOM B (CONVENTION CENTER)

329 Using the iPod Touch in Collaborative Math Activities

(6–8) Session

The iPod Touch and other iOS devices are wonderful tools for supporting data collection and math investigations. The speakers will share a collection of iOS apps that explore mathematics or integrate it with other subjects in collaborative learning activities, along with lessons learned from using these in middle school classrooms.

Timothy Pelton
University of Victoria, British Columbia, Canada

Leslee Francis Pelton
University of Victoria, British Columbia, Canada

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

330 What Do Skiing and Algebra Have in Common? Slope

(6–8) Session

Students often memorize the slope formula only to use it incorrectly. Get students to think like mathematicians and build a deep understanding of slope using graphs, tables, and equations. Learn to connect prior learning, using similar triangles to find slope, and recognize it as the proportional constant in direct variation.

Ann Marie Spinelli
Bristol Public Schools, Connecticut

Kathy Gavin
University of Connecticut, Storrs

203 A/B (CONVENTION CENTER)

331 Whole-Class Mathematical Discourse: Creating Cultures of Participation

(6–8) Research Session

Whole-class mathematical discourse is essential for helping students learn to reason. This presentation will highlight results of a study that focused on middle-level mathematics teachers' perceptions of whole-class mathematical discourse. It will describe the facilitation strategies these teachers used to include and encourage participation from all students.

Cory Bennett
Idaho State University, Pocatello

123 (CONVENTION CENTER)

332 Digging Deep into Polynomials with Virtual Algebra Tiles: Action Research

(6–12) Research Session

Discover how using virtual algebra tiles on a SMART Board helped draw one teacher's algebra students into a community of learners. The action research data indicated that digging deep with virtual algebra tiles developed a deep understanding of quadratic expressions and fostered an atmosphere of excitement and peer learning.

Angela Greene
Ball State University, Muncie, Indiana

SALON H (MARRIOTT DOWNTOWN)

FRIDAY

New to Teaching?

Get answers to pivotal questions and concerns of new and soon-to-be teachers at the New Teacher Strand on Friday.

8:00 A.M.–9:00 A.M.

333

Making Math out of March Madness

(6–12) Session

March is the time when basketball fans turn their thoughts to bracketology. Use the NCAA tournament's single-elimination format to examine exponential and piecewise functions. With graphing technology, model the various bracket formats used over the years—from eight to 68 teams—and generate equations for those models.

Jennifer Axley

Blount County Schools, Maryville, Tennessee

SALON C (MARRIOTT DOWNTOWN)

334

Targeted Connections: Making the Drop—Parachutes and Mathematical Modeling

(6–12) Session

Consider the complex challenge of delivering supplies by plane. Explorations with falling objects and interactive computer simulations will focus on speed analysis, descent path, and accuracy. Explore factors tied to the container's surface area and volume. Design topics will include comparisons of cost, safety, and ease of use.

Cheryl Malm

Northwest Missouri State University, Maryville

Patricia Lucido

Targeted Connections, Lee's Summit, Missouri

TERRACE BALLROOM 1 (CONVENTION CENTER)

335

The Power of Previewing for English Language Learners (ELLs)

(6–12) Session

How do successful teachers increase academic growth for ELLs? How can we prepare ELLs to engage in math class? The challenge of grade-level content for ELLs is considerable. Learn how teachers prepare and support ELLs to be successful. Find out how to collaborate with teachers of ELLs and introduce them to the power of previewing.

Patricia Aube

Fitchburg Public Schools, Massachusetts

Bonnie Baer-Simahk

Fitchburg Public Schools, Massachusetts

107 A/B (CONVENTION CENTER)

336

Using Functions Tables to Enhance Proportional Reasoning

(6–12) Session

Many students' knowledge of proportional reasoning lacks depth. Well-versed in the mechanics of cross-multiplication, they lack an understanding of what a proportion really is. Participants will create adapted function tables that will help students gain a deeper understanding of the relationships shown in a proportion.

John Anderson

Houghton Mifflin Harcourt Publishers, Boston, Massachusetts

Stephen Hake

Houghton Mifflin Harcourt Publishers, Boston, Massachusetts

108 A (CONVENTION CENTER)

CMT 337

Making and Supporting Statistical Inferences with Core Math Tools

(9–12) Session

This presentation will focus on taking part in lessons that demonstrate how to use Core Math Tools software to enhance students' understanding of some important statistics standards in the Common Core State Standards. The investigations will center on the high school statistics domain, "Making Inferences and Justifying Conclusions."

Patrick Hopfensperger

University of Wisconsin—Milwaukee

201 B (CONVENTION CENTER)

338

Trees Bloom Decisions When Cultivated with Probability and Expected Value

(9–12) Session

Using tree diagrams and expected value, construct a decision tree and use it to decide how large a deductible on automobile collision insurance to carry. The speakers will use an Excel spreadsheet to model the probability of having accidents of various damage amounts and conduct simulations using the associated probabilities.

Thomas Edwards

Wayne State University, Detroit, Michigan

S. Asli Ozgun-Koca

Wayne State University, Detroit, Michigan

204 B (CONVENTION CENTER)

FRIDAY

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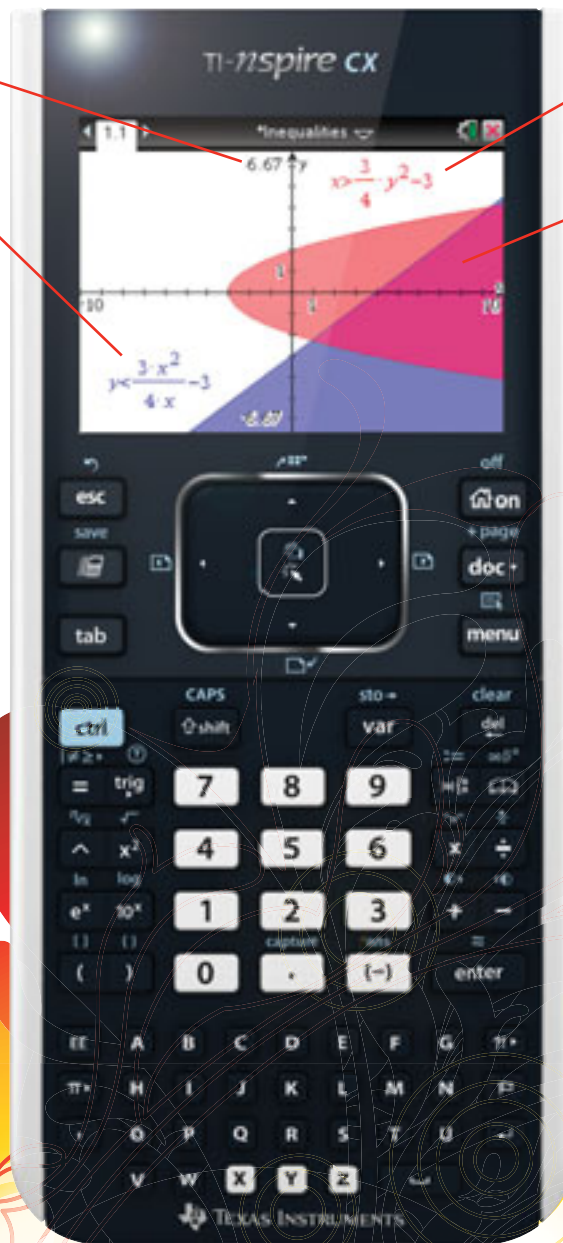
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8:00 A.M.–9:00 A.M.

339 Using Fathom to Develop Linear Regression and Residual Plots

(9–12) Session

The Common Core State Standards requires using technology to find correlation coefficients and least-square lines. Learn how to use software so that students see technology not as a magic box, but as a tool for developing a conceptual understanding for finding least-squares lines, finding correlation coefficients, and creating residual plots.

Timothy Pope
Key Curriculum Press, Emeryville, California

115 C (CONVENTION CENTER)

340 Problem Solving and Critical Thinking in Online Teaching

(9–12, Higher Education) Session

This presentation will introduces a model for online mathematics teaching that supports students' ability to work independently and makes opportunities for critical thinking. The model includes materials based on transactional reading strategies, interactive podcasts, YouTube videos for technology instruction, and online teaching sessions.

Eileen Fernandez
Montclair State University, Upper Montclair, New Jersey

125 (CONVENTION CENTER)

341 Differential Equations Made Visual through Modeling with Matlab Simulink

(Higher Education) Session

Matlab Simulink creates a graphical, interactive representation of almost any real-life situation for easy experimentation, constructing a diagram of the problem and solving it numerically. The speakers will give an entry-level tutorial and construct models with attendees. Several take-home modules will be available.

Benjamin Wiles
Purdue University, West Lafayette, Indiana

Casey Hord
Purdue University, West Lafayette, Indiana

SALON D (MARRIOTT DOWNTOWN)

342 Haley's Method for Solving Problems of Linear Relations

(Preservice and In-Service) Session

Haley, a preservice elementary school teacher, made a good "mistake" solving a problem, changing the course of instruction for the whole class. The speakers will discuss the instructor's planned solutions, the iterative algorithm behind Haley's method, and its limitations, extensions, and implications in mathematics teacher education.

Haley Bollman
Southern Illinois University, Carbondale

Lingguo Bu
Southern Illinois University, Carbondale

126 B (CONVENTION CENTER)

343 How Can We Improve Students' Success with Algebra?

(Preservice and In-Service) Session

Why do many "successful" elementary school students have so much difficulty with formal algebra? How can we diagnose common misconceptions that many children develop regarding number and operations? Reveal "cracks" in students' thinking that may keeping them from understanding algebra. Discover one district's plan to fill those cracks.

Debi DePaul
STEPS Professional Development, Norwell, Massachusetts

Courtney Nelson
STEPS Professional Development, Norwell, Massachusetts

Anne Swant
Walla Walla School District, Washington

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

8:30 A.M.–9:30 A.M.

ew 343.1 Engaging Your Math Students through Online Interactive Learning

(General Interest) Exhibitor Workshop

Comprehensive Common Core digital math textbooks from Kinetic Books take maximum advantage of current technology. Through many interactive activities, digital stimulation with narrated instruction, self assessment, and problem-solving support, Kinetic Books allow teachers and students to realize the promise of a digital learning environment today.

Perfection Learning
Clive, Iowa

115 B (CONVENTION CENTER)

FRIDAY

8:30 A.M.–9:30 A.M.

ew 343.2
Simply Calculate the Difference

(General Interest) Exhibitor Workshop

Presented by Amber Branch. Technology that grows with students as they advance through mathematics! Explore Casio's redesigned, seamless and intuitive fraction and scientific calculators, from elementary to engineering! Our patented natural display removes technological barriers to learning, giving Educators what you need, when you need it!

Casio America, Inc.
Dover, New Jersey

118 B (CONVENTION CENTER)

ew 343.3
**Focus on Mathematical Practice:
Seven Teaching Actions to Enrich
Problem-Based Interactive Learning**

(Pre-K–5) Exhibitor Workshop

We all agree that asking students to think harder doesn't work. Instead, incorporate seven effective teaching actions to create rich classroom conversations and develop conceptual understanding. Experience how to use tablet technology to amplify envisionMATH Common Core Problem-Based Interactive Learning in your daily instruction.

Pearson
Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

ew 343.4
**One Giant Leap for Mathkind:
TI-Nspire™ Excites Students and
Transforms Learning**

(6–12) Exhibitor Workshop

See why TI-Nspire makes students' interest skyrocket. TI-Nspire CX technology brings math and science to life with a full-color display, interactive touchpad, photos and images, real-time data collection, and multiple representations on a single screen. The TI-Nspire CX Navigator system lets you see what every student is thinking and doing at any time!

Texas Instruments
Dallas, Texas

113 B (CONVENTION CENTER)

8:30 A.M.–10:00 A.M.

344
**Enacting Effective Response to
Intervention (RtI) for Primary
Grades Mathematics**

(Pre-K–2) Gallery Workshop

Learn about the constructive collaboration among teachers who have worked together to document and address all primary grades students' needs. See how they designed and analyzed formative assessments and used evidence-based interventions to monitor and facilitate students' progress successfully with the Common Core State Standards and RtI.

Alice Gabbard
Kentucky Center for Mathematics, Highland Heights

121 C (CONVENTION CENTER)

345
**Examining the Difficulties Students
Have with Early Number**

(Pre-K–2) Gallery Workshop

A crucial challenge in grades pre-K–2 involves assisting students who have the most difficulty in mathematics. The speakers will examine students' difficulties with early number and operation and share specific strategies and tasks for addressing them.

John Lannin
University of Missouri—Columbia

Delinda van Garderen
University of Missouri—Columbia

105 A/B (CONVENTION CENTER)

346
**Learn through Play Using a
100-Square Floor Mat**

(Pre-K–2) Gallery Workshop

Let's play through math on a large, 100-square floor mat. Learn many games and strategies to teach concepts effectively in all five math strands. See how easily you can involve children in their own learning, and take many ideas back to the classroom for Monday morning.

Wendy Hill
The Learning Carpet (TLC), Inc., Huntsville, Ontario, Canada

121 A (CONVENTION CENTER)

8:30 A.M.–10:00 A.M.

347 Make Every Day Count with Games for Developing Number Concepts

(Pre-K–2) Gallery Workshop

Experience partner games that use visual models, ten grids, and counters, to help children develop instant recognition of small sets, reason to master facts, group, count, and construct mental strategies. Focus will be on use for developing math language and assessment. Materials provided for classroom, intervention, after-school, and parent use.

Janet Gillespie

Great Source—Houghton Mifflin Harcourt Specialized Curriculum, Orlando, Florida

118 A (CONVENTION CENTER)

348 To 10 and beyond Using Free Illuminations Resources

(Pre-K–2) Gallery Workshop

Ten fingers, 10 toes, 10 digits—learning why ten is so special is a key to learning early math concepts. Explore and enjoy a variety of ready-to-use resources and games about pairs adding to 10, place value, and operations on two-digit numbers. Best of all, everything is available free from the NCTM Illuminations project (illuminations.nctm.org).

Julia Zurkovsky

National Council of Teachers of Mathematics, Reston, Virginia

SALON A/B (MARRIOTT DOWNTOWN)

349 Curricular Treatment of Primary Concepts in Length, Area, and Volume

(Pre-K–5) Gallery Workshop

Engage in activities to build an understanding of measurement by comparing and contrasting how U.S. textbooks develop important ideas like unit iteration and space structuring in length, area, and volume. Talk about what research says and possible improvements to those materials' existing content.

Funda Gonulates

Michigan State University, East Lansing

Lorraine Males

Michigan State University, East Lansing

SALON I/J (MARRIOTT DOWNTOWN)

350 Exploring Tangible Geometric Concepts through Hands-On Activities

(Pre-K–5) Gallery Workshop

Explore geometry concepts and foster creativity through hands-on learning activities with concrete geometry instructional materials. These classroom-tested activities can be used for all diverse learners including the gifted. Construct figures using the materials, and leave with samples and handouts.

Hyo-sook Yang

4D Land—4D Mathematical and Scientific Creativity Institute, Seoul, Republic of Korea, South Korea

Insook Chung

Saint Mary's College, Notre Dame, Indiana

201 A (CONVENTION CENTER)

351 Using Photographs to Illustrate Math Stories

(Pre-K–5) Gallery Workshop

The speakers will illustrate two of the best recent trade books featuring math, *For Good Measure* and *Growing Patterns*, with photographs. Learn how your students can use digital storytelling and photography to develop expertise in Common Core State Standards Mathematical Practice 4: Model with mathematics.

Sarah Campbell

Author, Jackson, Mississippi

Beth West

Davis Magnet International Baccalaureate World School, Jackson, Mississippi

124 (CONVENTION CENTER)

352 All Hands On Deck: Math Games for Elementary School Students

(3–5) Gallery Workshop

Are you looking for way to motivate and engage all your students? Come prepared to play card and dice games that help them master the operations, place value, fractions, and more. Experience the power of games for delivering curriculum and reaching all learning styles. Reproducible game boards and samples for students will be shared.

Allison Riddle

Box Cars & One-Eyed Jacks, Salt Lake City, Utah

204 A (CONVENTION CENTER)

FRIDAY

8:30 A.M.–10:00 A.M.



353

Classroom Management and Motivation through Inquiry Mathematics

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

You can create effective classroom management and motivation through inquiry-based, engaging math activities. This environment fosters learning, invites students' participation, and creates a manageable classroom climate. Learn strategies to create this rich learning environment as well as ways to differentiate to meet every student's learning needs.

Kimberley Englert

Jefferson County Public Schools, Louisville, Kentucky

E. Todd Brown

University of Louisville, Kentucky

113 C (CONVENTION CENTER)

354

Building Common Core Mathematical Practices through Early Algebra

(3–8) Gallery Workshop

The Common Core State Standards (CCSS) identifies eight mathematical practices that all students should acquire. Early algebra offers a powerful way to build these practices in grades K–8. Examine research-based early algebra activities, their effectiveness in grades 3–5, and their connections to CCSS mathematical practices.

Maria Blanton

TERC, Cambridge, Massachusetts

Angela Gardiner

University of Massachusetts—Dartmouth

Timothy Marum

University of Massachusetts—Dartmouth

BALLROOM A (CONVENTION CENTER)

355

Examining the Area, Perimeter, Volume, and Surface Area

(3–8) Gallery Workshop

This presentation will offer hands-on activities to help students understand and derive formulas for area and perimeter of rectangles and circles, as well as the volume and surface area of prisms and cylinders. Examine how these quantities change when one measured attribute changes, as shown in Common Core State Standards 5.MD.3, 5.MD.4, 6.G.2, 6.G.4, and 7.G.6.

Eric Shippee

College of William and Mary, Williamsburg, Virginia

Marguerite Mason

College of William and Mary, Williamsburg, Virginia

126 A (CONVENTION CENTER)

356

Fractions: The Whole Story

(3–8) Gallery Workshop

Many students struggle to understand fractions. Why are fractions so difficult? This interactive gallery workshop will explore fractions from a developmental perspective. See how to use everyday tools to support students as they develop their conceptual understanding, and investigate a variety of procedures to work with the four arithmetic operations.

Kit Norris

Consultant, Southborough, Massachusetts

118 C (CONVENTION CENTER)

357

Math and the Reluctant Learner

(3–8) Gallery Workshop

Reaching important math standards is a goal for all students, but some have difficulty reaching them due to language processing problems and other disabilities. Widen your techniques to teach a range of intelligences and learning styles. Engaged in tactile and visual activities and games to help your most needy students.

John Hinton

Long Island University—C. W. Post Campus, Brookville, New York

111 A/B (CONVENTION CENTER)

ICON LEGEND



Common Core State Standards



Core Math Tools



NCTM Committee Presentations



New Teacher Strand



Exhibitor Workshop

FRIDAY

8:30 A.M.–10:00 A.M.

358 Probabilistically Correct: Simulations and Games That Build Intuition

(3–8) Gallery Workshop

Engage in probability simulations and games that can be implemented immediately in the classroom. These fun, motivating activities help students build intuition about probability. Make connections to technology and other disciplines.

Dovie Kimmins

Middle Tennessee State University, Murfreesboro

Jeremy Winters

Middle Tennessee State University, Murfreesboro

FRANKLIN HALL 12/13 (MARRIOTT DOWNTOWN)

359 Infusing Technology into the Classroom with Texas Instruments and Friends

(6–8, Preservice and In-Service) Gallery Workshop

Benjamin Banneker Association Presentation

This hands-on gallery workshop will lead you in step-by-step instructions that guide you and your students to a new level of mathematics and science synergy, conceptual knowledge, and real-world application. Students will be amazed when they make connections between textbook content and everyday life as they participate in these activities.

Vanessa Wimberly

School District of Philadelphia, Pennsylvania

Gloria Facey

School District of Philadelphia, Pennsylvania

SALON G (MARRIOTT DOWNTOWN)

Make time to explore
the **Exhibit Hall** for
the latest educational
resources

360 The Power of Formative Assessment

(6–8, Preservice and In-Service) Gallery Workshop

Formative assessment gives teachers and students feedback during instruction, to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes. Come experience two minilessons that demonstrate how formative assessment practices offer more powerful learning for students.

Eric Karnowski

Education Development Center, Newton, Massachusetts

Cheryl Tobey

Education Development Center, Newton, Massachusetts

FRANKLIN HALL 3/4 (MARRIOTT DOWNTOWN)



361 Building Lessons for All Students

(6–12) Gallery Workshop

Develop lessons to meet the needs of your classroom's wide range of students. Examine strategies in many different aspects of lesson development, including design, multiple entry points, questioning, activity selection, assignment choice, technology, and assessment. Discuss how to get all students engaged and learning mathematics.

Edward Nolan

Montgomery County Public Schools, Rockville, Maryland

108 B (CONVENTION CENTER)

362 Fractal Functions: Connecting Geometry, Measurement, and Algebra

(6–12) Gallery Workshop

Use concepts of geometry and measurement to make fractal cards. Then, use the cards to develop the concept of function by representing their characteristics with words, symbols, tables, and graphs. Examine how to use the activities to differentiate instruction in diverse classrooms and serve as assessments. Classroom-ready materials will be available.

Teri Willard

Central Washington University, Ellensburg

122 B (CONVENTION CENTER)

FRIDAY

8:30 A.M.–10:00 A.M.

363 Geogebra's Interactive Graphics and Spreadsheets

(6–12) Gallery Workshop

Welcome to the GeoGebra movement, driven by free, interactive mathematics software. See how GeoGebra can transform your classroom into a room full of visualization and in-depth learning. The speakers will dive into the past, present, and future of GeoGebra, using its many algebraic, geometric, and statistics tools.

Edward Knot

Broward County Public Schools, Fort Lauderdale, Florida

Evonne Pankowski

Pines Middles School, Pembroke Pines, Florida

116 (CONVENTION CENTER)

364 How Do You Know What Your Students Know?

(6–12) Gallery Workshop

Why do we assess students? How do you assess your students? What myths surround assessment? Join the speaker for activities, tips, and tricks that will get you thinking differently about how you assess your students. Reflect on your own uses of assessment, and experience alternative assessment forms firsthand.

Christine Latulippe

Norwich University, Northfield, Vermont

201 C (CONVENTION CENTER)

365 Teaming Technology with Financial Literacy: Capturing Students' Interest

(6–12) Gallery Workshop

Motivating students to achieve personal success in mathematics is a teacher's ongoing concern, because many students shut down when faced with challenges. See how, through differentiated technological activities, diverse learners can use technology to learn the basics of financial literacy. Handouts will be included.

Susan Brooks

Prince William County Public Schools, Manassas, Virginia

Brooke Lancaster

Fairfax County Public Schools, Falls Church, Virginia

SALON E (MARRIOTT DOWNTOWN)

366 Tools? Toys? Technology? Engaging Students in Algebra

(6–12) Gallery Workshop

How do manipulatives and interactive whiteboard (IWB) technology affect teaching algebra? How can we integrate these resources effectively into mathematics instruction? Where do virtual manipulatives fit? Learn about the research behind these models of instruction and strategies for integrating manipulatives and IWB tools into your algebra class.

Sara Moore

ETA/Cuisenaire, Vernon Hills, Illinois

FRANKLIN HALL 9/10 (MARRIOTT DOWNTOWN)

367 You Are So Significantly Cool

(6–12) Gallery Workshop

How would you determine whether an observation is extraordinary? The speaker will present classroom data-collection ideas and simulations that will intrigue students with examinations of summary statistics, characteristics of distributions, and concepts of sample spaces. See how to use conditional probability to analyze sensitive survey questions.

Frances Chin

Clifton High School, New Jersey

FRANKLIN HALL 1 (MARRIOTT DOWNTOWN)

368 Algebra 2 & Trigonometry: Wrap Your Brain And Hands Around It!

(9–12) Gallery Workshop

Participate in some fun, quick Algebra 2 and trigonometry activities that will increase students' interest and teachers' enthusiasm by engaging students. Discover how using simple things like M&M's, toothpicks, paper plates, patty paper, rope, cone cups, movement, and singing will spice up your teaching and help students retain what they learn.

Gary Kubina

Consultant, Mobile, Alabama

SALON K/L (MARRIOTT DOWNTOWN)



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8:30 A.M.–10:00 A.M.

369 AP Calculus: Strategies to Support All Learners

(9–12) Gallery Workshop

Math teachers need to use strategies in Advanced Placement precalculus and calculus that will make calculus concepts and skills more accessible to students. Try out Rule of 4 link sheets, sorts and matches, webs, concept splashes, labs, and learning stations. Gain access to hundreds of examples on our website.

Carol Hynes

Retired, Leominster Public Schools, Massachusetts

FRANKLIN HALL 6/7 (MARRIOTT DOWNTOWN)

370 A Spotlight on Problem Solving for Math Contests

(9–12) Gallery Workshop

Do you have keen students? Are you looking to challenge them? Work in groups to solve engaging, curriculum-based problems from mathematics contests. Discover how to use these problems to support curricular and enrichment activities. Learn about a single source of more than 2,500 free contest problems with full solutions to use in class.

Mike Eden

University of Waterloo, Ontario, Canada

115 A (CONVENTION CENTER)

371 Using Technology to Develop Statistical Thinking: Understanding Distributions

(9–12) Gallery Workshop

Thinking about data as distributions rather than isolated data points is key to students' understanding of statistical inference. This gallery workshop will focus on how to use technology to develop students' distributional thinking. Engage in activities suitable for classroom use.

Roxy Peck

California Polytechnic State University, San Luis Obispo

119 B (CONVENTION CENTER)

372 Making Sense and Modeling Mathematics: Common Core State Standards (CCSS) with TI-Nspire™ Technology

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

The CCSS increases modeling expectations. Focus on making sense hands-on of two mathematical topics through modeling with TI-Nspire technology and its teacher edition software. Navigator will engage participants and demonstrate advantages of wireless classrooms.

Jeremy Zelkowski

University of Alabama, Tuscaloosa

Stephen Bismarck

Keene State College, New Hampshire

204 C (CONVENTION CENTER)

373 Mathematical Modeling: What Does It Mean?

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

Want to give your students an experience in mathematical modeling? Looking for models to use? Want some ideas on how to incorporate modeling into your classroom and how to evaluate them? At the risk of being overloaded with information, attend this gallery workshop and have all these wants fulfilled.

Margaret Kidd

California State University, Fullerton

120 A/B (CONVENTION CENTER)

374 The Importance of Language and Culture in Mathematics Education

(Preservice and In-Service) Gallery Workshop

TODOS: Mathematics for ALL Presentation

As educators, you focus on content and effective ways of delivering instruction. But do you know your students' backgrounds? Jigsaw some readings, and participate in a simulation. These activities will help you become more aware of language's and culture's effects in your mathematics classrooms.

Bob McDonald

TODOS: Mathematics for ALL, Tempe, Arizona

103 C (CONVENTION CENTER)

9:30 A.M.–10:30 A.M.

375



Euclid's *Elements*: A Dynamic Geometry Perspective

(General Interest) Session

Modern tools, like Sketchpad, and modern applications, like fractals and computer graphics, have revitalized school geometry. Yet “the most famous textbook ever,”

Euclid's *Elements*, has dominated geometry's development for millennia. Take a fresh look at the book's mathematical and cultural impact from our current, technology-rich perspective.

Nicholas Jackiw, chief technology officer of KCP Technologies, designed the software for The Geometer's Sketchpad® and was chief programmer for several of its versions. He acts as a software design consultant, working with schools in field testing and software evaluation. As principal investigator and senior scientist on Small Business Innovative Research projects, he has written numerous articles on Dynamic Geometry's impact and potential.

Nicholas Jackiw

KCP Technologies, Inc., Emeryville, California

TERRACE BALLROOM 1 (CONVENTION CENTER)

376

Get All Students Communicating Mathematically through Interactive Writing

(General Interest) Session

Why do students who love texting also hate writing in math class? Learn writing strategies that can make communicating about mathematics interactive and meaningful, even for struggling students. Give students a purpose for writing through problem-solving activities, and get them discussing their thinking with an audience through social media.

Christina Foran

Tennessee School for the Deaf, Knoxville

Rebecca Candino

Tennessee School for the Deaf, Knoxville

202 A/B (CONVENTION CENTER)

377

Out-of-School-Time (OST) Math Programs for Girls

(General Interest) Session

Women and Mathematics Education Presentation

OST programs—conducted in summer, after school, on weekends, or online—are on the rise. The speaker will present a summary of research-based benefits of and best practices in OST education. She will focus on females in mathematics, especially low-income girls, and share sample programs and useful resources.

Lynda Wiest

University of Nevada, Reno

121 B (CONVENTION CENTER)



378

Probability and Statistics in the CCSSM and *Principles and Standards*

(General Interest) Session

This session will compare treatments of probability and statistics in the Common Core State Standards for Mathematics (CCSSM) and NCTM's *Principles and Standards*. The speaker will make suggestions on how to interweave probability and statistics attributes of *Principles and Standards* with those of CCSSM for a richer experience for all students.

Jim Bohan

Intelligent Education LLC, Lancaster, Pennsylvania

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

379

The Common Core State Standards (CCSS) and the Shifting Curricular Landscape

(General Interest) Research Session

The speaker will report analyses of state standards and the CCSS. Specifically, they will give results identifying changes for grades K–8 mathematics expectations, a comparison of the extra 15 percent of mathematical content added across states, high school standards' organization, and timelines for implementation.

Dawn Teuscher

Brigham Young University, Provo, Utah

Shannon Dingman

University of Arkansas, Fayetteville

Jill Newton

Purdue University, West Lafayette, Indiana

120 C (CONVENTION CENTER)

FRIDAY

9:30 A.M.–10:30 A.M.

380 Using Research in Mathematics Educational Technology to Guide Classroom Teaching

(General Interest) Research Session

This session will present results from a systematic, comprehensive review of 1,786 manuscripts related to using educational technology in mathematics education. The speakers will discuss the effect of specific types of technology on students' mathematical learning. They will show how to evaluate and use research to guide classroom practice.

Robert Ronau
University of Louisville, Kentucky

Christopher Rakes
Institute of Educational Sciences, Washington, D.C.

Sarah Bush
Bellarmine University, Louisville, Kentucky

115 C (CONVENTION CENTER)



380.1 Technology and More in the Math Classroom

(General Interest) Session

Gain knowledge and become familiar with strategies for obtaining funding for technology-guided and other mathematics projects. The speaker will share project ideas that integrate technology and other areas of mathematics and identify a funding source and the submissions criteria for for well-designed proposals.

Mathematics Education Trust
National Council of Teachers of Mathematics, Reston, Virginia

123 (CONVENTION CENTER)



Check your email at
the Internet Station
located in the BuzzHub!

381 Expanding Math Talk with Our Youngest Students

(Pre-K–2) Session

Young children are capable of much more mathematical thinking than we usually see in pre-K classrooms. Encourage math talk by presenting engaging activities and problems, encouraging children's conversations, and using playful materials that draw them into mathematical discourse. Expand number sense and geometry concepts in your preschool.

Ann Carlyle
Gevirtz Graduate School of Education, University of California
Santa Barbara

201 B (CONVENTION CENTER)

382 Math Here and There: Math Everywhere

(Pre-K–2) Session

Looking for new ways to foster a home-school connection without spending hours or going broke? This presentation will showcase how to implement an effective take-home math program in the primary grades. Participants will receive ready-made activities and many ideas to strengthen math skills here, there, and everywhere.

Heather Youngblood
Springfield Public Schools, Missouri

Cary Sikes
Springfield Public Schools, Missouri

SALON D (MARRIOTT DOWNTOWN)

383 Hierarchical Thinking in Elapsed Time, Place Value, and Fractions

(Pre-K–5) Session

When asked how much time elapsed between 8:30 and 11:00, many students reply "3 hours 30 minutes, because from 8:00 to 11:00 is 3 hours, plus 30 more minutes." This demonstrates children's inability to think hierarchically about higher- and lower-order units. The speaker will discuss the problem with respect to time, place value, and fractions.

Constance Kamii
University of Alabama at Birmingham

BALLROOM B (CONVENTION CENTER)

FRIDAY

9:30 A.M.–10:30 A.M.

384 Mathematical Practices in Action: Using Video-Supported Professional Learning Communities

(Pre-K–5) Session

The mathematical practices are crucial to achieving a depth of understanding, but what teaching to the mathematical practices looks like remains elusive. Explore classroom-tested examples as a foundation for professional learning communities, using videos to support the process, and learn how you can facilitate the practices in your classroom.

Juli Dixon
University of Central Florida, Orlando

108 A (CONVENTION CENTER)

385 Making the Mathematics Classroom Come Alive through Garden-Based Learning

(3–5) Session

Explore research-based activities integrating mathematics into the science-based context of school gardening. Students will transform into researchers who ask important questions related to nutrition, climate, and agriculture; purposefully collect and analyze data; and report their findings.

Sarah Selmer
West Virginia University, Morgantown

Johnna Bolyard
West Virginia University, Morgantown

Jim Rye
West Virginia University, Morgantown

204 B (CONVENTION CENTER)

386 Pies, Pizza, and Candy Bars: Is That All There Is?

(3–5) Session

Teaching with multiple models helps students solidify their understanding of fractions. This session will demonstrate tried-and-true, engaging, hands-on activities that deepen their knowledge of crucial fractions concepts. Video clips and students' samples will show meaningful lessons for recognizing, comparing, and computing with fractions.

Catherine Kuhns
Country Hills Elementary School, Coral Springs, Florida

203 A/B (CONVENTION CENTER)

387 Combining Movie Making and Math with the Reel Math Challenge®

(6–8) Session

Through the free Reel Math Challenge, MATHCOUNTS provides a way for students to produce creative videos demonstrating solutions to challenging math problems, share them online, and see how their videos measure up to others. Receive overviews of this new program, the MATHCOUNTS competition program, and the free club program.

Kristen Chandler
MATHCOUNTS Foundation, Alexandria, Virginia

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

388 Constructing Rational Arguments about Rational-Number Operations

(6–8) Session

Can your students discuss the following: “Must I invert when dividing fractions? If $a \times b = c$, when is $a < b < c$? Do two negatives always make a positive? Is this ever true: $a/b + c/d = (a + c)/(b + d)$?” Investigate a rich curriculum with questioning and discourse strategies that encourage students to construct and critique viable arguments.

Linda Sheffield
Northern Kentucky University (Emerita), Highland Heights

114 (CONVENTION CENTER)

389 Tier Two Interventions for Algebra: Are My Students Really Learning?

(6–8) Session

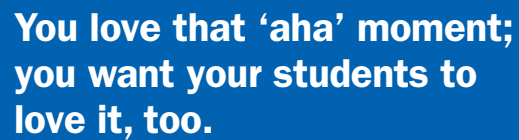
Learn instructional and assessment strategies for meeting students' complex math needs in algebra. The speakers will share case-study data on technology strategies for monitoring students' progress, such as SMART Board; and present resources for families. Teachers who have students with complex math needs are encouraged to attend.

Bridget Kelley
Western Washington University, Bellingham

Peter Kelley
Retired, Beaver, Oregon

SALON F (MARRIOTT DOWNTOWN)

FRIDAY



- **The MfA Fellowship:**
a five-year program with stipends of up to \$100,000 for recent college graduates and mid-career professionals.
- **The MfA Early Career Fellowship:**
a four-year program with stipends of up to \$70,000 for secondary mathematics teachers.
- **The MfA Master Teacher Fellowship:**
a four-year program with stipends of up to \$60,000 for experienced mathematics teachers.
- **The MfA School Leader Fellowship:**
a two-year program with stipends of up to \$10,000 for school leaders with math backgrounds and \$20,000 in funding to the school.

Visit us at booth
#1222

9:30 A.M.–10:30 A.M.

390 Using Geographic Information Systems (GIS) to Teach Mathematics for Social Justice

(6–8) Session

Benjamin Banneker Association Presentation

We can use GIS to examine resources and cultural capital found in certain communities. For example, some communities have more grocery stores, libraries, and parks than others. Having access to goods and services is a social justice issue. The presenters will use GIS to show mathematics teachers how to create lessons that examine such resources.

Jacqueline Leonard

University of Colorado, Denver

Robert Hobbs

Trenton Central High School, New Jersey

109 A/B (CONVENTION CENTER)

391 Using Technology to Construct the Definition of Similarity

(6–8) Session

Middle school students often define similarity as “same shape, different size,” a definition that can limit a more conceptual understanding of this important geometric concept. This session will explore middle school students’ understanding of similarity and ways to develop this understanding using dynamic technology.

George Roy

University of South Florida Saint Petersburg

Farshid Safi

College of New Jersey, Ewing

125 (CONVENTION CENTER)

ICON LEGEND



Common Core State Standards



Core Math Tools



NCTM Committee Presentations



New Teacher Strand



Exhibitor Workshop

392 Higher-Order Thinking, GIMP, Pick’s Theorem, and Pixel Counts

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

The Gnu Image Manipulation Program (GIMP) is a sophisticated but free open-source graphics editor. See how GIMP tools and features, such as pixel counts, layers, and grid lattices, can help teach higher-order thinking about changes in area. Compare using Pick’s theorem to using pixel counts as methods for comparing areas on satellite images.

Brian Giza

University of Texas at El Paso

Olga Kosheleva

University of Texas at El Paso

SALON C (MARRIOTT DOWNTOWN)

393 Seeing and Doing Math with Photographs

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

Learn about a program, carried out over the last five years, that used digital photography not merely as an illustration, but as a resource for doing mathematics. The speakers will present activities, describe their development, show pre-service teachers’ productions, and give ideas for work with pupils in grades 6–8.

Roser Codina

University of Barcelona, Catalunya, Spain

Carmen Burgués Flamarich

University of Barcelona, Catalunya, Spain

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

394 Data Games: Learn Math and Achieve Victory through Data Analysis

(6–12) Session

Playing a game generates data, but the data evaporates when the game ends. What if the data streamed in real time into a data-modeling environment? Can students analyze the data to improve their game strategy and deepen their mathematical understanding in the process? Learn why the NSF-funded Data Games project believes the answer is yes.

William Finzer

Key Curriculum Press Technologies, Emeryville, California

126 B (CONVENTION CENTER)

FRIDAY

9:30 A.M.–10:30 A.M.

395 Advanced Placement Mathematics: An Idea Whose Time Has Come Again

(9–12) Session

In the early days of the program, a course called AP Mathematics included everything that a baby boomer would need for further study in math and science. Now that those needs have changed, the Common Core State Standards may be leading us back to an AP mathematics course for which calculus is too restrictive a name.

Dan Kennedy
Baylor School, Chattanooga, Tennessee

113 A (CONVENTION CENTER)

396 Construction Site Geometry: A Lesson in Cooperative Learning

(9–12) Session

Interested in implementing cooperative learning, problem-solving, or performance assessment into your geometry course? Students will work in groups to design a corporate park in this activity developed in cooperation with the University of Cincinnati's STEP program. Each team has to solve problems, perform calculations, and compromise.

Sara Garrison
Norwood High School, Cincinnati, Ohio

Brad Hunt
Norwood High School, Cincinnati, Ohio

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

397 Visualizing Systems of Equations with GeoGebra

(9–12) Session

Use Geogebra for an interactive, visual process of solving systems of equations in two and three dimensions. The speakers will discuss the connections with matrices and showcase the use of dynamic technology, as well as the relationship between the equations and the visual representation when a system has zero, one, or many solutions.

Ana Escuder
Florida Atlantic University, Boca Raton

James Chinn
Broward County Public Schools, Fort Lauderdale, Florida

107 A/B (CONVENTION CENTER)

398 Function Composition without Confusion: A Geometric Approach with Sketchpad® 5

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

Students have trouble making sense of function composition. By combining a geometric approach with the usual symbolic one, students can define two functions, vary and trace their variables, compose them, and create striking visual representations to clarify this crucial concept. Receive ready-to-use Sketchpad demonstrations and activities.

Scott Steketee
Key Curriculum Press Technologies, Emeryville, California

SALON H (MARRIOTT DOWNTOWN)

399 Here's the Derivative's Graph: Tell Me about the Function

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

A common AP Calculus question is to determine information about a function given only its derivative's graph. A derivative's graph can help answer both differentiation and integration questions, but students find this exercise quite challenging. This presentation will show how to present these ideas to your students easily and understandably.

Lin McMullin
National Math and Science Initiative, Dallas, Texas

119 A (CONVENTION CENTER)

400 Preparing Teachers to Foster Reasoning and Sense-Making In Inclusion Classrooms

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

Presidents' Series Presentation

Learn best practices for mathematics teachers and special educators working together to ensure that all students have opportunities to engage in mathematical reasoning and sense making. Participate in meaningful, related discussion through videos and other media.

Marilyn Strutchens
Association of Mathematics Teacher Education; Auburn University, Alabama

Lisa Dieker
University of Central Florida, Orlando

TERRACE BALLROOM 4 (CONVENTION CENTER)

9:30 A.M.–10:30 A.M.

401

Exploring the Effectiveness of Web-Based Homework in Developmental Mathematics Courses

(Higher Education) Session

This presentation will describe results of an exploratory study that compared a Web-based homework program's effects and contributions to that of traditional homework practices in a college developmental mathematics course. The speakers will describe connections among students' attitudes, beliefs, and mathematics achievement.

Ronny Kwan Eu Leong

Teachers College, Columbia University, New York

Nathan Alexander

Teachers College, Columbia University, New York

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

402

Teaching in a Transdisciplinary Framework: Advocating for L-ELLs Mathematics Success

(Higher Education, Preservice and In-Service) Session

The speaker will present findings from a deliberate programming project addressing Latino English language learners' (L-ELLs') needs. She will analyze a transdisciplinary approach to mathematics instruction and its effectiveness in increasing L-ELLs' academic achievement. Use technology and social networking to state problems as mathematical modeling takes over your practice.

Eliana Rojas

University of Connecticut, Storrs

122 A (CONVENTION CENTER)

403

Using MQI Protocol as Videocoding Intervention for Student Teachers

(Higher Education, Preservice and In-Service) Session

This presentation will highlight research using the Mathematical Quality of Instruction (MQI) protocol as a learning tool for four student teachers. These teachers videotaped their lessons and coded one another's teaching using the protocol. The speakers will address, and lead a discussion on, implications for research and teacher education.

Rebecca Mitchell

Boston College, Chestnut Hill, Massachusetts

Katherine Ariemma

Boston College, Chestnut Hill, Massachusetts

Anna Bujalski

Boston College, Chestnut Hill, Massachusetts

117 (CONVENTION CENTER)



404

The Art and Science of Teaching Mathematics: Inspiring Students to Learn

(Preservice and In-Service) Session

Examine important elements that lead to the inspiration and engagement of students' energy and action, along with the crucial messages you must deliver to tap into students' maximum effort-based ability. Is students' motivation and inspiration an important aspect of teaching math? Come find out and discuss.

Timothy Kanold

E²-PLC Learning Group, Lincolnshire, Illinois

103 A (CONVENTION CENTER)



Future Annual Meetings

Denver, CO April 17–20, 2013

New Orleans, LA April 9–12, 2014

Boston, MA April 15–18, 2015

FRIDAY

10:00 A.M.–11:00 A.M.

ew 404.1
Reaching the Depth Required in the Common Core State Standards (CCSS) with an Integrated Approach to Learning

(K–5) Exhibitor Workshop

Pearson Forward, a new, digital grades K–5 integrated curriculum, fosters math achievement starting in kindergarten, providing teachers with the tools to nurture thinking and academic success. The CCSS-aligned Forward, funded with a federal i3 grant, helps students reach a deeper understanding in math through integration of key subject areas and skills. Presented by Montgomery County Public Schools.

Pearson

Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

ew 404.2
Do Word Problems Scare the Daylights Out of Your Students?

(4–9) Exhibitor Workshop

Find out how Hands-On Equations® enables students to represent and solve word problems, including age and consecutive number problems, visually using game pieces.

Borenson and Associates, Inc.

Allentown, Pennsylvania

118 B (CONVENTION CENTER)

ew 404.3
One Giant Leap for Mathkind: TI-Nspire™ Excites Students and Transforms Learning

(6–12) Exhibitor Workshop

See why TI-Nspire makes students' interest skyrocket. TI-Nspire CX technology brings math and science to life with a full-color display, interactive touchpad, photos and images, real-time data collection, and multiple representations on a single screen. The TI-Nspire CX Navigator system lets you see what every student is thinking and doing at any time!

Texas Instruments

Dallas, Texas

113 B (CONVENTION CENTER)

ew 404.4
'Introduction to Statistics' by GYLO: Tools for Developing Statistical Reasoning

(9–12) Exhibitor Workshop

There is a lack of proven software that teaches and assesses statistical literacy with engaging, real-world contexts. This exhibitor workshop presents an introductory statistics course that integrates lessons, games, and assessments. The course is based on research conducted at Harvard and the University of Texas at Austin. Attendees will receive free access and the chance to win an iPod or Nook.

GYLO (Get Ya Learn On, LLC)

Austin, Texas

115 B (CONVENTION CENTER)

10:30 A.M.–12:00 NOON

405
Integrate Technology, Mathematics, and Other Disciplines

(Pre-K–2) Gallery Workshop

Engage in activities that integrate mathematics, technology, language arts, science, art, and social studies. Receive handouts and a bibliography of the materials.

Maria Diamantis

Southern Connecticut State University, New Haven

Adam Goldberg

Southern Connecticut State University, New Haven

108 B (CONVENTION CENTER)

406
The Ripple Effect: Collaboration outside Your Four Walls

(Pre-K–2) Gallery Workshop

Craving a new math structure? Math-grouping structure can give you ideas to promote the development of number and operations skills. This approach offers methods of grouping students from multiple grades, allowing for seamless differentiation. The format includes review the vertical structure and exploring lessons workshop-style.

Devin Anderson

Gahanna-Jefferson Public Schools, Gahanna, Ohio

Susan Stoll

Gahanna-Jefferson Public Schools, Gahanna, Ohio

Renee Snyder

Gahanna-Jefferson Public Schools, Gahanna, Ohio

BALLROOM A (CONVENTION CENTER)

10:30 A.M.–12:00 NOON

407 Using Ten Frames to Promote Number Sense

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

This presentation will share different ten-frame games and activities that promote number sense and fact knowledge, important concepts in the Common Core State Standards. Experience firsthand how ten frames can be an effective representation for helping learners visualize numbers and discover number relationships.

Esther Billings

Grand Valley State University, Allendale, Michigan

Daniel Veldkamp

Grand Valley State University, Allendale, Michigan

Samantha Sheppard

Grand Valley State University, Allendale, Michigan

FRANKLIN HALL 9/10 (MARRIOTT DOWNTOWN)

408 Cut, Paste, and Glue: Making Manipulatives for Understanding and Practice

(Pre-K–5) Gallery Workshop

Construct manipulatives and drill-and-practice devices for teaching and learning numeration, operations, time, and fractions. The emphasis will be on constructing very inexpensive materials on limited budgets or manipulatives not available commercially. Materials will be provided. Please bring scissors if possible.

Carole Reesink

Bemidji State University, Minnesota

SALON G (MARRIOTT DOWNTOWN)

409 Extreme Home Math Makeover: Hosting a Family Math Night

(Pre-K–5) Gallery Workshop

Engage in a demonstration of how to host an effective family math night. Learn first how to set up a family math night and then participate in the shared games and activities. Discover how to empower your parents to see that math can be fun, inexpensive, and easy to do at home.

Erika Simono

Houghton Mifflin Harcourt, Austin, Texas

116 (CONVENTION CENTER)

410 Inspiring Grades Pre-K–2 Students to Be Problem Solvers

(Pre-K–5) Gallery Workshop

Experience each component of quality math problem-solving lessons, including pretest tasks designed as formative assessments. Solve tasks intended to reach a diversity of students' abilities. Question, scaffold students' sharing, and extend topics for depth using open and parallel tasks. Explore how technology can help with all of it.

Winnie Miller

Oregon Council of Teachers of Mathematics, Portland

Ann McMahon

Oregon Council of Teachers of Mathematics, Portland

Virginia Christensen

Oregon Council of Teachers of Mathematics, Portland

SALON K/L (MARRIOTT DOWNTOWN)

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10:00 a.m. - 11:00 a.m.
Room 118B • Convention Center

Speaker:
Dr. Henry Borenson

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FRIDAY

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411

Meeting the Math Challenge

(Pre–K–5) Gallery Workshop

How can you make mathematics accessible for your students? Differentiation strategies such as posing open questions and offering parallel tasks can help your students access math concepts and skills at their own level. Engage in interactive tasks that incorporate these strategies and more.

Maureen Kroeger

Kent Place School, Summit, New Jersey

FRANKLIN HALL 1 (MARRIOTT DOWNTOWN)



412

Prealgebra and Geometry: Teaching Pivotal Content for Elementary Grades

(Pre–K–5) Gallery Workshop

How do you help students build understanding, learn skills, and use their mathematics? Increase your understanding of important prealgebra and geometry topics and learn to facilitate skill and understanding of core concepts with your students. Get involved, learn, and enjoy!

Stanley Etse

College of Micronesia, Pohnpei, Micronesia

Penina Tulensru

Tafunsak Elementary School, Kosrae, Micronesia

Callistus Hachibmai

Yap Department of Education, Yap, Micronesia

126 A (CONVENTION CENTER)

413

Putting the “T” in STEM: Enhancing Instruction in Grades 4–5

(3–5) Gallery Workshop

In a teacher workshop focusing on content, engineering design, and technology, teachers prepared and implemented design briefs imbedded in science, technology, engineering, and math (STEM) units that emphasized technology. They held study group meetings, a conference, and a share fair. The project produced videos of lessons for dissemination.

Marguerite Mason

College of William and Mary, Williamsburg, Virginia

Eric Shippee

College of William and Mary, Williamsburg, Virginia

Rachael Cofer

College of William and Mary, Williamsburg, Virginia

FRANKLIN HALL 6/7 (MARRIOTT DOWNTOWN)

414

Beyond Invert and Multiply: Making Sense of Fraction Computation

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

Instead of “yours is not to reason why, just invert and multiply,” focus on making reasoning why the core of students’ fractions work. The Common Core State Standards (CCSS) calls for students to use what they know of whole-number computation to make sense of fractions. The gallery workshop will address the CCSS and include strategic use of technology.

Julie McNamara

Math Solutions, Sausalito, California

Patty Clark

Mathsolutions, Sausalito, California

115 A (CONVENTION CENTER)

415

Developing Mathematical Reasoning across the Strands with Pattern Blocks

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

Pattern blocks, developed more than fifty years ago, help students of all ages gain mathematical insights while building and solving puzzles. Working totally hands-on, discover the blocks’ unique properties. Strengthen mathematical reasoning for concepts involving number and numerical operations, geometric concepts, and algebraic reasoning.

Peggy McLean

Nueva School, Hillsborough, California

201 C (CONVENTION CENTER)

416

Graph, Analyze, Play: Address the G.A.P. and “Excel” in Math!

(3–8) Gallery Workshop

Increase your knowledge of spreadsheet creation and functions while exploring games, graphs, and problem solving. Simultaneously develop your students’ working knowledge of technology while addressing both process and content standards. Explore simple, yet powerful ways to incorporate spreadsheets into your current curriculum.

Anna LaForgia

Council Rock School District, Newtown, Pennsylvania

Ginalouise Pflanz

Council Rock School District, Richboro, Pennsylvania

Alyse Sciolla

Council Rock School District, Newton, Pennsylvania

SALON A/B (MARRIOTT DOWNTOWN)

10:30 A.M.–12:00 NOON

417

Rock with Scissors and Paper

(3–8) Gallery Workshop

Presidents' Series Presentation

Strengthen students' spatial reasoning and visual thinking with paper folding and cutting. Solve puzzles, create pop-ups, and engage students with activities that build connections between geometry and folk crafts spanning centuries and cultures. Experiment with iPad apps to create equal and congruent shapes. Leave with classroom-ready materials.

Sara Normington

Council of Presidential Awardees in Mathematics, Portland, Oregon

Jennifer Rising

Council of Presidential Awardees in Mathematics, San Mateo, California

Lynn Patterson

Council of Presidential Awardees in Mathematics, Murray, Kentucky

118 A (CONVENTION CENTER)

418

Teaching Fractions Was Tough, but Not Any More: Come See

(3–8) Gallery Workshop

Participants will use student-made paper, pictorial, and virtual manipulatives to develop fraction algorithms, create students' self assessment, and improve mathematical power for twelve mathematical problem types. You will quickly become an expert in teaching operations with fractions and identifying problem types.

Philip Halloran

Central Connecticut State University, New Britain

105 A/B (CONVENTION CENTER)

ICON LEGEND



Common Core State Standards



CMT Core Math Tools



NCTM Committee Presentations



New Teacher Strand



ew Exhibitor Workshop



419

Engaging Students through Engaging Mathematics

(6–8) Gallery Workshop

Are your students actively doing new, meaningful mathematics? Mathematical meaning plays a vital role in students' solutions of problems in everyday activities when compared to in-school, algorithmic, problem-solving activities. Learn how to embed mathematics in real-life applications and activities of interest to middle school students.

Rick Billstein

University of Montana, Missoula

201 A (CONVENTION CENTER)

420

Nspire™ Connections between Proportional Reasoning and Algebraic Thinking

(6–8) Gallery Workshop

Understanding multiplicative relationships and reasoning proportionally is essential to students' success in algebra. Learn how to use TI-Nspire technology in hands-on activities designed to develop proportional reasoning at a concrete level and to make the connections to algebraic thinking explicit.

Gloria Beswick

Partnership Institute for Mathematics and Science Education Reform (PIMSER), Lexington, Kentucky

Rhonda Niemi

Jefferson County Public Schools, Louisville, Kentucky

119 B (CONVENTION CENTER)

421

The Power of Proportional Reasoning

(6–8) Gallery Workshop

Both NCTM and the Common Core State Standards consider the ability to reason proportionally central to middle school mathematics. This presentation will explore big ideas of proportionality and address strategies that help students connect proportional reasoning to different strands of curriculum.

Lu Ann Weynand

Math Solutions, Sausalito, California

Genni Steele

Math Solutions, Sausalito, California

120 A/B (CONVENTION CENTER)

FRIDAY

10:30 A.M.–12:00 NOON

422 Using Ratio Tables to Develop Proportional Reasoning

(6–8) Gallery Workshop

Teaching students in sixth grade to set up a proportion and cross-multiply to solve problems has been historically the biggest hindrance to developing proportional reasoning. The speaker will discuss several big ideas of proportional reasoning and examine how the Common Core State Standards prescribe representing proportional relationships.

John Keogh

Consultant, Fairfield, Connecticut

SALON I/J (MARRIOTT DOWNTOWN)

423 Are All Math Tasks Created Equally?

(6–8, Preservice and In-Service) Gallery Workshop

Come explore the topic of cognitive demand and how it affects classroom instruction at all grade levels. Learn the research behind it as well as analyze mathematical tasks in order to identify each task's level of cognitive demand. This gallery workshop will leave you thinking about your instruction and the tasks you give to students.

Dana Thome

Milwaukee Public Schools, Wisconsin

Lee Ann Pruske

Milwaukee Public Schools, Wisconsin

204 C (CONVENTION CENTER)

424 Exploring Number-Theory Ideas through Cooperative Problem Solving

(6–8, Preservice and In-Service) Gallery Workshop

Research indicates that learning occurs when the learning process actively involves students in assimilating information and constructing their own meanings. Learning through problem solving is one way for this type of involvement to occur. Engage in solving a problem, exploring the mathematics embedded therein, and discussing the implications for teaching.

Patrick Kimani

California State University, Fullerton

Joanna Masingila

Syracuse University, New York

Dana Olanoff

Syracuse University, New York

121 A (CONVENTION CENTER)

425 Creating STEM Experiences for Middle School Students: Mathematician's Notebook

(6–12) Gallery Workshop

Need a fresh approach to integrating a notebook into your classroom? See how the Mathematician's Notebook can change the way you teach mathematics as well as how your students learn and experience mathematics. The notebook becomes a dynamic place where language, data, and problem solving operate jointly to form meaning for the science, technology, engineering, and mathematics (STEM) student.

Scott Eddins

TLJ Consulting Group, Nashville, Tennessee

Tammy Jones

TLJ Consulting Group, Nashville, Tennessee

FRANKLIN HALL 12/13 (MARRIOTT DOWNTOWN)

426 I Walk The Line: Modeling Linear Motion with Motion Detectors

(6–12) Gallery Workshop

Participants will walk in front of a Calculator Based Ranger at a constant rate of speed. Using any two points on the line, they will calculate the slope, enter the calculated equation into the equation editor ($Y=$), and compare the walk's experimental line with a calculated line of best fit.

Neelia Jackson

Retired, Boston Public Schools, Massachusetts

James Early

Boston Public Schools, Massachusetts

121 C (CONVENTION CENTER)

427 Use Technology to Differentiate Accelerated, ELL, and At-Risk Learners

(6–12) Gallery Workshop

Engage students in problem-centered, interactive learning using TI-NSpire. Explore how to customize lessons to meet English language learner (ELL), at-risk, and accelerated learners' needs. Leave with greater understanding of technology-assisted differentiation aligned with the Common Core State Standards, connections, and evidence of conceptual understanding.

Kathleen McKinley

School District of Lancaster, Pennsylvania

Edward Williams

School District of Philadelphia, Pennsylvania

113 C (CONVENTION CENTER)

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MATH

HISTORY

SCIENCE

LITERATURE

LANGUAGES

10:30 A.M.–12:00 NOON

428

A Differentiated, “Cool Problem” Approach to Recursion Prealgebra through Precalculus

(9–12) Gallery Workshop

This presentation will use a variety of techniques to examine recursive sequences. Handheld technology can help promote algebraic thinking and deeper understanding of sequences at different grades. The speakers will develop a view from several perspectives and different algebraic representations by modeling “cool problems” in real-world situations.

Raymond Siegrist

State University of New York—College at Oneonta

Tom Beatini

Glen Rock High School, New Jersey

204 A (CONVENTION CENTER)



429

A Reason to Reason: Rich Problems and Interactive Tools

(9–12) Gallery Workshop

With interactive geometry systems, pose problems, model sports events, use multiple representations, and make conjectures. These processes lead to problems promoting quantitative and abstract reasoning, key ideas in the Common Core State Standards. Bring your laptop (with battery power) with Geogebra or Geometer's Sketchpad, and be ready to discuss content connections.

Tami Martin

Illinois State University, Normal

Craig Cullen

Illinois State University, Normal

Roger Day

Glencoe-McGraw Hill School Mathematics Group, Normal, Illinois

103 C (CONVENTION CENTER)

ICON LEGEND



Common Core State Standards



Core Math Tools



NCTM Committee Presentations



New Teacher Strand



Exhibitor Workshop

430

Engaging Activities and Ideas for Teaching Discrete Math

(9–12) Gallery Workshop

Looking for ways to engage students in authentic mathematics regardless of their algebraic competence? Come see how graph theory, number theory, and cryptography can provide realistic, understandable opportunities for students to engage in rich mathematics regardless of their algebra ability.

Andre Mathurin

Bellarmine College Preparatory School, San Jose, California

118 C (CONVENTION CENTER)

431

Using Manipulatives and Fun Investigations to Teach Geometry Topics

(9–12) Gallery Workshop

Use hinged mirrors, rubber bands, patty paper, paper plates, other manipulatives, and interesting problems to develop and apply geometry concepts and review vocabulary. Topics will include similarity, triangle heights, transformations, central angles, polygons, area, and more.

Christine Mikles

College Preparatory Mathematics Educational Program, Sacramento, California

Karen Wootton

College Preparatory Mathematics Educational Program, Sacramento, California

FRANKLIN HALL 3/4 (MARRIOTT DOWNTOWN)

432

Creatively Integrating Technologies Using Color and Pictures: SMART Boards™, TI-NspireCX™

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

Help students understand how mathematical concepts are related: connect graph, table, equation, and words, interactively on a single CX page. Model equations on top of color photos on a CX handheld. Use color to distinguish ideas and make mathematical connections. Get a CD of teaching ideas including more than 100 classroom-ready CX activities.

Tom Reardon

Youngstown State University, Ohio

SALON E (MARRIOTT DOWNTOWN)

10:30 A.M.–12:00 NOON

433 You've Checked for Understanding; Now What?

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

Using examples from algebra, practice creating good questions that test for understanding. See how to collect and aggregate work quickly from the whole class, and discuss various instructional options possible using the information from a quick check. Come see and experience how checks for understanding can guide instruction as you teach.

Allan Bellman
University of California, Davis

111 A/B (CONVENTION CENTER)



434 Building Mathematics Learning Communities Using NCTM Reflection Guides

(Preservice and In-Service) Gallery Workshop

Engage actively in exploring journal articles that NCTM's Professional Development Services Committee has enhanced with reflection guides, available for free online. The session's facilitators will model how to use the reflection guides to build school-based, professional learning communities.

NCTM Professional Development Services Committee
National Council of Teachers of Mathematics, Reston, Virginia

122 B (CONVENTION CENTER)

435 Quality Discourse and the Bloom's Taxonomy Connection

(Preservice and In-Service) Gallery Workshop

We all want to involve our students in thought-provoking discourse, but how do we get there? The speaker will describe a variety of question types, including those based on the revised Bloom's taxonomy; question stems; alternative response questions; and talk moves. She will discuss criteria for quality questions.

Sharon Young
Seattle Pacific University, Washington

124 (CONVENTION CENTER)

11:00 A.M.–12:00 NOON

436 Discourse and Mathematics: Get Connected

(General Interest) Session

"Mathematically proficient students try to communicate precisely to others" (Common Core State Standards). How do you bring mathematical discourse to life in your classroom? Learn about talk formats and teachers' moves that keep productive mathematical conversations going. Hear from specialists who have walked the talk in their district.

Rosann Hollinger
Milwaukee Public Schools, Wisconsin

Pandora Bedford
Milwaukee Public Schools, Wisconsin

Bernard Rahming
Milwaukee Public Schools, Wisconsin

SALON C (MARRIOTT DOWNTOWN)

437



Equitable Practices in Mathematics Classrooms: Research-Based Recommendations

(General Interest) Session
Iris M. Carl Equity Address

This presentation will outline research on equitable practices in mathematics classrooms. Drawing on reviews of research literature and using research on language and mathematics education as an example, the speaker will summarize recommendations for equitable classroom practices, in particular for students who are bilingual or learning English.

Judit Moschkovich is a professor of mathematics education, University of California, Santa Cruz. Her research uses sociocultural approaches to examine mathematical thinking and learning in algebra, in mathematical discourse practices, and with bilingual, English learner, and Latino or Latina students. She received a NAED/Spencer Postdoctoral Fellowship (1995–97), was principal investigator for NSF's "Mathematical discourse in bilingual settings: Learning mathematics in two languages" research project (1998–2003), and was coprincipal investigator for the Center for the Mathematics Education of Latinos/as (2004–11). She has served as a editor and reviewer for manuscripts and on journal's editorial panels, review boards, conference committees, and advisory boards.

Judit Moschkovich
University of California, Santa Cruz

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

FRIDAY

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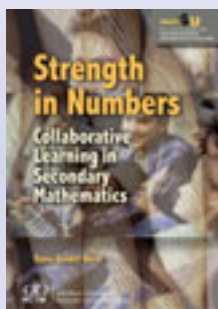
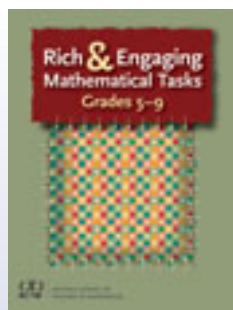
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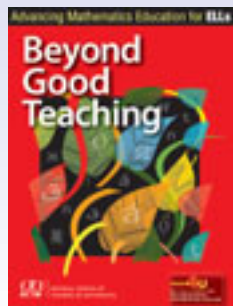
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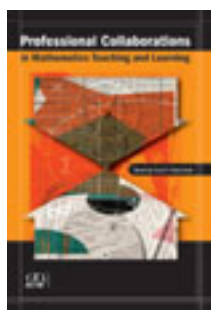
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NEW TITLES FROM FALL 2011

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BY MATT LARSON

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Reasoning and Sense-Making Problems and Activities for Grades 5-8

EDITED BY
ELIZABETH D. PHILLIPS AND
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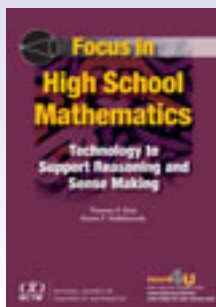
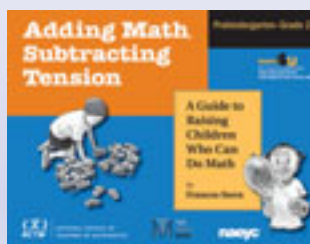
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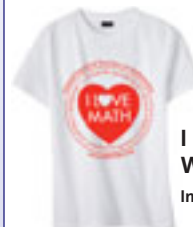
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11:00 A.M.–12:00 NOON

438

Greener over There: Sino-American Cross-Cultural Envy and Adoption

(General Interest) Session

Recent media hype over China's performance on international mathematics assessments unfairly characterizes U.S. teachers by masking the fact that U.S. students outperform Chinese students on many types of mathematics problems. This presentation will explore how the Chinese are trying to adopt features of U.S. mathematics education, and vice versa.

Thomas Ricks

Louisiana State University, Baton Rouge

119 A (CONVENTION CENTER)

439

How We Turned Math Lessons into Presidential Awards and \$10,000

(General Interest) Session

Presidential awardees will share how they each took a quality math lesson and turned it into a meeting with the President, \$10,000, and leadership opportunities.

Nafeesa Owens

National Science Foundation, Arlington, Virginia

Kisha Davis-Caldwell

National Science Foundation, Arlington, Virginia

103 A (CONVENTION CENTER)

440

Response to Intervention: Strategies for Your Classroom

(General Interest) Session

Learn to adapt classroom lessons for a diverse group of grades K–10 learners. The speakers will share evidence-based strategies such as concrete-representational-abstract (CRA) and others, emphasizing making accommodations to support struggling and gifted learners.

Karen Karp

University of Louisville, Kentucky

Fred Dillon

Strongsville High School, Ohio

TERRACE BALLROOM 1 (CONVENTION CENTER)

441

Teaching for Mathematical Thinking

(General Interest) Session

This presentation will offer insights into the meaning and importance of mathematical thinking and how to support it through inquiry-based teaching approaches. The speaker will provide examples of inquiry techniques that you can begin to build into your existing lessons and important categories of inquiry tasks to guide your task selection.

Olive Chapman

University of Calgary, Alberta, Canada

204 B (CONVENTION CENTER)

442

Introducing Spanky the Three-Toed Slothematician

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

Kindergarteners may use ten fingers to add $3 + 5$, but how can they help Spanky the Three-Toed Slothematician, who only has six sloth toes? Children's literature is a creative vehicle for engaging students in Common Core State Standards math concepts. Meet the characters who are turning grades K–2 math lessons into creative learning opportunities.

Shelbi Cole

Connecticut State Department of Education, Hartford

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

443

Cultivating Algebraic Thinking and Reasoning in the Early Grades

(Pre-K–5) Session

The NCTM Standards state, "All students should learn algebra." What does this mean in the early grades? The presenter, author of an upcoming series by Corwin Press tentatively titled *Algebra Here and Now*, will share concrete examples from her book, modeling how teachers can highlight the algebraic character of the content they teach.

Monica Neagoy

Monica Neagoy Mathematics Consulting Services, Arlington, Virginia

113 A (CONVENTION CENTER)

FRIDAY

11:00 A.M.–12:00 NOON

444

Engaging, Motivating, Whole- and Small-Group Technology

(Pre-K–5) Session

You no longer need to fear technology. Interactive whiteboards are fun and easy to use. It's time to let the music move you. Did you know that you can link music and sound effects to your activities? Did you know the interactive whiteboard is great for small groups? Come discover engaging ways to reach all students.

Linda Mumme

Central York School District, Pennsylvania

Jennifer Leese

Central York School District, Pennsylvania

SALON F (MARRIOTT DOWNTOWN)

445

Math Happens When Children Extend and Question What Authors Write

(3–5) Session

Literature can ignite students' minds and lead to deep mathematical understanding. The speaker will show how books can inspire children to ask great questions and solve problems. He will share students' impressive work, including exhaustive, often hilarious extensions of books and impressive efforts to prove, improve, or disprove the author's math.

David Schwartz

Author, Oakland, California

TERRACE BALLROOM 4 (CONVENTION CENTER)

446

The Mathematical Emergency Room: Diagnosing Students' Errors

(3–5) Session

Come explore students' thinking. Learn diagnostic skills for identifying conceptual and procedural misconceptions. Examine students' work samples using a variety of technology tools. After the diagnoses, the speaker will share a variety of crucial, Common-Core-friendly teaching strategies.

Beth Kobett

Stevenson University, Baltimore, Maryland

114 (CONVENTION CENTER)

447

How Should Teachers Handle Students' Mathematical Misconceptions?

(3–8) Session

Students will always come to class with their own notions of mathematics. Some of these notions are misconceptions that seem right but aren't. This presentation will examine misconceptions common among arithmetic and algebra students and demonstrate activities that help students eliminate them.

Bobby Ojose

University of Redlands, California

126 B (CONVENTION CENTER)

448

Let's Talk about Problem Solving

(3–8) Session

This session presents guidelines to promote mathematical discussion. Specific strategies will be shared to help engage all students in discussing their problem solving processes. Methods of engagement will create a learning environment that supports the development of mathematical practices in the Common Core State Standards.

Jonathan Bostic

Bowling Green State University, Ohio

Tim Jacobbe

University of Florida, Gainesville

120 C (CONVENTION CENTER)

449

Singin' and Signin' Teaches Complex Concepts through Songs and Signs

(3–8) Session

This fun, interactive session will show how to teach complicated math concepts using songs, signs, and gestures. Create your own Flip and Fold! Learn proven strategies that ensure students' 100-percent engagement! See why the speakers won the Classroom of the Future Innovations in Education Award for their ability to inspire, innovate, and achieve!

Siegrid Stillman

Fallbrook Union Elementary School District, California

Steven Stillman

Fallbrook Union Elementary School District, California

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

11:00 A.M.–12:00 NOON

450 Technology + Singapore Strategies = Number Sense

(3–8) Session

Visual reasoning is a powerful tool for making sense of mathematics. Learn successful visual strategies and instructional methods from Singapore that allow students to develop a deeper understanding of number concepts using hands-on manipulatives and software. Walk away with strategies for guiding students' learning that you can use tomorrow.

Cassandra Turner
Consultant, Fort Collins, Colorado

Lauri Susi
Conceptua Math, Petaluma, California

125 (CONVENTION CENTER)

451 Wondrous Wikis

(3–8) Session

Everyone seems to know about Wikipedia, but many forbid students' use of it. Wikis are a wondrous tool for students and teachers to use to help everyone learn. Examines how to use existing wikis, even Wikipedia, and how you can use student-created wikis to help students learn mathematics.

William Merrill
Central Michigan University, Mount Pleasant

122 A (CONVENTION CENTER)

452 Creating Open-Ended Projects in Middle School Mathematics

(6–8) Session

Creativity is vital to math, but it can be elusive in daily classes. Open-ended projects give students opportunities for high levels of understanding, expressions of their creativity, and meaningful connections between math and the real world. Come see middle school examples and begin to develop your own projects.

Heather Carmody
Park Tudor School, Indianapolis, Indiana

203 A/B (CONVENTION CENTER)

453 How Does Your Pattern Grow? Fostering Students' Algebraic Reasoning

(6–8) Session

This session will share (1) research-based algebraic reasoning tasks for upper elementary and middle school mathematics classrooms, (2) a formative assessment rubric aligned with the Common Core State Standards, and (3) examples of students' collaboratively assessed work. The session will conclude with implications for instruction.

Johnna Bolyard
West Virginia University, Morgantown

Sarah Selmer
West Virginia University, Morgantown

Andrea Miller
West Virginia University, Morgantown

115 C (CONVENTION CENTER)

454 Technology to Help Students See and Understand Mathematics

(6–8, Higher Education) Session

Interactive white boards, dynamic graphing programs, and websites help the developmental math student understand concepts and skills. Create engaging, interactive lessons and differentiate instruction. Pictures bring the real world into your classroom. Add an individual response system for formative assessment, to allow all students to participate.

Linda Treilman
Mercer County Community College, West Windsor, New Jersey

SALON H (MARRIOTT DOWNTOWN)

The NCTM
Membership Showcase
has activities, lessons,
sample journals, and
more—Stop by!

FRIDAY

11:00 A.M.–12:00 NOON

455

Using Technology Problems of the Week to Develop Mathematical Practices

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

Are you looking for ideas to help your students make sense of problems, persevere in solving them, and improve their math communication skills? Explore free resources from the Math Forum, including the Technology Problems of the Week, and hear accounts from classroom teachers who have been using these resources effectively in their classrooms.

Suzanne Alejandre

Drexel University, Philadelphia, Pennsylvania

Marie Hogan

Covina Valley Unified School District, California

Erin Igo

Colonial School District, New Castle, Delaware

SALON D (MARRIOTT DOWNTOWN)

456

Crop Circle Algebra: Students Teaching Farmers?

(6–12) Session

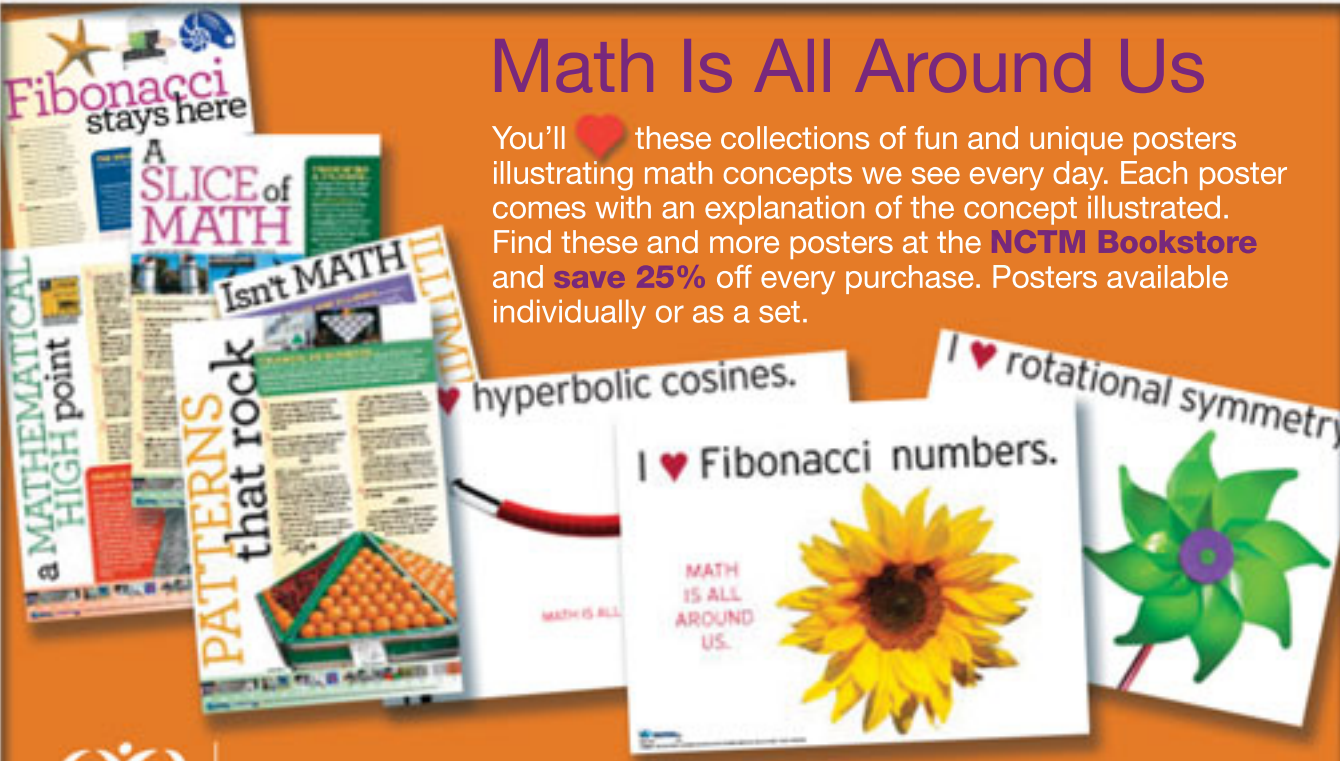
Using Google Earth, students can find fascinating examples of how farmers have tried to maximize land coverage by center-pivot irrigation circles. See how to use technology, including some computer algebra systems, to explore interesting mathematics from prealgebra through calculus, grounded in real, problem-solving scenarios.

Larry Ottman

Haddon Heights Board of Education, New Jersey


123 (CONVENTION CENTER)

FRIDAY



Math Is All Around Us

You'll ♥ these collections of fun and unique posters illustrating math concepts we see every day. Each poster comes with an explanation of the concept illustrated. Find these and more posters at the **NCTM Bookstore** and **save 25%** off every purchase. Posters available individually or as a set.

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TEACHERS OF MATHEMATICS**

(800) 235-7566 | WWW.NCTM.ORG

11:00 A.M.–12:00 NOON

457 Equity and Algebra for At-Risk Students

(6–12) Session

Equity for at-risk students requires a paradigm shift to help them “see” the hidden and often assumed prior knowledge. Using real-world examples meaningful to these students, make the hidden ideas of algebra visible. Students who struggle with traditional algebra succeed when appropriate supports for learning are made transparent.

Susan Hillman

Saginaw Valley State University, University Center, Michigan

Becca Buchalter

Saginaw County Transition Academy, Michigan

107 A/B (CONVENTION CENTER)

458 Movie Math Mania: Engaging All Students to Reach the Standards

(6–12) Session

Movies provide real-world problems that engage all students in understanding and applying the math standards. Movies’ inherent fun captivates the students in learning as they solve problems inherent to the movie’s plot. Get a source of movies and class-ready activities, and find out how to get all students learning by making it fun.

Sheldon Erickson

Fresno Unified School District, California

BALLROOM B (CONVENTION CENTER)

459 Starting with Graphs

(6–12) Session

You can present algebra first using qualitative graphs to picture relationships, then moving on to quantitative graphs, then creating tables from the graphs, and finally developing equations. This introduction method makes algebra concrete and relevant for students. The speaker will demonstrate exercises that you can use throughout the year.

Franny Van Dyke

American University, Washington, D.C.

201 B (CONVENTION CENTER)

460 How to Make a Profit in Mathematics

(9–12) Session

Avoid “you’re fired” by finding the price point that maximizes profit. Students create products and use linear, quadratic, and rational functions to analyze cost, sales, price, revenue, and profit. The session will provide activities and ideas that focus on the Common Core State Standards for functions and modeling and that integrate technology.

Bob Mann

Western Illinois University, Macomb

108 A (CONVENTION CENTER)

461 Mathematical Modeling and the Common Core State Standards (CCSS)

(9–12) Session

The CCSS calls for mathematical modeling as a mathematical practice pervading all levels of instruction. How do we make modeling integral to teaching and learning in high school? Examine examples of mathematical modeling appropriate for each major course in the high school curriculum, and discuss implementation and assessment.

Ron Preston

East Carolina University, Greenville, North Carolina

Michael Bosse

East Carolina University, Greenville, North Carolina

Kwaku Adu-Gyamfi

East Carolina University, Greenville, North Carolina

202 A/B (CONVENTION CENTER)

462 Not “Just” a Fixed-Point Theorem

(9–12, Higher Education) Session

“That’s trivial, you know. That’s just a fixed-point theorem.” This is what John von Neumann said to John Nash about a result that would later win Nash, a mathematician, the Nobel Prize in economics. This presentation will explore game theory and how it can fit into a precollegiate math classroom as a fun, relevant source of application.

Joshua Fisher

Johns Hopkins University Center for Talented Youth,
Baltimore, Maryland

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

FRIDAY

11:00 A.M.–12:00 NOON

463

What's the Real Probability: Theoretical, Empirical, or Neither?

(9–12, Higher Education) Session

With good reason, school mathematics values theoretical probability over the empirical approach. Many students do not agree, also with good reason. Come hear their beliefs and brainstorm how we can improve our teaching of probability by taking them into account. Simulators and the place of probability in statistics are each part of the mix.

Bill Rosenthal

City University of New York—New Community College

Steven Cosares

City University of New York—New Community College

Steve Hinds

City University of New York—New Community College

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)



464

Strategies for Increasing Students' Reasoning Capabilities and Mathematical Independence

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

Now that you have mastered the basics of lesson planning and classroom management, you are ready to take your teaching to the next level. Learn straightforward, sustainable ways to increase students' reasoning capabilities and mathematical independence through task selection, questioning strategies, and self-assessment.

Erin Moss

Millersville University, Lancaster, Pennsylvania

Sarah DeLeeuw

National Council of Teachers of Mathematics, Reston, Virginia

117 (CONVENTION CENTER)

ICON LEGEND



Common Core State Standards



Core Math Tools



NCTM Committee Presentations



New Teacher Strand



Exhibitor Workshop

465

Teaching Geometry to Implement the NCTM Focal Points and Common Core State Standards (CCSS)

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

The speaker proposes teaching geometry by emphasizing learning strategies and heuristics for discovering solutions or proofs. In line with recent research and content recommendations, he will demonstrate classroom use of multiple justifications and approaches in which students compare and contrast alternative solutions. Handouts will be provided.

Shlomo Libeskind

University of Oregon, Eugene

121 B (CONVENTION CENTER)



466

Implementing the Mathematical Practices through Interesting Tasks

(Preservice and In-Service) Session

The heart of the Common Core State Standards is the standards for mathematical practice. To change how teachers teach we must show them how to embed the mathematical practices in their everyday teaching. The speaker will present a set of interesting tasks through which you can do this.

Judith Jacobs

University of Michigan, Ann Arbor

109 A/B (CONVENTION CENTER)

11:30 A.M.–12:30 P.M.

ew

466.1

Instructional Decisions Aligned with Your Response to Intervention Strategies

(General Interest) Exhibitor Workshop

This exhibitor workshop demonstrates how professional development associated with Add+VantageMR assessments gives teachers with a deep understanding of children's development of mathematics knowledge in number and operations, allowing teachers to use instructional resources more effectively, plan more purposeful lessons, and provide ongoing group support.

U.S. Math Recovery Council

Brentwood, Tennessee

118 B (CONVENTION CENTER)

FRIDAY

11:30 A.M.–12:30 P.M.

ew 466.2
Addressing Common Core Mathematical Practices Using Models from Math In Context®

(General Interest) Exhibitor Workshop

Experience realistic mathematics and problem solving while exploring multiple number models that support the Common Core State Standards. These models move students to a deeper understanding of number and operations. Each participant will receive a free Number Tools® workbook.

Britannica Digital Learning
Chicago, Illinois

115 B (CONVENTION CENTER)

ew 466.3
One Giant Leap for Mathkind: TI-Nspire™ Excites Students and Transforms Learning

(6–12) Exhibitor Workshop

See why TI-Nspire makes students' interest skyrocket. TI-Nspire CX technology brings math and science to life with a full-color display, interactive touchpad, photos and images, real-time data collection, and multiple representations on a single screen. The TI-Nspire CX Navigator system lets you see what every student is thinking and doing at any time!

Texas Instruments
Dallas, Texas

113 B (CONVENTION CENTER)

ew 466.4
"Randomness Rocks!"

(9–12) Exhibitor Workshop

Ready to teach simulations as described in the Common Core State Standards? It's a great way to explore probability, sampling, and statistical significance. At this hands-on exhibitor workshop you'll learn to use simple materials and a structured approach to make simulations fun and meaningful. Presented by Dave Bock.

Pearson
Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

12:30 P.M.–1:30 P.M.

467



Are We Using New Technology Strategically?

(General Interest) Session

Thirty years ago, computers reached the classroom. Have we learned to use technology strategically to teach mathematics? Come reflect on the current state of technology use, and

chart a course for better future use. Along the way, see some intriguing situations that demonstrate how technology enhances mathematics learning.

James Rubillo was executive director, National Council of Teachers of Mathematics, from 2001 to 2009. His prior experience includes 30 years at Bucks County Community College and five years as a high school teacher and department chair. He regularly conducts grades K–12 in-service programs on many mathematics education topics. He has served as a corporate consultant in total quality management, statistical process control, and project management.

James Rubillo
Former Executive Director, National Council of Teachers of Mathematics; De Sales University, Center Valley, Pennsylvania

114 (CONVENTION CENTER)

468
Common Core State Standards: For All Students?

(General Interest) Session

Benjamin Banneker Association Presentation

The new Common Core State Standards aim to provide clear, consistent academic benchmarks with "fewer, clearer, and higher" academic standards for essential learning and skills. Will the future assessments connected with these new standards limit or advance students who attend under-resourced schools?

Terri Townes-Kelly
Benjamin Banneker Association, Chicago, Illinois

Marlene Collins
Benjamin Banneker Association, Chicago, Illinois

Della Leavitt
Benjamin Banneker Association, Chicago, Illinois

103 A (CONVENTION CENTER)

FRIDAY

12:30 P.M.–1:30 P.M.

469**Developing Computation Skills in Contexts of Problem Solving****(General Interest) Session**

The speaker will discuss basic skills and their importance. He will then present ways to develop computational skills while solving problems, making mathematical thinking prominent and giving computational practice in the process. He will pose several problems, present their use at various grade levels, and offer useful handouts.

Jerry Becker

Southern Illinois University Carbondale

TERRACE BALLROOM 4 (CONVENTION CENTER)

470**Gender Issues in Mathematics Education and Technology****(General Interest) Session****Women and Mathematics Education Presentation**

The speaker will review current research on learning and teaching styles that integrate mathematics content with technology. She will discuss strategies that help all students learn mathematics through technology.

Judy Werner

Slippery Rock University, Pennsylvania

121 B (CONVENTION CENTER)

471**Incorporating Technology Tools into Math Lessons to Increase Students' Engagement****(General Interest) Session**

Timid about technology? Build your confidence by learning how to add technology effectively into math lessons to increase engagement. Survey the latest research and see how to involve students in higher-level thinking and problem solving. Explore interactive whiteboards to differentiate lessons and as an assessment tool, and visit websites.

Ricky Mikelman

Staff Development for Educators, Peterborough, New Hampshire

SALON F (MARRIOTT DOWNTOWN)

**472****Motivation Matters and Interest Counts****(General Interest) Session**

All students are motivated, but not necessarily in mathematics. Understand how motivation works and does not work with students. Learn to create experiences that motivate and engage students, improve your classroom management skills, and see how you can create a classroom where all students can find mathematics worthwhile and engaging!

Amanda Jansen

University of Delaware, Newark

James Middleton

Arizona State University, Tempe

108 A (CONVENTION CENTER)

473**The Museum of Mathematics****(General Interest) Session**

The Museum of Mathematics (momath.org), opening in Manhattan in 2012, will offer class trips, special programs, teachers' development, and innovative resources to support and enrich classroom education. Hands-

on exhibits will illustrate ideas at various levels, from late elementary through high school.

George W. Hart is chief of content at the New York City's Museum of Mathematics. A former research professor in computer science at Stony Brook University, N.Y., he holds degrees in mathematics, electrical engineering, and computer science. A sculptor and puzzle designer, he develops innovative ways to use computer technology to design and fabricate his artwork. He also develops novel, hands-on workshops that communicate the richness and excitement of mathematics.

George Hart

Museum of Mathematics, New York, New York

BALLROOM B (CONVENTION CENTER)

12:30 P.M.–1:30 P.M.

475 First-Grade Students Learn Two-Digit Subtraction to 100

(Pre-K–2) Research Session

During the first-grade year's second half, students in western China extend their ability to add and subtract from up to 20 to up to 100. The speakers will describe the teaching and learning environment and Chinese curricular materials, focusing on the development sequence. Video of the instruction, and students' insights, will prompt discussion.

David Wilson

State University of New York—Buffalo State College

Nirmala Nutakki

State University of New York—Buffalo State College

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

476 China and the United States: Using Literature to Teach Math

(Pre-K–5) Session

The presenters will describe their recent experiences using American storybooks to teach mathematics to young children in China. Stories can bridge differences in culture, language, socioeconomic status, and proficiency by providing a common context to which all can relate. Together, stories and math can lead to greater success for all students.

Stuart Murphy

Author, Boston, Massachusetts

Jing Chung

National Taipei University of Education, Taiwan

TERRACE BALLROOM 1 (CONVENTION CENTER)

477 Lessons Learned from Implementing Tiered Instruction

(Pre-K–5) Session

Hear practical lessons from an elementary school that improved students' performance using tiered instruction in math and reading. Analyze data, respond to results from formative assessments in an existing curriculum framework, and plan instructional interventions that nurture mathematical understanding for students at all levels.

John Price

John J. Audubon Elementary School, Chicago, Illinois

Julia Sajovec

John J. Audubon Elementary School, Chicago, Illinois

Douglas Moore

Wireless Generation, Brooklyn, New York

123 (CONVENTION CENTER)

478 Metacognitive Instruction in Teaching Congruency and Symmetry

(Pre-K–5) Session

Schools hold teachers accountable when third-grade students cannot demonstrate thorough understanding of 2-D and 3-D shapes related to symmetry and congruency. This presentation will feature several metacognitive strategies found to improve previously failing students' academic achievement dramatically.

Galeet BenZion

Fairfax County Public Schools, Falls Church, Virginia

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)

479 The Art of Mathematics and Storytelling with ELL Students

(Pre-K–5) Session

English language learner (ELL) students can deepen their understanding of mathematical concepts through artistic or pictorial representations and storytelling. The speakers will introduce children's literature that illuminates mathematical ideas and share supplemental activities where students can use their creativity to extend their understanding of mathematics.

Jamie Lynn Galgana

Clark County School District, Las Vegas, Nevada

Cynthia Ayon

Clark County School District, Las Vegas, Nevada

Kelly Goodall

Clark County School District, Las Vegas, Nevada

117 (CONVENTION CENTER)

480 What's the Problem? Language Demands of Word Problems for ELLs

(Pre-K–5) Session

TODOS: Mathematics for ALL Presentation

This presentation identifies some potential language demands of mathematical discourse for English language learners (ELLs). Using two word problems as examples, the presenter will offer a framework for analyzing word problems at the elementary school level, to help teachers draw ELLs' attention to language.

Luciana de Oliveira

Purdue University, West Lafayette, Indiana

113 A (CONVENTION CENTER)

FRIDAY

12:30 P.M.–1:30 P.M.

481**Formative, Web-Based Assessment for Differentiated Instruction on Fractions and Decimals****(3–5) Session**

The speakers will apply strategies of formative, Web-based assessment and differentiated instruction to NCTM Focal Points and Common Core State Standards. Presented lessons use manipulatives and games that integrate problem solving, appropriate for exceptional education and English as a Second Language. Receive handouts of activities and research.

Amy Johnson

Math Teachers Press, Inc., Minneapolis, Minnesota

Kelli Gedart

Math Teachers Press, Inc., Minneapolis, Minnesota

204 B (CONVENTION CENTER)

482**The Math Party: Sing! Dance! Exercise! Learn!****(3–5) Session**

This interactive, electrifying, fun session encompasses songs, chants, exercises, and dance movements that will invigorate your existing math curriculum. Integrating music and movement with mathematics increases students' motivation and mastery of content. Don't be tardy for the maaath paarty!

Stephanie Pasley

Step By Step Expressions, Inc., Pembroke Pines, Florida

SALON D (MARRIOTT DOWNTOWN)

483**A Novel Way to Use a Novel****(6–8) Session**

Using the teen novel *Secrets, Lies, and Algebra*, participants will connect to inequalities, the quadratic equation, asymptotes, non-Euclidean geometry, and more. The speakers will interweave math and reading, model how to make the connections, and provide ready-to-use lesson samples.

Jacqueline Burns

Fulton County Schools, Atlanta, Georgia

202 A/B (CONVENTION CENTER)

484**Brain-Compatible Instructional Strategies and Formative Assessment: Building Response to Intervention (RtI)****(6–8) Session**

Explore cooperative planning and coteaching among middle school mathematics teachers, special educators, and an instructional coach. Learn how they use research-based instructional strategies and teacher-created, formative assessment techniques to build RtI from the ground up.

Jennifer Smith

Montgomery County Public Schools, Christiansburg, Virginia

119 A (CONVENTION CENTER)

485**Googies, Pancakes, Band-Aids, and Shel Silverstein****(6–8) Session**

Stimulate your students' interest in mathematics through literature. Create appealing problems for your students to solve using the poems of Shel Silverstein as contexts. Explore problems involving ratio and proportion, percents, algebraic thinking, geometry, and measurement.

Wade Sherard

Furman University, Greenville, South Carolina

109 A/B (CONVENTION CENTER)

486**Delivering Pi with a Bicycle Wheel and Hula Hoops****(6–8, Preservice and In-Service) Session**

Make pi real through a practical activity using a bicycle wheel, hula hoops, ribbons, Scotch tape, and a little help from a friend. Discover not only how to create a colorful understanding of pi and its origin, but also how to create a photo math journal for math night, parents' night, or any night.

John McAdam

Marist College, Poughkeepsie, New York

Brittany Redmond

Our Lady of Lourdes High School, Poughkeepsie, New York

120 C (CONVENTION CENTER)

12:30 P.M.–1:30 P.M.

487 Investigating and Creating Escher Tessellations Using GeoGebra

(6–12) Session

M. C. Escher was the master of transforming polygonal tessellations into nonpolygonal works of art. Go beyond mere transformations and symmetry to discover Escher's secrets. Use free, dynamic, online GeoGebra worksheets to bring these works of art to life for you and your students.

James Chinn

Broward County Public Schools, Fort Lauderdale, Florida

Guy Barmoha

Broward County Public Schools, Fort Lauderdale, Florida

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

488 Pythagoras in China, or the Gou Gu Procedure

(6–12) Session

Western mathematics has produced many proofs for the Pythagorean theorem. Travel east and stop in chapter 9 of the Nine Chapters on Mathematical Procedures (Jiu zhang suan shu). The speakers will present activities designed from problems in this chapter that we have used with students in grade 9.

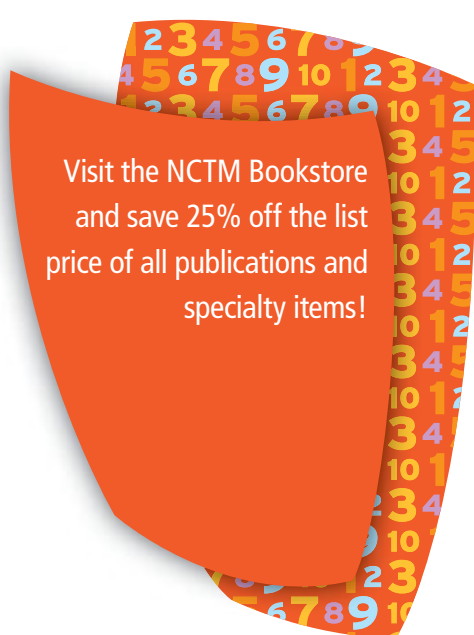
Iolanda Guevara Casanova

Institut Badalona VII, Badalona, Spain

Carmen Burgués Flamarich

University of Barcelona, Spain

203 A/B (CONVENTION CENTER)



Visit the NCTM Bookstore
and save 25% off the list
price of all publications and
specialty items!

489 Teachers Designing Algebra Lessons to Address the Common Core State Standards

(6–12) Session

This session will describe a professional development project supporting teacher teams in developing curriculum materials for algebra topics identified as challenging to teach or tough to learn. The speakers will share the materials development process, describe teachers' experiences with the materials, and share samples of students' work.

Fay Zenigami

Curriculum Research and Development Group, University of Hawaii, Honolulu

Melfried Olson

Curriculum Research and Development Group, University of Hawaii, Honolulu

Judith Olson

Curriculum Research and Development Group, University of Hawaii, Honolulu

SALON H (MARRIOTT DOWNTOWN)

490 Technology as a Tool for Orchestrating Mathematical Discourse

(6–12) Session

Orchestrating productive mathematical discourse starts with worthwhile tasks, questions that promote sense making and reasoning, and opportunities for students to share their thinking. Technology can play a powerful role in providing new opportunities for students to share their mathematical approaches, strategies, and solutions.

Jessica Cohen

Western Washington University, Bellingham

Thomas Dick

Oregon State University, Corvallis

Gail Burrill

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

201 B (CONVENTION CENTER)

FRIDAY

12:30 P.M.–1:30 P.M.

491

**Examining Our Practice:
What We Learned about
Teaching Geometry Proof**

(9–12) Research Session

Teachers often puzzle over how best to introduce proof and induct their students into proving. The speakers, who collaborated to study how geometric proof is taught, will discuss what they learned and how their approach to proof has evolved since then. They will share specific tools for teaching proof.

Michelle Cirillo

University of Delaware, Newark

Sam Walters

Haverford School, Pennsylvania

Kathleen Wright

Archmere Academy, Claymont, Pennsylvania

122 A (CONVENTION CENTER)

491.1

**What Algebra Is Left to Learn
in the CAS Classroom?**

(9–12) Session

Calculators can now do most operations that once formed the algebra curriculum. Plenty is left to learn, however, much of it that only people can do. Take a look at how to use the new power and how to clarify what we still need to learn and do ourselves.

Loring Coes

Rocky Hill School, East Greenwich, Rhode Island

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

FRIDAY



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TSalerno@SingaporeMathTraining.com

www.SingaporeMathTraining.com

12:30 P.M.–1:30 P.M.

492

Lines of Best Fit: Fact and Fiction

(9–12) Session

What makes a certain line fit a scatterplot “best?” How do you find that line? What is regression, and how does it relate to correlation? What misunderstanding about, and misuse of, linear models commonly appears in math textbooks and on state assessments?

Dave Bock

Retired, Ithaca High School, New York

115 C (CONVENTION CENTER)

493

Move to Improve: Using Geometer’s Sketchpad (GSP) Animations in the Geometry Classroom

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

The speakers will demonstrate how to use animations for geometry teaching and learning, giving examples of GSP animations and describing the mathematics involved in constructing them. The presentation aims to develop teachers’ technological pedagogical content knowledge and mathematical knowledge for teaching geometry.

Ruthmae Sears

University of Missouri—Columbia

Dung Tran

University of Missouri—Columbia

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

494

Project-Based Learning: Balanced Assessment, Building Understanding

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

Learn how to give your students a voice using projects that support learning, allow for authentic technology use, build understanding, and offer more balanced assessment. The speakers will share sample projects and rubrics used in geometry, precalculus, probability, and statistics and discuss how to support students and streamline assessment.

Jon Hasenbank

University of Wisconsin—La Crosse

Jenni McCool

University of Wisconsin—La Crosse

John Schmidt

Central High School, La Crosse, Wisconsin

107 A/B (CONVENTION CENTER)

495

Promoting Mathematical Concept and Vocabulary Learning for English Language Learners (ELLs)

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

Mathematics teachers often wonder how to teach vocabulary effectively to promote ELLs’ mathematics and language learning. The presenter will share teaching strategies to do just that, connecting ELLs’ prior learning, conducting concept-based vocabulary instruction, and using multiple ways to engage students in using the new words.

Yu Ren Dong

City University of New York—Queens College, Flushing

SALON C (MARRIOTT DOWNTOWN)

496

Actively Engage Tablet Computers, Digital Notebooks, and Course Management Systems

(Higher Education) Session

Using technology with one-to-one tablet computers, see how to share partial digital notes ready for students to organize work in a digital notebook, correct papers in a digital format, and create an atmosphere of interactivity in the classroom.

Mary Staniger

Upper Iowa University, Fayette

126 B (CONVENTION CENTER)

497

Supporting an Online Professional Community for Teachers

(Preservice and In-Service) Session

Professional communities are a crucial resource for teachers, but creating and sustaining them is notoriously difficult. Discuss how to use the Internet and other learning technologies to create a virtual community that bridges professional development and instructional practices.

Jason Silverman

Drexel University, Philadelphia, Pennsylvania

Esther Ladwig

White River School District, Buckley, Pennsylvania

Kelly Cooper

School District of Philadelphia, Pennsylvania

125 (CONVENTION CENTER)

FRIDAY

1:00 P.M.–2:00 P.M.

ew 497.1
Why Math Talk? The Critical Importance of Classroom Discussions in Mathematics Teaching and Learning

(K–6) Exhibitor Workshop

How do you facilitate a discussion so that it leads to students' insight and discovery? Real, classroom-based video examples illustrate principles and practices of *Classroom Discussions* and the role these discussions play in deepening students' mathematical understanding. Free copies of *Classroom Discussions* will be given to the first 50 attendees.

Math Solutions
Sausalito, California

115 B (CONVENTION CENTER)

ew 497.2
One Giant Leap for Mathkind: TI-Nspire™ Excites Students and Transforms Learning

(6–12) Exhibitor Workshop

See why TI-Nspire makes students' interest skyrocket. TI-Nspire CX technology brings math and science to life with a full-color display, interactive touchpad, photos and images, real-time data collection, and multiple representations on a single screen. The TI-Nspire CX Navigator system lets you see what every student is thinking and doing at any time!

Texas Instruments
Dallas, Texas

113 B (CONVENTION CENTER)

ew 497.3
Pearson High School Math and the Common Core

(8–12) Exhibitor Workshop

Learn how this blended print and digital curriculum not only engages students but also infuses Common Core Standards and Mathematical Practices throughout each lesson to ensure ALL learners acquire the critical knowledge and skills necessary to succeed in college and in their careers.

Pearson
Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

1:00 P.M.–2:30 P.M.

498
Exploring Shapes in Space with the Frogonauts

(Pre-K–2) Gallery Workshop

Take your students beyond naming shapes to describe, analyze, and build them as the Common Core State Standards outline, engaging in creative activities from research-based units. Help the Frogonauts create, describe, and navigate the Lily Pad Space Station using two- and three-dimensional shapes, positional vocabulary, and spatial relationships.

Kathy Gavin
University of Connecticut, Storrs

Tutita Casa
University of Connecticut, Storrs

FRANKLIN HALL 3/4 (MARRIOTT DOWNTOWN)

499
Place Value: Building Bridges to Support Deep Understanding and Proficiency

(Pre-K–2) Gallery Workshop

This presentation will focus on participatory activities, supported by Common Core State Standards content and learning principles, that build foundational concepts and reinforce skills. Use manipulatives and drawings for constructing patterns and developing mental math strategies. Discuss error patterns in students' work.

Helene Sherman
University of Missouri—St. Louis

204 C (CONVENTION CENTER)

500
Algebra: The Missing Variable in Elementary School Mathematics

(Pre-K–5) Gallery Workshop

Algebraic thinking begins in kindergarten and progresses throughout elementary school. Explore ways to encourage algebraic thinking through engaging, hands-on activities. The speaker will discuss Ideas for using technology while exploring algebra, including Web sites, PowerPoint, and apps for the iTouch.

Kimberly Bender
Chesterfield County Public Schools, Virginia

Victoria Bohidar
Chesterfield County Public Schools, Virginia

Kathryn Munson
Chesterfield County Public Schools, Virginia

119 B (CONVENTION CENTER)

Now offering K-8 programs well-aligned to the Common Core!!!



Singapore Math[®]

Since 1998 our Singapore Math[®] programs have been improving math literacy and test scores in public, private, and charter schools across the US and Canada. Currently, there are over 2000 schools that have benefitted from the Singapore Math[®] approach to teaching and learning mathematics.

Focusing on fewer concepts to much greater depth than traditional math curricula, our programs foster mastery of concepts and skills.... all the while meeting the Common Core State Standards.

Singapore Math is for Middle School too!

**Presenter: Bill Jackson
Friday, April 27, 4:00-5:00 pm
Room 115B**

www.SingaporeMath.com

1:00 P.M.–2:30 P.M.

501 Differentiating Grades K–5 Math Instruction under the CCSS

(Pre-K–5) Gallery Workshop

Learn how to compare conceptual knowledge to procedural knowledge, analyze students' work, and discuss how to create strategic interventions and meaningful challenges to help all students achieve success under the CCSS standards and practices.

Jennifer Taylor-Cox
Taylor-Cox Instruction, Severna Park, Maryland

118 A (CONVENTION CENTER)

502 Dynamic Computer Simulations for Promoting Conceptual Discussions of Spatial Measurement

(Pre-K–5) Gallery Workshop

Explore the benefits of using dynamic computer simulations to encourage reasoning and sense-making in length and area measurement. Work with simulations that highlight important conceptual ideas. Focus on how simulations help promote discussion that can lead to a robust understanding of measurement.

Lorraine Males
Michigan State University, East Lansing

Nicholas Gilbertson
Michigan State University, East Lansing

FRANKLIN HALL 9/10 (MARRIOTT DOWNTOWN)

503 Mathematicians Workshop: Managing the Differentiated Classroom

(Pre-K–5) Gallery Workshop

Learn how to manage a differentiated classroom using a student-centered approach to learning: Mathematicians Workshop. Learn techniques to manage grading, parallel tasks, peer tutoring, and small-group work.

Amy Hunter
Jefferson County Public Schools, Louisville, Kentucky

116 (CONVENTION CENTER)

504 Using the Library of Congress to Develop Rich Mathematical Tasks

(Pre-K–5) Gallery Workshop

Engage in mathematical tasks developed using resources from the Library of Congress. Create links to literature and social studies. Learn how to access these resources online. Finally, develop a mathematical task from a given Library of Congress resource.

Jeremy Winters
Middle Tennessee State University, Murfreesboro

Pamela Neal
Kittrell Elementary School, Murfreesboro, Tennessee

Tracey Ring
Middle Tennessee State University, Murfreesboro

124 (CONVENTION CENTER)

505 Connecting the Power of Technology and Children's Literature with Mathematics

(3–5) Gallery Workshop

Try a variety of activities that incorporate children's literature and a hands-on introduction to the TI-15 and TI-73 calculators. Mathematical content will include measurement and data, operations and algebraic thinking, and more. Handouts will be provided.

Betty Long
Appalachian State University, Boone, North Carolina

Deborah Crocker
Appalachian State University, Boone, North Carolina

FRANKLIN HALL 12/13 (MARRIOTT DOWNTOWN)

FRIDAY



A special thank you to
all the volunteers
that have assisted with
the Annual Meeting!

1:00 P.M.–2:30 P.M.

506 Differentiating Instruction in Grades 3–5 with Open-Ended Problem Solving

(3–5) Gallery Workshop

Solve, create, and score open-ended problems. Learn how to take traditional textbook problems and transform them into open-ended problems. Discuss how you can use these types of problems to differentiate math instruction and challenge all learners while meeting Common Core State Standards for Mathematical Practice.

Nancy Smith
Emporia State University, Kansas

Sheri Bevis
Emporia State University, Kansas

SALON E (MARRIOTT DOWNTOWN)

507 Investigating Ratio and Scale Using a Miniature Museum Context

(3–5) Gallery Workshop

Participate in a museum mini-investigation! See how students can extend their understanding of ratio and scale by designing investigations with miniature and oversized objects, using the ratio table as a visual model. Design original investigations plus look at students' work and a classroom video.

Julie Broderick
The School at Columbia University, New York, New York

121 C (CONVENTION CENTER)

508 Math + Technology = Art Integration!

(3–5) Gallery Workshop

You don't have to be an artist to have fun in this gallery workshop! Engage in hands-on activities for grades 3–5 students integrating math, technology, and art activities. Create fascinating art projects using inexpensive materials.

Sallie Harper
Mississippi State University, Meridian

Kimberly Triplett
Mississippi State University, Meridian

Tory Shirley
Mississippi State University, Meridian

201 A (CONVENTION CENTER)

509 Singapore Math: Building Blocks to Learning Volume

(3–5) Gallery Workshop

Learn how to bring hands-on Singapore Math to life in your classroom. Use blocks to build solids, share your strategies, and then watch classroom footage of students to understand how this concrete-pictorial-abstract approach can deepen students' understanding of volume and encourage inquiry.

Katherine de la Garza
Scarsdale Public Schools, New York

SALON K/L (MARRIOTT DOWNTOWN)

510 The Math Curse: Fractions? Teaching-Learning with TI Technology, SMART Board™

(3–5) Gallery Workshop

Fractions? No problem. Discover how the SMART Board, calculators, manipulatives, and literature build conceptual understanding, making fractions meaningful and fun! Hands-on activities, appropriate for all learners, will integrate features of TI technology and the SMART Board. Ready-to-use lessons will address NCTM and Common Core State Standards.

Christine Ruda
Teachers Teaching with Technology (T³), Miami, Florida

SALON G (MARRIOTT DOWNTOWN)

511 Bored? Let's Play Math! Engaging, High-Level Activities

(3–8) Gallery Workshop

Benjamin Banneker Association Presentation

Do you have students who need a challenge? Do you need a challenge? Join a fun, interactive presentation on using manipulatives to deepen conceptual understanding of various math skills. Get ready to cut, glue, and laugh as we exercise our brains in a whole new way! Oh, and giving up is not allowed. The answer is there!

Leslie Hooks
Fort Worth Independent School District, Fort Worth, Texas

103 C (CONVENTION CENTER)

FRIDAY

1:00 P.M.–2:30 P.M.

512 Negotiating Models for Teaching Fractions: Which Ones Work for Students?

(3–8) Gallery Workshop

Explore models that the Rational Number Project has found to help students effectively build meaning for fractions and operations with fractions. These models include fraction circles for building meaning, paper folding for multiplication, story contexts for division, and number lines for reinforcing students' work with fractions.

Kathleen Cramer

University of Minnesota—Twin Cities, Minneapolis

Terry Wyberg

University of Minnesota—Twin Cities, Minneapolis

204 A (CONVENTION CENTER)

513 Unlocking the Secrets behind Discrete Mathematics

(3–8) Gallery Workshop

Unlock the mystery behind discrete mathematics with fun, problem-solving activities for your students. Receive hands-on experience in breaking down systematic listing, combinations, and permutations through puzzles, paper manipulating, and games, and a folder of all presentation items.

Jenifer Martin

Saint Elizabeth Ann Seton School, Tucson, Arizona

120 A/B (CONVENTION CENTER)

514 Using Art to Teach and Assess Geometry Concepts

(3–8) Gallery Workshop

Delve into a geometry concept through a problem-based task, and then apply that concept in an original piece of artwork. Use the experience to explore the essential elements of a problem-based task in a lesson as well as artwork creation and evaluation.

Jeff Heyck-Williams

Two Rivers Public Charter School, Washington, D.C.

Kali Haney

Two Rivers Public Charter School, Washington, D.C.

FRANKLIN HALL 6/7 (MARRIOTT DOWNTOWN)

515 An Origami-Algebra Connection

(6–8) Gallery Workshop

Why would an algebra teacher use origami? This gallery workshop will answer that question. You will solve problems and find patterns and functional relationships, all in the context of folding paper. Oh, and you will have fun doing it! You don't have to be an algebra teacher or know algebra to profit from this presentation.

Joseph Georgeson

University School of Milwaukee, Wisconsin

115 A (CONVENTION CENTER)

516 Four Culminating Activities That Each Integrate Multiple Math Topics

(6–8) Gallery Workshop

Taste jelly, calculate car costs, solve problems in teams, and race model cars in order to integrate statistical analysis, measurement, ratios, decision making, and problem solving. Participants will receive materials for each of the presentation's four activities.

Terry Baylor

Retired, Shippensburg University, Pennsylvania

113 C (CONVENTION CENTER)

517 NASA Smart Skies: Connecting Math/Technology Through Air Traffic Control

(6–8) Gallery Workshop

Apply proportional reasoning and distance-rate-time relationships to explore flight problems through an experiment, a graphing tool, and an air traffic control simulator. Use multiple representations to connect equations, their graphs, and real-world scenarios. All materials are free online.

Gregory Condon


NASA, Moffett Field, California

Rebecca Green

NASA, Moffett Field, California

118 C (CONVENTION CENTER)

ICON LEGEND

 Common Core State Standards

 Core Math Tools

 NCTM Committee Presentations

 New Teacher Strand

 Exhibitor Workshop

1:00 P.M.–2:30 P.M.

518

Think outside the Box: Multiple, Linked Representations and Boxplots

(6–8) Gallery Workshop

Boxplots are representations for organizing and displaying data that might be easy to create, but not so easy to understand, interpret, or match with other representations of the same data. Through linked representations, participants will use graphing calculators to interpret boxplots and make connections among different representations of data.

S. Asli Ozgun-Koca

Wayne State University, Detroit, Michigan

Thomas Edwards

Wayne State University, Detroit, Michigan

FRANKLIN HALL 1 (MARRIOTT DOWNTOWN)

519

Using Free NCTM Resources to Promote an Understanding of Proportion

(6–12) Gallery Workshop

Solve a mystery with proportional reasoning. Use clues from the Highway Robbery lesson on Illuminations (illuminations.nctm.org) to nab a criminal. Investigate online tools, all available free from NCTM, that develop students' conceptual understanding of proportions.

Patrick Vennebush

National Council of Teachers of Mathematics, Reston, Virginia

SALON A/B (MARRIOTT DOWNTOWN)

520

Statistics in Common Core State Standards: Analyzing Experiments Using Simulation

(9–12) Gallery Workshop

Does seat location affect grades? Can high-tech swimsuits make you swim faster? Is it harder to shoot free throws with distractions? Using real data, hands-on simulations, and technology, learn how to determine if the results of randomized experiments are significant, and how this connects to the CCSS for statistics.

Josh Tabor

Canyon del Oro High School, Oro Valley, Arizona

201 C (CONVENTION CENTER)

521

The Buoy Project

(9–12) Gallery Workshop

The Buoy Project, a capstone assessment for a non-Advanced Placement calculus course, is an engineering puzzle requiring applications of the definite integral, Archimedes' principle, collaborative teamwork, creative design, formal report writing, drawing, and Powerpoint presentations before guest faculty.

John Gieske

Lawrenceville School, New Jersey

122 B (CONVENTION CENTER)

522

The Law of Cosines, without or before the Cosines, Part 2

(9–12) Gallery Workshop

This presentation continues one at NCTM's 2011 Annual Meeting on teaching trigonometry in geometry without trigonometric notation. Last year's attendees will pick up where they left off; those who did not attend will develop the ideas from scratch. The two groups will work together at the end. Laptops with GeoGebra installed are encouraged.

Ellen Ford

Northshore Recovery High School, Beverly, Massachusetts

Bill Rosenthal

City University of New York—New Community College

105 A/B (CONVENTION CENTER)

523

The Mathematics of Decision Making: An Alternative Fourth-Year Math Course

(9–12) Gallery Workshop

MINDSET is a collaboration among educators, engineers, and mathematicians to create and implement a curriculum to teach standard mathematics concepts using math-based, decision-making tools for a noncalculus fourth-year mathematics curriculum. Experience the curriculum by solving multistep problems in real-world settings.

Karen Norwood

North Carolina State University, Raleigh

121 A (CONVENTION CENTER)

FRIDAY

1:00 P.M.–2:30 P.M.

524 Where God Divided by Zero: NASA's Black-Hole Mathematics

(9–12) Gallery Workshop

Black holes provide a fascinating theme for mathematical and scientific investigation. This presentation will use mathematics and hands-on exploration to find out what a black hole is and investigate the modern mysteries surrounding these giant phenomena. Free NASA materials will be available.

Janet Moore

National Aeronautics and Space Administration (NASA),
Rohnert Park, California

BALLROOM A (CONVENTION CENTER)

525 Fundamental Theorem of Calculus: Integration and Differentiation, Connections Using Technology

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

Working through a series of paper-and-pencil and technology-based classroom activities, experience hands-on investigations designed to help students improve their conceptual understanding of the FTC. Activities will focus on connections between integrally defined functions and those functions' derivatives.

Mike Koehler

Blue Valley North High School, Overland Park, Kansas

SALON I/J (MARRIOTT DOWNTOWN)

526 The Great Gorilla Jump: A Riemann Sum Investigation

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

A gorilla wearing a parachute jumps off a building, how tall is the building? Will the dam hold? Can you make your approximation better? Explore activities that facilitate students' understanding of integral approximation methods, particularly Riemann sums.

Nicole Engelke

California State University, Fullerton

Vicki Sealey

West Virginia University, Morgantown

108 B (CONVENTION CENTER)

527 Using Games and Technology to Connect Tables, Graphs, and Equations

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

Many patterns emerge in games, such as each piece's first move relative to the minimum total number of moves needed to win each game. Investigate and play several games and use the TI-Inspire graphing calculator and Fathom data and statistics software to make connections among tables, graphs, and equations.

Judy Brown

Dayton Regional Science, Technology, Engineering, and
Mathematics School, Beavercreek, Ohio

126 A (CONVENTION CENTER)

528 Think-Pair-Think-Share, Not Think-Pair-Share

(Preservice and In-Service) Gallery Workshop

How can you improve think-pair-share strategy? How can you make mathematics lessons more understandable for all learners, such as English language learners and struggling students? Thinking time before sharing gives students chances to reflect on what they have learned and have more confidence while sharing their ideas.

Nancy Schoolcraft

Indiana University Bloomington

Hyunyi Jung

Purdue University, West Lafayette, Indiana

111 A/B (CONVENTION CENTER)

529 Keys to Success for English Language Learners (ELLs) in Mathematics

(General Interest) Session

TODOS: Mathematics for ALL Presentation

ELLs sometimes struggle learning mathematics concepts because of English language deficiencies. This session will offer strategies to enhance vocabulary acquisition by speaking, listening, writing, and reading in the context of mathematics lessons. Share teachers' successes and access to language-adjusted mathematics lessons.

Bill Jasper

TODOS: Mathematics for ALL; Sam Houston State University,
Huntsville, Texas

121 B (CONVENTION CENTER)

2:00 P.M.–3:00 P.M.

529.1



Why Students Hate Word Problems

(General Interest) Session

The fault lies not with our students but with the quality of the word problems themselves, restricted for too long by the paper they're printed on. As we start to deliver curricula digitally, we need to reckon seriously

with the reasons and effective methods for connecting math to the world outside the math classroom.

Dan Meyer taught high school math for six years, often to students who did not like high school math. Currently a doctoral candidate in mathematics at Stanford University, he speaks internationally and works with publishers to help them figure out what their textbooks will look like when they leave paper behind. *Tech & Learning* magazine named him one of its 30 Leaders of the Future.

Dan Meyer

Stanford University, California

TERRACE BALLROOM 4 (CONVENTION CENTER)

530



NCTM Business Meeting

(General Interest) Session

This presentation will give a summary of the past year's significant accomplishments and an overview of NCTM's current and future strategic directions.

Kichoon Yang

Executive Director, National Council of Teachers of Mathematics, Reston, Virginia

119 A (CONVENTION CENTER)

531

Secondary Mathematics Teachers' Development of TPACK Using Handheld Technology Tools

(General Interest) Session

This presentation will share information on how teachers develop technological, pedagogical, and content knowledge (TPACK), a teacher education program using handheld technology. Preservice teachers' mathematical TPACK develops through well-prepared activities in linear programming, solving polynomial equations, solving a rational function, and visualizing conic sections.

Kyong Mi Choi

University of Iowa, Iowa City

Taecheon (Tom) Choi

University of Iowa, Iowa City

SALON H (MARRIOTT DOWNTOWN)

532

Solving America's Innovation Problem

(General Interest) Session

Change the Equation is dedicated to deepening students' learning in science, technology, engineering, and mathematics (STEM). To help measure state performance and dig deeper into the nation's education challenges, it created Vital Signs reports on the condition of STEM learning nationwide. These reports are an important first guidepost.

Linda Rosen

Past Executive Director, National Council of Teachers of Mathematics; Change the Equation, Washington, D.C.

TERRACE BALLROOM 1 (CONVENTION CENTER)

533

Supporting Mathematical Learning through Whole-Class Discussion

(General Interest) Session

Explore how to use whole class discussions effectively to support mathematical learning. You can meet needs of diverse learners, clear misconceptions and errors, and challenge students to make deeper mathematical connections through discussion. Explore strategies through which you can effectively and efficiently use discussion in your lessons.

Teruni Lamberg

University of Nevada, Reno

204 B (CONVENTION CENTER)

FRIDAY



Help your
students
catch up
and
keep up!

Join Us for a

Conversation With Marilyn

Thursday,
April 26th

at 11:15 A.M.

Booth #736

Marilyn Burns

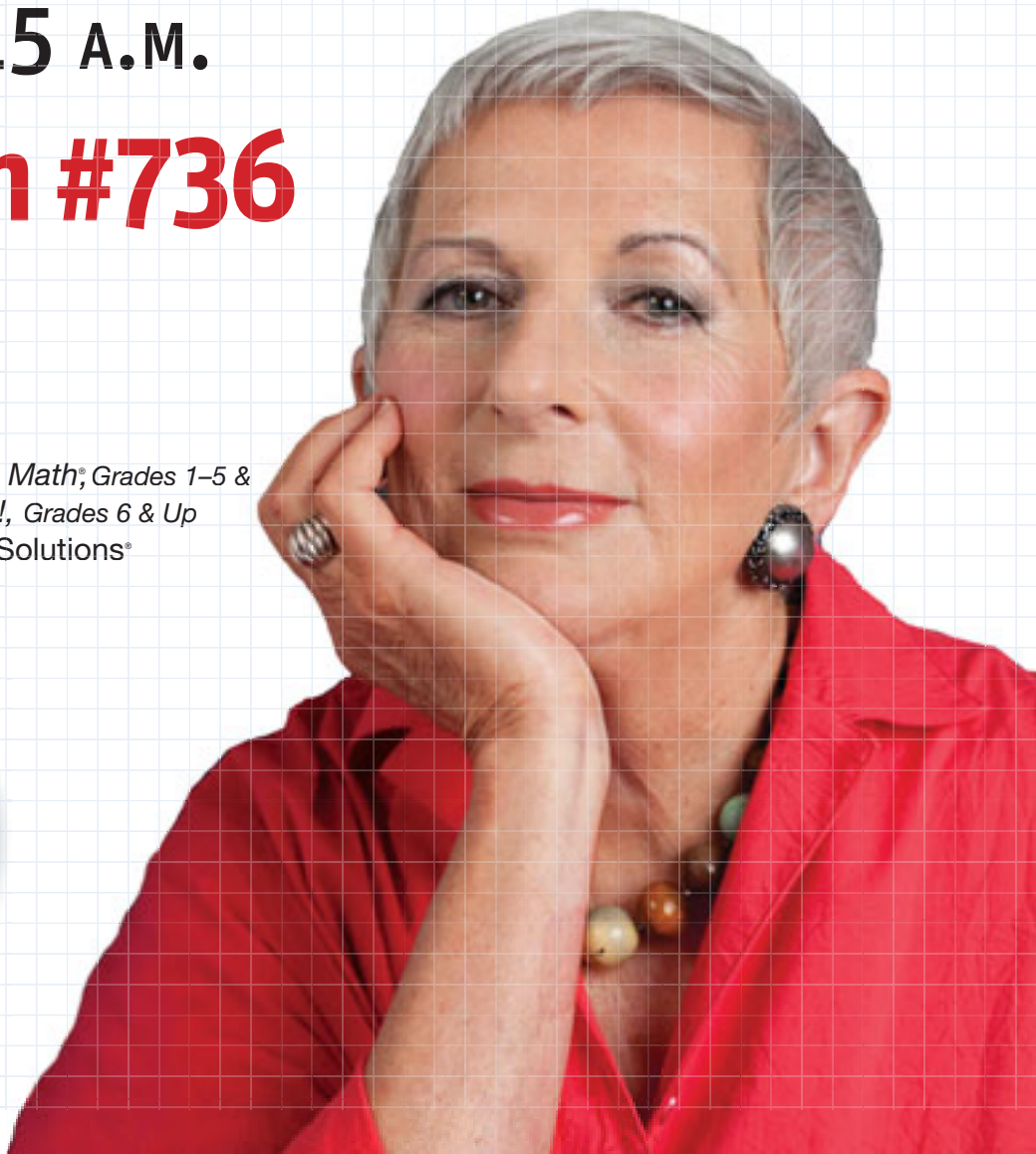
Creator of *Do The Math*®, Grades 1–5 &
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Marilyn Burns

Come hear
about the
NEW
MathReads



2:00 P.M.–3:00 P.M.

534

Where Are Your Students? Using Technology to Teach Virtually

(General Interest) Session

Are you teaching in a state virtual school? Have you thought about it? Have you wanted to include virtual school ideas in your brick-and-mortar classroom? This session will examine useful technology for teaching in grades K–12 virtual schools. Hardware and software applications will be included.

Janet Andreasen

University of Central Florida, Orlando

201 B (CONVENTION CENTER)

535

Building Algebraic Thinking into Number and Operations

(Pre-K–2) Session

Algebraic thinking supports developing number sense, and vice versa. Come explore many tasks and strategies for helping young students make generalizations and see patterns in numbers and operations.

Jennifer Bay-Williams

University of Louisville, Kentucky

202 A/B (CONVENTION CENTER)

536

CCSS in the Primary Grades: Focus on Number and Operations

(Pre-K–2) Session

The Common Core State Standards (CCSS) includes strategies for developing primary grades addition and subtraction. Study how textbooks underscore different tools and sequences of instruction to develop these strategies. Comparing textbooks and tools will include international differences, including methods that build tens decomposition.

Mary Leer

Lancaster School District, Pennsylvania

114 (CONVENTION CENTER)

537

Puzzles Are Not Just for Dessert Any More

(Pre-K–5) Session

What child does not love puzzles? What teacher does not love watching children have fun while strengthening their skills? Get students involved, improve their fact fluency, and build on their mental math through puzzles of all kinds. Learn how to incorporate many exciting puzzles into your lessons, and show children how to continue the fun at home.

Samantha Lowe

Framingham Public Schools, Massachusetts

Tracy Manousaridis

Weston Public Schools, Massachusetts

Kate Coleman

Framingham Public Schools, Massachusetts

117 (CONVENTION CENTER)

538

Effective Instruction Differentiation Based on Classroom Activities and Assessments

(3–5) Session

Learn how to find resources for differentiating numeracy and operations lessons within your curriculum, and decrease the number of tests you need by using classroom work more effectively. Learn how to score class work to know what your students understand and can do, placing students on a progression of learning for math content and math practices.

Catherine Kaduk

Naperville Community Unit School District 203, Illinois

Deena Soffer

University of Illinois at Chicago

115 C (CONVENTION CENTER)

FRIDAY

2:00 P.M.–3:00 P.M.

539

Leveraging One-on-One Computing: Time to Know Math Implementation and Outcomes

(3–5) Research Session

In 2010, four New York City public elementary schools implemented Time to Know, a digital platform that uses one-on-one computing to improve students' learning opportunities. Drawing from an independent, before-and-after comparison study, the speaker will examine the program's effects on teaching, learning, and students' engagement and achievement.

Damian Bebell

Boston College, Chestnut Hill, Massachusetts

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

540

Bears and Baseball: Developing Statistical and Technological Literacy

(3–8) Session

What do panda bears, baseball, and Joe Mauer have to do with statistics? Come see how to use children's books to teach statistics. Receive a copy of Bears and Baseball along with ideas for engaging students in learning important statistical concepts.

Micah S. Stohlmann

University of Minnesota—Twin Cities, Minneapolis

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

541

Challenges and Opportunities of the CCSS: Fraction Teaching and Learning

(3–8) Session

Teaching and learning fractions in middle grades remain a major challenge to many teachers and students. Join the speaker in examining how the Common Core State Standards treats fractions and identify some primary ideas and organizing principles that support students' conceptual understanding of fractions. East Asian materials will also be examined.

Tad Watanabe

Kennesaw State University, Georgia

126 B (CONVENTION CENTER)

542

Every Day Is Mathematical

(3–8) Session

We all know that March 14 is Pi Day, and many of us celebrate October 10 as Metric Day. But can we find a mathematical connection to every day of the year? The speaker will show you how to motivate students and review important numerical concepts in a fun, engaging way. Yes, every day is mathematical.

Rita Barger

University of Missouri—Kansas City

123 (CONVENTION CENTER)

543



Helping Our Students Become Mathematical Thinkers

(3–8) Session

A major goal of mathematical instruction is giving students experiences that support sense making and develop mathematical mind habits.

NCTM's Process Standards and the Common Core State Standards for Mathematical Practice offer strategies for effective instructional practice. Learn ways to implement these standards in grades K–8 mathematics classrooms.

Linda Gojak

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

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

544

Teaching Fractions across Different Cultures

(3–8) Session

This session will present how the Babylonians, ancient Chinese, and Egyptians used fractions. The speakers will discuss how these cultures wrote fractions, which operations they could be carry out with fractions, and how they expanded the use of fractions.

Cheng-Yao Lin

Southern Illinois University, Carbondale

Hsing-Wen Hu

University of Alaska, Anchorage

Rong-Ji Chen

California State University San Marcos

113 A (CONVENTION CENTER)

2:00 P.M.–3:00 P.M.

545 Using Learning Progressions and Formative Assessment to Teach Geometry

(3–8) Session

The speaker will use numerous examples of students' sense making to discuss a research-based learning progression for geometry, assessment tasks linked to this progression, and instructional strategies that use the progression and assessments.

Michael Battista
Ohio State University, Columbus

109 A/B (CONVENTION CENTER)

546 Models for Positive and Negative Rational-Number Operations

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

This session will present various representations for rational number operations, including games, number line, motion, and chip models. The speaker will discuss challenges, for both teachers and students, of using and understanding different representations. Participants will discuss implementing different models and consider alternative strategies.

Eileen Murray
State University of New York—College at New Paltz

SALON C (MARRIOTT DOWNTOWN)

547 Solving Equations Using Nonconventional Methods

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

Writing and solving equations can be abstract and confusing for students. Learn nonconventional ways to encourage flexible thinking and develop a deeper understanding of inverse relationships, fact families, and variables representation. Walk away with three easy-to-use activities to expand students' toolkit for solving equations.

Shephali Chokshi-Fox
Looney Math Consulting, Inc., Easton, Massachusetts

Victoria Miles
Weymouth Public Schools, Weymouth, Massachusetts

203 A/B (CONVENTION CENTER)

548 A SMARTer Way to Teach Math: Use SMART Notebook™ Math

(6–12) Session

Get an interactive look at the new SMART Notebook math software. You will not only observe, but also use the many new features relating to algebra, geometry, and other concepts. Get ideas about lesson creation, classroom instruction, and students' engagement from middle school classroom teachers.

Jill Lyttle
Kenmore Middle School, Arlington, Virginia

Michelle Meehan
Kenmore Middle School, Arlington, Virginia

SALON F (MARRIOTT DOWNTOWN)

549 Mathematical Curves in the Real World: Fun(ctional) Learning

(6–12) Session

The speaker will present conic sections, spirals, catenaries, cycloids, fractals, and so on in many different ways, humorous and real. You will see hands-on activities, computer and calculator applications, free online videos, and more. The talk will focus on mathematics-science connections. Learn why there aren't any parabolic trajectories on earth.

Scott Oliver
Adlai E. Stevenson High School, Lincolnshire, Illinois

122 A (CONVENTION CENTER)

550 Building a Response to Intervention (RtI) Partnership: Lessons Learned along a Journey

(9–12) Session

A mathematics educator and a special education teacher will describe their professional partnership around RtI and algebra. They will share instructional strategies to support stronger Tier 1 instruction, techniques for coteaching environments, and processes for monitoring students' progress.

Barbara Dougherty
Board of Directors, National Council of Teachers of Mathematics; University of Missouri—Columbia

Anne Foegen
Iowa State University, Ames

103 A (CONVENTION CENTER)

FRIDAY

2:00 P.M.–3:00 P.M.

551 Mathematical Concepts to Make Sense of Algebra

(9–12) Session

This presentation will describe unifying principles that address the similarities and differences among various kinds of functions. The principles help students make sense of algebra, its applications, and its role in future courses of study.

Paul Foerster

Alamo Heights Independent School District, San Antonio,
Texas

BALLROOM B (CONVENTION CENTER)

552 Quantitative Financial Literacy: An Advanced Algebra Course for All Students

(9–12) Session

Quantitative Financial Literacy is a substantive math applications and modeling course that applies advanced mathematics to investments, creating a business, banking, credit, automobiles, employment, taxes, home ownership, retirement, and budgeting. It is a perfect real-world, real-math, third- or fourth-year course option.

Richard Sgroi

Retired, Bedford Central School District, New York

125 (CONVENTION CENTER)

553 Reasoning and Sense Making in Algebra and Common Core State Standards

(9–12) Session

This presentation will show how to focus on reasoning and sense making in teaching algebra. Engage with examples and classroom vignettes from NCTM's *Reasoning and Sense Making in Algebra* document. The examples will illustrate the technology use and the Common Core State Standards for Mathematics practices.

Karen Graham

University of New Hampshire, Durham

Al Cuoco

Education Development Center, Newton, Massachusetts

Gwen Zimmerman

Adlai E. Stevenson High School, Lincolnshire, Illinois

108 A (CONVENTION CENTER)

554 Special Triangles from the Golden Triangle and Ailles' Rectangle

(9–12) Session

Using Ailles' rectangle, the golden triangle, and high school geometry, construct a complete list of all the special triangles that have rational angles and sides with at most one square root. The list is finite, similar to that of the Platonic solids. Collect some great problems with which to challenge your students.

Margot Calcut

Lake Ridge Academy, North Ridgeville, Ohio

Jack Calcut

Oberlin College, Ohio

SALON D (MARRIOTT DOWNTOWN)

555 Teaching Geometry Proofs to a Digital Generation

(9–12) Session

Teaching reasoning and proofs in high school geometry is one of the challenges that teachers face today. Can technology help with this task? Learn about a set of problems that uses symbolic geometry software that can help develop students' proofs skills.

Irina Lyublinskaya

City University of New York—College of Staten Island

120 C (CONVENTION CENTER)

FRIDAY

**Don't miss the
Closing Session
on Saturday
afternoon with
featured speaker
Edward Burger**

2:00 P.M.–3:00 P.M.

557 Use of Tablet Personal Computers (PCs) in Mathematics Education

(9–12, Higher Education) Session

Tablet PCs suit mathematics instruction well, because they allow one to write equations by hand with a stylus. Learn how to use tablet PCs hands-on, to create interactive precalculus and calculus classes.

Carla Romney
Boston University, Massachusetts

Fabian Torres-Ardila
Boston University, Massachusetts

Juan Pedro Paniagua
Boston University, Massachusetts

107 A/B (CONVENTION CENTER)

558 Professional Development That Empowers Teachers: Lesson Study Online

(Higher Education, Preservice and In-Service) Session

Lesson study is a proven, powerful tool for valuing and enhancing teachers' professional growth that usually requires whole school buy-in. Learn about the speakers' successful support of professional learning in a virtual environment. Meet teachers from different schools who participate in lesson-study activities to enhance students' learning.

M. Hope Yursa
Drexel University, Philadelphia, Pennsylvania

Jason Silverman
Drexel University, Philadelphia, Pennsylvania

Cheryl Fricchione
Ranney School, Tinton Falls, New Jersey

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

ICON LEGEND



Common Core State Standards



Core Math Tools



NCTM Committee Presentations



New Teacher Strand



Exhibitor Workshop

2:30 P.M.–3:30 P.M.

ew 558.1 One Giant Leap for Mathkind: TI-Nspire™ Excites Students and Transforms Learning

(6–12) Exhibitor Workshop

See why TI-Nspire makes students' interest skyrocket. TI-Nspire CX technology brings math and science to life with a full-color display, interactive touchpad, photos and images, real-time data collection, and multiple representations on a single screen. The TI-Nspire CX Navigator system lets you see what every student is thinking and doing at any time!

Texas Instruments
Dallas, Texas

113 B (CONVENTION CENTER)

ew 558.2 CME Project – Get to the Core

(8–12) Exhibitor Workshop

Somewhere between an approach that is traditional and one that is progressive lives another way to teach math—CME Project. This NSF-funded high school mathematics program takes a problem-based, student-centered approach while balancing Common Core instructional elements and infusing Mathematical Practices through Habits of Mind.

Pearson
Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

3:00 P.M.–4:30 P.M.

560 Teaching for FUNderstanding

(Pre-K–2) Gallery Workshop

This talk will explore foundational ideas in early number that, if left unattended, cause learning gaps that can swallow a child's motivation, confidence, and capacity to learn. Play games, read books, and work with manipulatives to explore concepts more deeply. Leave with practical ideas you can use the next day.

Jamie Fraser
Origo Education, Kanata, Ontario, Canada

FRANKLIN HALL 12/13 (MARRIOTT DOWNTOWN)

FRIDAY

3:00 P.M.—4:30 P.M.

561

**Yaba Daba Doo:
Subitizing, Composition,
and Decomposition—
Bedrocks of Numeracy**

(Pre-K–2) Gallery Workshop

Engage in activities and discourse selected to deepen essential understanding of subitizing, composing, and decomposing numbers. The speaker will share activities, based on the Common Core State Standards, that you can incorporate into your classroom to facilitate connections among quantity, representation, and symbols.

Marti Kuntz

Educational Resources Group, Charleston, South Carolina

122 B (CONVENTION CENTER)

562

**Blue Bear for President:
Integrated Lesson in
Democracy and Mathematics**

(Pre-K–5) Gallery Workshop

Tired of using your teddy- or gummy-bear manipulatives the same, old way? This presentation will explore an interdisciplinary lesson designed to promote primary-grade students' understanding of both democracy and mathematics. Discussion will focus on data analysis, but also incorporate other Content and Process Standards.

Mary Baker

University of North Dakota, Grand Forks

119 B (CONVENTION CENTER)

563

**Making Sense of Mathematics
through Effective Small-Group
Instruction**

(Pre-K–5) Gallery Workshop

Effective small-group instruction engages all students in rich mathematical discourse while supporting student-centered learning. Experience small group lessons and math centers that use visual models to differentiate your instruction. Learning to make sense of math early in elementary school creates lifelong learners and mathematicians.

Barbara Blanke

Consultant, San Luis Obispo, California

115 A (CONVENTION CENTER)

564

**Math Academy: Using Lesson Study
and Practicing Teachers' Expertise**

(Pre-K–5) Gallery Workshop

Learn how one district created a professional learning community that incorporated lesson study and the concrete-pictorial-abstract approach to improve math instruction in grades K–5 classrooms. Practicing teachers developed grade-specific presentations that focused teachers' practice and students' knowledge on Common Core implementation.

Barbara Child

Logan City School District, Utah

Max Longhurst

Utah State University, Logan

113 C (CONVENTION CENTER)

565

**The Road to Guided Math:
Get Started, and Take Off!**

(Pre-K–5) Gallery Workshop

How can you get the most out of your math instruction in grades K–5? Join us to explore grade-specific tasks, resources, and strategies to incorporate guided math into your world. Learn how to meet the needs of your students and get results you want. Receive resources and a tool kit. We can help you get on the road.

Kathy Spruiell

Gwinnett County Public Schools, Norcross, Georgia

Cheri Matthews

Gwinnett County Public Schools, Norcross, Georgia

Nicole DiCarlo

Gwinnett County Public Schools, Norcross, Georgia

FRANKLIN HALL 1 (MARRIOTT DOWNTOWN)

3:00 P.M.–4:30 P.M.

566 Building Conceptual Understanding through Representations

(3–5) Gallery Workshop

Explore four new, hands-on materials for elementary school math students as you discover what it means to develop understanding with innovative visual and tactile materials. Create and use these representational materials to develop mathematical thinking for the basic facts, measurement, geometry, and concepts of number.

Mary Kay Bacallao

Mercer University, Macon, Georgia

201 A (CONVENTION CENTER)

567 Developing Core Content and Practices with NCTM's Free E-Examples

(3–5) Gallery Workshop

Make your classroom come alive while developing proficiency with algebraic reasoning, communication, and geometry with NCTM's E-examples. Incorporating the newly-revised online games and interactive applets, NCTM's e-examples give you online resources for you to demonstrate key topics in your classrooms and for students to explore on their own.

David Barnes

National Council of Teachers of Mathematics, Reston, Virginia

SALON A/B (MARRIOTT DOWNTOWN)

568 Messy Measures Cleaned Up

(3–5) Gallery Workshop

Help waylay the confusion as students distinguish among perimeter, area, and volume measures. Do hands-on, manipulatives-based activities to help students understand the concepts and make meaning of the formulas; use other resources—comics, videos, and animations—to reinforce the learning.

Betty Cordel

AIMS Education Foundation, Fresno, California

121 A (CONVENTION CENTER)

569 Modifying Curriculum: Area and Perimeter

(3–5) Gallery Workshop

Engage in a thought-provoking series of tasks involving area and perimeter. With open-ended tasks, concepts of minimums and maximums will emerge, along with a worthwhile discussion of definitions. Finally, compare the task to the original from a traditional curriculum and discuss implications for modifying curriculum.

Ryan Nivens

East Tennessee State University, Johnson City

FRANKLIN HALL 3/4 (MARRIOTT DOWNTOWN)

570 Playing with Place Value

(3–5) Gallery Workshop

Learn how to present place-value concepts by using games to teach, reinforce, and remediate students. These games offer fun ways to write numbers in expanded and standard form, order and compare whole and decimal numbers, and place digits strategically to develop a better understanding of place value through problem solving and mathematical reasoning.

Kathie Smart

University of Louisiana at Monroe

Pamela Martin

University of Louisiana at Monroe

118 C (CONVENTION CENTER)

571 Native American Beadwork: Mathematical Connections Integrating Technology and Culture

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

Native American beadwork illustrates hands-on application of mathematics, including number and operations, geometry, data analysis, measurement, and algebra. Create your own beadwork and learn activities using technology to help students apply what they learn.

Jim Barta

Utah State University, Logan

Tod Shockey

University of Toledo, Ohio

120 A/B (CONVENTION CENTER)

FRIDAY

3:00 P.M.–4:30 P.M.

572

Connecting the Dots: Exploring Relationships between Proportional Reasoning and Graphing

(3–8) Gallery Workshop

Explore proportional reasoning situations and students' solution strategies, to understand how students' proportional reasoning evolves and links to growth in their understanding of graphing.

Signe Kastberg

Purdue University, West Lafayette, Indiana

Beatriz D'Ambrosio

Miami University, Oxford, Ohio

Kathleen Lynch-Davis

Appalachian State University, Boone, North Carolina

SALON I/J (MARRIOTT DOWNTOWN)

573

Differentiated Instruction in Geometry: Strategies for All and ELL

(3–8) Gallery Workshop

TODOS: Mathematics for ALL Presentation

Every student learns differently. The challenge is to recognize and address the differences. This interactive, hands-on gallery workshop will focus on strategies for geometry, problem solving, word problems, mathematical language and communication, and address interventions for English language learners (ELLs) and other underrepresented students.

Miriam Leiva

University of North Carolina at Charlotte (Emerita)

116 (CONVENTION CENTER)

574

Fantastic Flexible Foldables for the Middle School Classroom

(6–8) Gallery Workshop

Help your middle school students create irresistible math tools that they can't put down. Participants will make five different styles of foldable learning tools using paper, scissors, and glue. Projects can be folded and unfolded to reveal facts and questions about geometry, integers, fractions, and factors. Assessment options will be provided.

Carol DeFreese

Fort Zumwalt School District, O'Fallon, Missouri

126 A (CONVENTION CENTER)

575

Multisensory Algebra: Using Manipulatives and the Concrete-Representational-Abstract Sequence

(6–8) Gallery Workshop

All students benefit from initial hands-on instruction in math concepts. For students who struggle, especially with language, this approach is essential. Learn how to model core algebraic concepts with common manipulatives. Applications include properties of real numbers, exponential growth and decay, and linear and quadratic functions.

Marilyn Zecher

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

124 (CONVENTION CENTER)

576

Oh, What a View: The Mathematics in Astronaut Photography

(6–8) Gallery Workshop

Give your students an "out of this world" experience with NASA's exciting Expedition Earth and Beyond education program. Use teacher-created launchpad activities to make classroom connections to astronaut photography with free resources, investigations, and handouts.

Marshalyn Baker

Messalonskee Middle School, Oakland, Maine

Michele Mailhot

Department of Education, State of Maine, Augusta

201 C (CONVENTION CENTER)

ICON LEGEND



Common Core State Standards



Core Math Tools



NCTM Committee Presentations



New Teacher Strand



Exhibitor Workshop

3:00 P.M.–4:30 P.M.

577 Radical Math: Math Games for Middle School

(6–8) Gallery Workshop

Play and learn hands-on, manipulative math games that align closely with the national curriculum. Games incorporate cards, dice, and multisided dice and cover prealgebra, algebra, coordinate geometry, mixed operations, order of operations, fractions, decimals, percents and ratios, probability, mental math strategies, and more.

John Felling

Box Cars & One-Eyed Jacks, Edmonton, Alberta, Canada

103 C (CONVENTION CENTER)



578 Using Technology Tools to Connect with Struggling Learners

(6–8, Preservice and In-Service) Gallery Workshop

New Teacher Presentation

All classrooms have students who struggle with mathematics. Learn about strategies and online tools that engage students with essential mathematics and let them have fun at the same time. The speaker will use the tools to solve problems, develop conceptual understanding, and move to activities using the skill and matching performance assessments.

Connie Schrock

Emporia State University, Kansas

204 A (CONVENTION CENTER)

579 Algebra's Next Top Model

(6–12) Gallery Workshop

Why let science teachers have all the fun? Come learn how to incorporate hands-on, student-centered modeling labs into your Algebra 1 course. Use battery-powered toy cars and projectiles to collect data and promote your discussion of slope, intercepts, intersecting lines, and parabolic motion.

Jim Town

Oxnard Union High School District, California

118 A (CONVENTION CENTER)

580 Flatland to the Hypercube: Introducing Students to the Fourth Dimension

(6–12) Gallery Workshop

Take a journey through the dimensions, and engage in classroom activities that will help their students to think about a world outside of the third dimension. Using soap bubbles and technology, participants will construct and solve problems using the shadow of a four-dimensional hypercube.

Deana Deichert

University of Central Florida, Winter Park

111 A/B (CONVENTION CENTER)

581 Integrating Manipulatives and Technology: TI-Nspire™ for Middle School Teachers

(6–12) Gallery Workshop

Connect your experience using pattern blocks to teach integrated, middle school algebra and geometry concepts in real-world context with the color feature and functionality of the TI-Nspire computer software and handheld. Have great fun doing it! This presentation will focus on how students learn and why they choose to retain what they learn.

Delbra Robinson

Detroit Public Schools, Michigan

BALLROOM A (CONVENTION CENTER)

582 Real-World Math with Mathalicious

(6–12) Gallery Workshop

Want to make math more engaging, relevant, and effective, and cover multiple standards at once? The speaker will discuss how to use real-world topics from the iPad to basketball to help students master concepts deeper and more quickly. We'll give you tips—even full lessons—that you can use tomorrow. Enough with fake math: let's make it real.

Karim Ani

Mathalicious, Alexandria, Virginia

108 B (CONVENTION CENTER)

FRIDAY

3:00 P.M.–4:30 P.M.

583

The Depth of the Real-Number System and Number Line

(6–12) Gallery Workshop

Explore rich activities that build a number line with algebraic properties and geometry. The activities identify subsets, plot on the number line, and study the properties of particular subsets through patterns, equations, and generalizations. Activities include hands-on, interactive geometry and relate to the Navigation series.

Jean McGehee

University of Central Arkansas, Conway

FRANKLIN HALL 9/10 (MARRIOTT DOWNTOWN)

584

Which Comes First, the Science or the Math?

(6–12) Gallery Workshop

Mathematics has been called the language of science. Misconceptions and misunderstandings in either science or math can confound the development of further knowledge. Explore science activities with embedded math for opportunities to expand and deepen contextualized concepts. You can adapt these experiences for immediate classroom use.

Barbara Biglan

Chatham University, Pittsburgh, Pennsylvania

Martha Hildebrandt

Chatham University, Pittsburgh, Pennsylvania

204 C (CONVENTION CENTER)

585

Connecting with Conics

(9–12) Gallery Workshop

Learn how to make teaching the conic sections to students fun and engaging for them. Through hands-on activities and technology use, explore how to use the conic sections to make connections among mathematics concepts in algebra, geometry, and trigonometry.

Richard Parr

Rice University, Houston, Texas

Anne Papakonstantinou

Rice University, Houston, Texas

SALON K/L (MARRIOTT DOWNTOWN)

586

Developing Reasoning Tasks with GeoGebra

(9–12) Gallery Workshop

This presentation will focus on modeling linear algebra and calculus concepts with GeoGebra. Learn the tricks on developing instructional activities and task differentiation. Experience hands-on activities that investigate mathematical concepts. A personal laptop is suggested.

Mark Causapin

Teachers College, Columbia University, New York

Ronny Kwan Eu Leong

Teachers College, Columbia University, New York

Kai Chung Tam

Teachers College, Columbia University, New York

SALON G (MARRIOTT DOWNTOWN)

587

Fun with Functions: Helping Students Make Sense of Transformations

(9–12) Gallery Workshop

Use hands-on activities and the TI-Nspire CX to make transformations come alive for students. Explore multiple representations of functions that are typically transformed—linear, quadratic, absolute value, and others—and discover ways to help students reason about and make sense of transformations.

Elizabeth Gasque

Retired, Charleston, South Carolina

Judith Hicks

Retired, Arvada, Colorado

FRANKLIN HALL 6/7 (MARRIOTT DOWNTOWN)



2012 Regional Conferences

Dallas, TX

October 10–12

Hartford, CT

October 24–26

Chicago, IL

November 28–30

3:00 P.M.–4:30 P.M.

588 One-to-One Netbooks in Mathematics: Try It

(9–12) Gallery Workshop

The speakers have issued 24/7 netbooks to ninth graders for two years. They will simulate Algebra 1 classroom scenarios involving netbook apps to share their netbook integration, monitoring software, and course management tools. Some netbooks may be on site, but to fully take part in the gallery workshop, bring a laptop with a wireless connection.

Roger Day

Glencoe-McGraw Hill School Mathematics Group, Normal, Illinois

Chad Shepherd

Pontiac Township High School, Illinois

Jake Krause

Pontiac Township High School, Illinois

121 C (CONVENTION CENTER)

589 Technology's Necessity in the Math Classroom

(Preservice and In-Service) Gallery Workshop

Some math teachers think that technology has possible uses in their classroom different from what NCTM espouses. The speaker will share classroom activities he has used that show how to use technology effectively, how and when you should use it, and in some instances, how you must use it to promote students' learning.

Ray Klein

Northern Illinois University, Dekalb

105 A/B (CONVENTION CENTER)

3:30 P.M.–4:30 P.M.

590 Eyes-On Math: A Visual Approach to Teaching Math Concepts

(General Interest) Session

This session will explore strategies for creating rich mathematical conversations around pictures designed to embody mathematical concepts.

Marian Small

University of New Brunswick, Fredericton, Canada

Amy Lin

Halton District School Board, Burlington, Ontario, Canada

108 A (CONVENTION CENTER)

591 How to Avoid Common Pitfalls in Writing Math Tests

(General Interest) Session

To improve education, tests that measure what they were designed to measure are essential. Only then do test scores accurately reflect students' achievement. Learn how to avoid pitfalls that lead to flawed math tests.

Marcia Kastner

Formerly Massachusetts Department of Elementary and Secondary Education, Malden

SALON C (MARRIOTT DOWNTOWN)

592 I Tweet, Therefore I Learn

(General Interest) Session

Heard all the hype about Twitter? Wondering how it helps math teachers improve their practice? Thinking about developing your own personal learning network? Skeptical that anything can be communicated in 140 characters? The speaker will share stories and tips on using Twitter to build a community to support your professional development.

Max Ray

The Math Forum @ Drexel University, Philadelphia, Pennsylvania

BALLROOM B (CONVENTION CENTER)

FRIDAY

3:30 P.M.–4:30 P.M.

593 Reliability and Research Regarding Gender Differences in Mathematical Ability

(General Interest) Session

Women and Mathematics Education Presentation

This presentation will focus on studies of gender and mathematical ability, including hormones, the brain, spatial ability, stereotype threat, trends in international talent competitions of mathematically talented youth, and more. It will caution attendees to question “evidence” of innate sex differences in mathematical and related abilities.

Elizabeth Raver

Norwalk Community College, Connecticut

117 (CONVENTION CENTER)

594 Sustaining Equity in Mathematics Performance through Culturally Respectful Practices

(General Interest) Session

How might school and university research partnerships in Native American communities address inequities in mathematics performance? The speakers will share how conversations in mathematics assessment provided opportunities for community members to build generative relationships with mathematics, rooted in culturally respectful contexts.

Florence Glanfield

University of Alberta, Edmonton, Canada

Gladys Sterenberg

University of Alberta, Edmonton, Canada

Dwayne Donald

University of Alberta, Edmonton, Canada

119 A (CONVENTION CENTER)

595 Financial Literacy: Linking Mathematics and Economics for Young Children

(Pre-K–2) Session

What does financial literacy mean? How do we teach very young children about money? What is the mathematics behind the economics? How do we assess children’s knowledge of math and economics? Through children’s literature, games, and graphs, the speaker will connect early number sense, counting money, and exploring economic ideas.

Jane Crawford

Math Solutions, Sausalito, California

FRANKLIN HALL 2 (MARRIOTT DOWNTOWN)



596 Connecting to Students through Culture-Based Mathematics Activities

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

How do the context and situations your students encounter connect to their diverse cultures? See how teachers from across Micronesia have adapted standard mathematics content to the cultures of their students.

Joseph Zilliox

University of Hawaii, Honolulu

Neil Pateman

University of Hawaii, Honolulu

Beatriz Camacho

George Washington High School, Guam

120 C (CONVENTION CENTER)

FRIDAY



INDEPENDENCE HALL: PHOTO BY ANDREA BIRULLA PHOTOGRAPHY FOR NCTM

3:30 P.M.—4:30 P.M.

597 Building Conceptual Understanding and Computational Fluency with the iPod Touch

(Pre-K–5) Session

Touchscreen mobile devices are a promising teaching technology. The speakers will share a collection of iOS apps that incorporate visual models or virtual manipulatives to help build conceptual understanding as well as develop estimation skills and computational fluency and then share lessons learned from using these apps in elementary school classrooms.

Leslee Francis Pelton

University of Victoria, British Columbia, Canada

Timothy Pelton

University of Victoria, British Columbia, Canada

123 (CONVENTION CENTER)

598 Interactive Whiteboards (IWB): Increasing Engagement and Achievement in Mathematics

(Pre-K–5) Session

Marzano's recent study with Promethean boards in math classes showed an average of 16 percent improvement in students' achievement when used effectively. Discover how to leverage your IWB to make such gains. Learn quick, easy strategies for building math lessons and activities using your Promethean board. Receive a CD with IWB activities and templates.

Larry Zimmerman

Teacher Created Materials, Huntington Beach, California

Heather Monks

Teacher Created Materials, Huntington Beach, California

SALON H (MARRIOTT DOWNTOWN)

599 Math Night: So Easy a Caveman Can Do It

(Pre-K–5) Session

The speaker's school has done successful math nights for eight years. She will share how to get started and how to ensure a successful event at your school. The school uses prizes at its math nights, and she will have some for attendees, too.

Sandra Powers

Retired, Charleston, South Carolina

FRANKLIN HALL 5 (MARRIOTT DOWNTOWN)

600

Area Measurement: What's the Square Got to Do with It?

(3–5) Session

Discover how to enhance your curriculum with nonroutine area-measurement problems. The speakers will share video of students doing tasks designed to encourage an understanding of what formulas mean and why they work. Explore students' area measurement strategies and leave with new area tasks involving square, rectangular, and triangular units.

Amanda Miller

Illinois State University, Normal

Melike Kara

Illinois State University, Normal

Cheryl Eames

Illinois State University, Normal

203 A/B (CONVENTION CENTER)

601

Motivating Special-Needs Students to Become Competent Mathematicians

(3–5) Session

Are you having difficulty teaching computation to your special-needs students? Do you need alternative strategies? Using the NCTM Math Computation Standard, actively involve yourself with games and activities that develop concepts, then practice these concepts and apply them to solving problems.

Shirley Bradsby

Jeffco Schools, Lakewood, Colorado

FRANKLIN HALL 11 (MARRIOTT DOWNTOWN)

602

Before Learning Invert-Multiplication

(6–8) Session

Teaching fractions division with a common-denominator algorithm has proved to be a better transitional process for students before they learn the invert-multiplication algorithm. The speakers will demonstrate the model-strategy-application with Smart Math tools and explain how to use a common-denominator algorithm to help students learn fractions division.

Hsing-Wen Hu

University of Alaska, Anchorage

Rong-Ji Chen

California State University San Marcos

Cheng-Yao Lin

Southern Illinois University, Carbondale

204 B (CONVENTION CENTER)

FRIDAY

3:30 P.M.–4:30 P.M.

603 Cluster-Randomized Trial on the Effect of the Connected Mathematics Project

(6–8) Research Session

The speakers will describe a cluster-randomized trial conducted to evaluate the Connected Mathematics 2 program's effect on grade 6 students' mathematics achievement and perception of the value of doing mathematics. The results will help policymakers and teachers improve mathematics achievement for all students.

Taylor Martin
University of Texas at Austin

Sarah Brasiel
Edvance Research, Inc., San Antonio, Texas

Stephanie Peacock
University of Texas at Austin

FRANKLIN HALL 8 (MARRIOTT DOWNTOWN)

604 From Coordinates to Functions with a Story

(6–8) Session

Accompany the speaker on an exciting adventure with coordinate geometry. Using her book, *Sir Cumference and the Viking's Map*, she will share ideas and techniques for plotting coordinates and graphing functions.

Cindy Neuschwander
Dublin Unified School District, California

114 (CONVENTION CENTER)

605 Investigating Issues of Social Justice through Mathematics

(6–8) Session

Observe students using mathematical ideas and concepts to investigate social justice issues. Learn how to use authentic data to broaden students' perspectives about the economic diversity and disparity that exists in our cities. Engage students with mathematical concepts such as mean, median, and mode in tandem with ideas of equity.

Ben Peebles
Eric Jackman Institute of Child Study, University of Toronto, Ontario, Canada

Zoe Donohue
Eric Jackman Institute of Child Study, University of Toronto, Ontario, Canada

Julie Comay
Eric Jackman Institute of Child Study, University of Toronto, Ontario, Canada

TERRACE BALLROOM 4 (CONVENTION CENTER)

606 Puzzled about Puzzles? Try Logic

(6–8) Session

Students are motivated by games and enjoy figuring things out! Are you short on ideas for developing your diversely talented students' logical reasoning skills? Come solve puzzles and take away new activities and new ideas for using games to teach logical thinking.

Diana Cheng
Towson University, Maryland

Johanna Bunn
Boston University, Massachusetts


Robin Rostorfer
Middle Tennessee State University, Murfreesboro

122 A (CONVENTION CENTER)

FRIDAY

Visit www.nctm.org
for lessons, activities,
and teacher resources!

ICON LEGEND

 Common Core State Standards

 Core Math Tools

 NCTM Committee Presentations

 New Teacher Strand

 Exhibitor Workshop

3:30 P.M.–4:30 P.M.

CMT

607

Modeling, Core Math Tools, and the CCSS Mathematical Practices

(6–12) Session

Experience classroom-tested lessons that show how to teach the CCSS mathematical practices in the framework of the Modeling Standard. This interactive session will use Core Math Tools, mathematical software for teachers and students, freely available from NCTM at www.nctm.org/coremathtools.

Fred Dillon

Strongsville High School, Ohio

126 B (CONVENTION CENTER)

608

Providing English Language Learners (ELLs) Access to Cognitively Demanding Mathematics Tasks

(6–12) Session

TODOS: Mathematics for ALL Presentation

We want to develop all students' mathematical proficiency, particularly ELLs, so we design instruction that addresses the challenges ELLs face and integrates and combines mathematics, academic and mathematical language, and handheld technology.

Susie Hakansson

University of California at Los Angeles

113 A (CONVENTION CENTER)

609

Using Magic to Encourage Learning in Algebra

(6–12) Session

The speaker will present magic tricks explained by algebra. He will present tricks with cards, number cubes, a calendar, or mental patterns; show how he did the tricks in general; and then explain the algebra that the tricks use, which teachers can share with their students to motivate them.

John Gregory

University of Florida (Emeritus), Gainesville

107 A/B (CONVENTION CENTER)

610

Using Technology to Increase Conceptual Understanding in Algebra and Geometry

(6–12) Session

Many algebra and geometry topics are difficult to address conceptually and tend to be taught procedurally. Explore interactive applets that let students “notice and wonder,” talk about mathematical situations, and develop conceptual understandings of triangle properties, linear equations, systems of equations, and trinomial factoring.

Annie Fetter

The Math Forum @ Drexel, Philadelphia, Pennsylvania

SALON D (MARRIOTT DOWNTOWN)

611

FRAPPYs: Free-Response AP Problems, Yay!

(9–12) Session

FRAPPY is an instructional approach that develops conceptual understanding, enhances communications skills, and provides test preparation in AP Statistics. Learn how to use free-response questions as assessments for learning. Develop a strategy to implement effective formative feedback in any mathematics classroom.

Jason Molesky

Lakeville Area Public Schools, Minnesota

201 B (CONVENTION CENTER)

612

Teaching Sampling Distributions in the Statistics Classroom

(9–12) Session

Students in statistics routinely have difficulty with the concept of sampling distributions. This session will show how to increase students' understanding of the concept. The speakers will share activities for teaching sampling distributions of several different statistics, using various levels of technology.

Douglas Tyson

Central York School District, Pennsylvania

Michael Costello

Research Triangle Institute International, Washington, D.C.

125 (CONVENTION CENTER)

FRIDAY

3:30 P.M.—4:30 P.M.

613

Using a Web Page to Enhance and Support Mathematics Instruction

(9–12) Session

Benjamin Banneker Association Presentation

This presentation will explore a class Web page currently used to enhance instruction in an Algebra 2 classroom. Discussion will focus on including various elements in the Web page—mathematical model demonstrations and games, online instructional support, classroom assignments, class notes, and relevant reading passages.

Shawn Hanrahan

Souderton Area School District, Pennsylvania

121 B (CONVENTION CENTER)

614

The Mathematics behind Crime Scene Investigation (CSI)

(9–12, Higher Education) Session

You have seen CSI shows on TV, but what role does math play in CSI and analyses of criminals' social networks? Receive class-ready materials that step you through crimes scenes and network analyses using mathematics appropriate for algebra or calculus classes. Join us to find out who done it.

Chuck Emenaker

University of Cincinnati, Ohio

Gene Kramer

University of Cincinnati, Ohio

TERRACE BALLROOM 1 (CONVENTION CENTER)

615

Bringing Algebra, Functions, and Mathematical Practices to Life through Technology

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

Core Math Tools offer a convenient way to bring technology into students' experiences inside and outside the classroom. This session will offer examples of specific ways to use the online tools to address Common Core State Standards for Mathematics for algebra, functions, and mathematical practices through small tasks and major projects.

Rose Zbiek

Pennsylvania State University, University Park

202 A/B (CONVENTION CENTER)

616

Thinking Flexibly with Representations

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

The speaker will describe tasks he uses to encourage students to think flexibly about mathematical concepts and problems. The tasks expand students' mathematical thinking, nurturing their appreciation for the power of looking at tasks from different perspectives in different representations. Topics will include functions, statistics, and geometry.

Joe Garofalo

University of Virginia, Charlottesville

103 A (CONVENTION CENTER)

617

Virtual Technology Training

(Higher Education) Session

The speakers will showcase a graduate-level, online technology course that used both synchronous and asynchronous components. In-service grades 4–12 teachers completed, created, and peer-reviewed technology-integrated lessons that used Geogebra, TinkerPlots, Virtual Manipulatives, Applets, SketchUp, and SMART Notebook.

Kathryn Shafer

Ball State University, Muncie, Indiana

Angela Greene

Ball State University, Muncie, Indiana

SALON F (MARRIOTT DOWNTOWN)

618

From Telling to Asking: Using Focus Questions to Differentiate Instruction

(Preservice and In-Service) Session

Questioning techniques are part of every accomplished teachers' repertoire. When teachers know each student's readiness level, they can adapt questions to differentiate instruction in the moment. See how one teacher uses diagnostic maps and focus questions to adjust instruction to meet the needs of students at different levels.

Terri Morrison

STEPS Professional Development, Norwell, Massachusetts

Debi DePaul

STEPS Professional Development, Norwell, Massachusetts

109 A/B (CONVENTION CENTER)

FRIDAY

CMT

3:30 P.M.–4:30 P.M.

619

LessonSketch: An Online, Practice-Based Environment for Learning to Teach Mathematics

(Preservice and In-Service) Session

Teachers and teacher educators use this software to plan, narrate, and explore lessons using cartoon-based animations and image sequences. LessonSketch supports discussions about teaching by enabling users not only to watch, annotate, discuss, and tag lessons but also to create new lessons using provided rich media and information resources.

Pat Herbst

University of Michigan, Ann Arbor

115 C (CONVENTION CENTER)



CITY HALL: PHOTO BY EDWARD SAVARIA, JR. FOR PCVB

3:30 P.M.–5:00 P.M.

620

The PARCC and SMARTER Balanced Consortia's Development of Integrated Assessment Systems

(General Interest) Session



Representatives from the PARCC and SMARTER Balanced Assessment Consortia will present updates of their progress to develop summative, interim, and formative assessment tools and resources aligned to the Common Core State Standards. They will also set aside time for questions and answers.

Doug Sovde works for Achieve as senior adviser, PARCC Instructional Supports and Educator Engagement. He has worked with a dozen states to increase the rigor of their standards and align their standards and assessments. Recently, he served the writing team of the Common Core State Standards, having principal responsibility for creating Appendix A, the Model Course Pathways in Mathematics. He spent 12 years in Bellevue, Washington, public schools as a teacher, assistant principal, and principal, where he managed school-level development of new mathematics, science, and social studies curricula and was the liaison between the district and the University of Washington's LIFE Center.

Joseph Willhoft is the Executive Director for the SMARTER Balanced Assessment Consortium. Previously he was assistant superintendent for assessment and student information for the state of Washington, where his responsibilities included design and implementation of Washington's assessment program and collection and reporting of student's information for the state's longitudinal student database. Willhoft has been involved in several collaborative data and assessment efforts, including the technical work group for a congressionally mandated evaluation of the National Assessment of Educational Progress (NAEP), and as chair of the NAEP Policy Task Force for the National Assessment Governing Board.

Doug Sovde

Achieve, Washington, D.C.

Joseph Willhoft

SMARTER Balanced Assessment Consortium, Seattle, Washington

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

FRIDAY

4:00 P.M.–5:00 P.M.

ew 620.1
**One Giant Leap for Mathkind:
TI-Nspire™ Excites Students and
Transforms Learning**

(6–12) Exhibitor Workshop

See why TI-Nspire makes students' interest skyrocket. TI-Nspire CX technology brings math and science to life with a full-color display, interactive touchpad, photos and images, real-time data collection, and multiple representations on a single screen. The TI-Nspire CX Navigator system lets you see what every student is thinking and doing at any time!

Texas Instruments
Dallas, Texas

113 B (CONVENTION CENTER)

ew 620.2
**Teaching Developmentally and the
Common Core**

(Higher Education) Exhibitor Workshop

Explore how teachers can help all PreK-8 learners make sense of math by supporting their own mathematical understanding and cultivating effective planning and instruction. Help your pre-service teachers understand the connections between the CCSS and the benefits to implementing problem-based mathematics instruction to support student learning.

Pearson
Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

4:45 P.M.–5:30 P.M.



621
New Teacher Celebration

(Preservice and In-Service) Session

Celebrate the progress and possibilities as we look for new and early-career teachers and for students working to enter this exciting profession. Learn a little, laugh more, and win wonderful prizes. Come celebrate with us. You are the future.

120 A/B (CONVENTION CENTER)

FRIDAY

TEACH
in Las Vegas, Nevada

Clark County School District, the fifth largest school district in the nation, is currently accepting applications for the following position :

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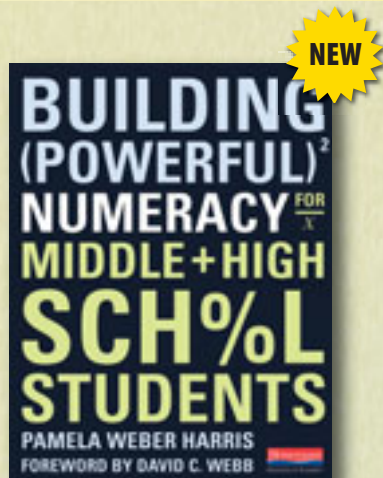
For more information call the Human Resources Division:
702.855.5414



Visit the BuzzHub
located in the Exhibit Hall!

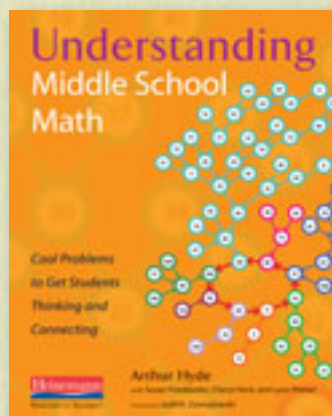
Secondary Teaching Resources and Tools for Math Leaders

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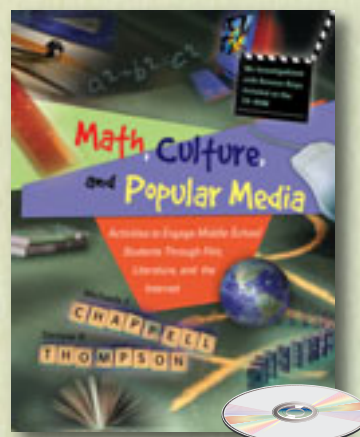
Building Powerful Numeracy for Middle and High School Students
Pamela Weber Harris

Gr 6-10 / 978-0-325-02662-6 / 2011 / 184pp / \$18.37



Understanding Middle School Math
Cool Problems to Get Kids Thinking and Connecting
Arthur Hyde

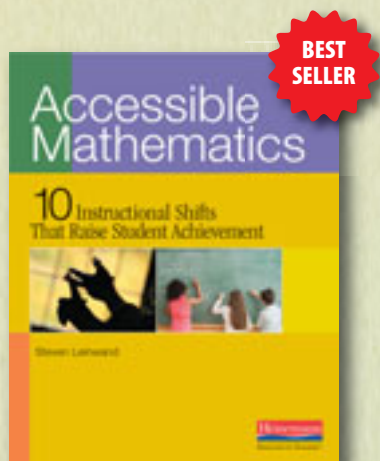
Gr 6-8 / 978-0-325-01386-2 / 2009 / 280 pp / \$23.62



Math, Culture, and Popular Media
Activities to Engage Middle School Students Through Film, Literature, and the Internet

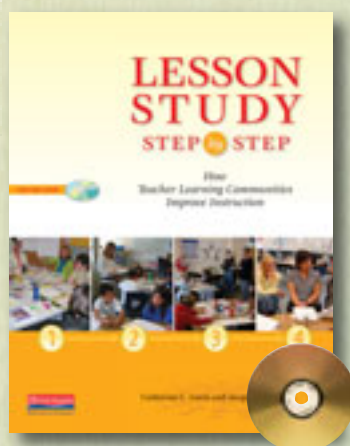
Michael Chappell and Denisse Thompson

Gr 6-8 / 978-0-325-02122-5 / 2009 / 160pp + CD / \$18.37



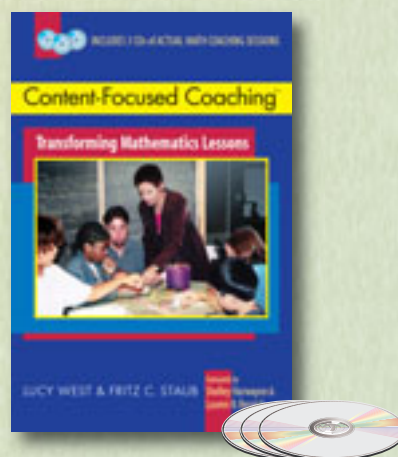
Accessible Mathematics
10 Instructional Shifts That Raise Student Achievement
Steven Leinwand

Gr K-12 / 978-0-325-02656-5 / 2009 / 128 pp / \$14.87



Lesson Study Step-by-Step
How Teacher Learning Communities Improve Instruction
Catherine Lewis and Jacqueline Hurd

Gr 3-8 / 978-0-325-00964-3 / 2011 / 176pp + DVD / \$21.87



Content-Focused Coaching
Transforming Mathematics Lessons
Lucy West and Fritz Staub

Gr K-8 / 978-0-325-00462-4 / 2003 / 192pp + 3 CDs / \$25.37

SATURDAY

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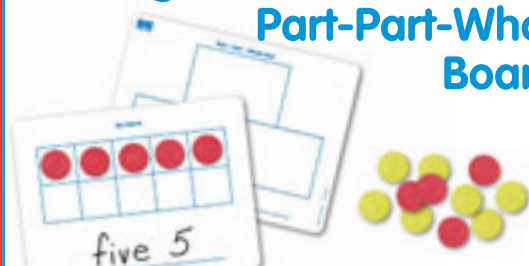
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QuietShape[®] Ten Frame Boards



Ten frame boards are excellent for developing number sense within the context of ten.

Magnetic Ten Frame and Part-Part-Whole Boards



Help students see how math concepts work in different learning models with these double-sided dry-erase boards.

Elapsed Time Student Boards



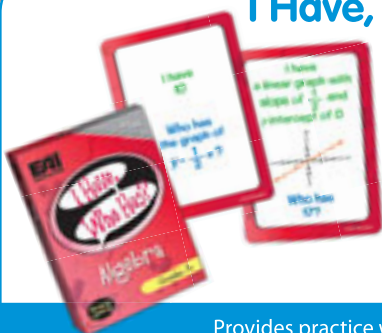
Give students hands-on practice with elapsed time. Boards feature movable clock hands, a 24-hour timeline and a dry-erase surface.

Liquid Larry[™]



Introduce and familiarize your class with units of liquid measurement with the help of Liquid Larry[™].

I Have, Who Has? Grades 7+



Aligns with
Common
Core State
Standards

Provides practice with identification of basic properties, simplification of expressions, real number subsets, function types... and more.

Bingo

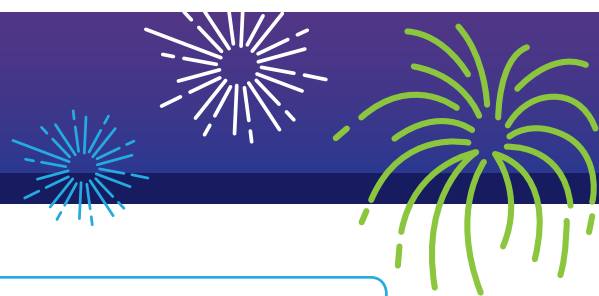


Aligns with
Common
Core State
Standards

Bingo Games are fun for the whole class! Covering a range of math topics from telling time to place value to fractions, decimals & percents.

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Agenda SATURDAY






HIGHLIGHTS

Closing Session: How to Teach Creativity Discretely: From Doodling to Discovery (Presentation 704)

ICON LEGEND

Presentation Numbers

 Common Core State Standards	639, 666, 675
 Core Math Tools	700
 Exhibitor Workshop	638.1



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BEN FRANKLIN: PHOTO BY PAUL LOFTLAND FOR PCVB

REGISTRATION HOURS

7:00 a.m.–10:00 a.m.

EXHIBITS AND BUZZHUB HOURS

9:00 a.m.–12:00 noon

BOOKSTORE HOURS

8:30 a.m.–12:00 noon

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 conform to fire codes, it will be necessary to ask persons sitting on the floor or standing to leave the room.

SATURDAY

8:00 A.M.–9:00 A.M.

622

APPs Boom: Using Math APPs to Teach and Learn Math

(General Interest) Session

The APPs boom has started to embrace the world of education. This presentation will identify math APPs that you can use to enhance mathematics teaching and learning. Discussion will include the pros and cons related to the math APP topics. A handout will give an up-to-date list of math APPs available either for free or for a fee.

Gary Bitter

Arizona State University, Scottsdale

Rusen Meylani

Arizona State University, Tempe

TERRACE BALLROOM 4 (CONVENTION CENTER)

623

Formative Assessment Strategies to Motivate, Build Confidence, and Improve Achievement

(General Interest) Session

TODOS: Mathematics for ALL Presentation

Formative assessment is a bidirectional process between teacher and student. With skill, it can improve students' achievement over time. See how to use learning goals, application, quality work, weak work, focused revision, appropriate feedback, self-assessment, and self-reflection as formative assessment during instruction.

Linda Fulmore

Equity and Excellence PLC Learning Group, Cave Creek, Arizona

107 A/B (CONVENTION CENTER)

624

The Brilliance of Black Children in Mathematics: Traditions, Transformations, Triumphs

(General Interest) Session

Presidents' Series Presentation

On the occasion of its twenty-fifth anniversary, the Benjamin Banneker Association will host a panel, consisting of Carol Malloy, Danny Martin, Dorothy Strong, Lee Stiff and Cheryl Adeyemi, that will discuss mathematics equity advocacy related to the mathematical achievement, excellence, and brilliance of black children.

Cheryl Adeyemi

Benjamin Banneker Association, Philadelphia, Pennsylvania

Lee Stiff

Past President, National Council of Teachers of Mathematics; North Carolina State University, Raleigh

Carol Malloy

Retired, University of North Carolina at Charlotte

117 (CONVENTION CENTER)

625

From Counting to Place Value: Making Meaning through Guided Math

(Pre-K–5) Session

Guided math can be a powerful way to help children make sense of our number system. Learn specific counting and problem-solving tasks to facilitate short, but powerful small-group meetings. Videos of guided math sessions will demonstrate how to implement them.

Kassia Omohundro Wedekind

Fairfax County Public Schools, Falls Church, Virginia

115 C (CONVENTION CENTER)

SATURDAY



SUNSET SKYLINE: PHOTO BY BOB KRIST FOR PCVB

8:00 A.M.–9:00 A.M.

626

Measurement in the Common Core State Standards for Mathematics (CCSSM)

(Pre-K–5) Session

This session will present a summary analysis of CCSSM's treatment of measurement, especially length, area, and volume. The speakers will give attention to key conceptual principles in measurement and highlight where CCSSM's standards depart from current state standards and widely used elementary school curricula.

Jack Smith

Michigan State University, East Lansing

Funda Gonulates

Michigan State University, East Lansing

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

627

Supporting Young Children's Reasoning in Mathematics

(Pre-K–5) Session

Explore ways to support young children's reasoning in mathematics. See problems generated from various in-class activities; hear children's mathematical reasoning shared in their solutions. Examine a favorite lesson of yours for ways to elicit children's reasoning. Leave with a packet of problems and strategies that support mathematical reasoning

Ann Anderson

University of British Columbia, Vancouver, Canada

126 B (CONVENTION CENTER)

628

Write On! English Language Learner (ELL) Students Creating Math Journals and Class Books

(3–5) Session

Math journals and student-generated class books provide students with an opportunity to report and illustrate their processes of thinking as well as their understanding of math concepts. This presentation will include students' examples that demonstrate the use of math journals along with activities that support the creation of a class book.

Tiffany Nay

University of Nevada, Las Vegas

Cyndi Giorgis

University of Nevada, Las Vegas

Jennifer Spinos

University of Nevada, Las Vegas

121 B (CONVENTION CENTER)

629

Selecting Inquiry-Based Mathematical Tasks Supported by Technology

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

Teachers who ascribe to inquiry-based mathematics instruction typically seek to use technology to support students' mathematical inquiry. This session illustrates basic criteria for helping preservice and in-service elementary school teachers select inquiry-based mathematical tasks supported by effective, efficient use of electronic technologies.

Eula Monroe

Brigham Young University, Provo, Utah

Nancy Wentworth

Brigham Young University, Provo, Utah


Damon Bahr

Brigham Young University, Provo, Utah

108 A (CONVENTION CENTER)

Don't miss the
Closing Session
on Saturday afternoon
with featured speaker
Edward Burger

ICON LEGEND

 Common Core State Standards

 Core Math Tools

 Exhibitor Workshop

SATURDAY

THE NATION'S **PREMIERE** MATH EDUCATION EVENT

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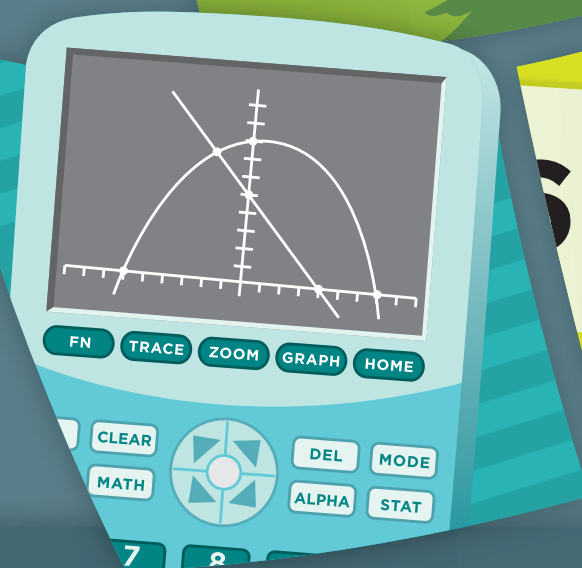
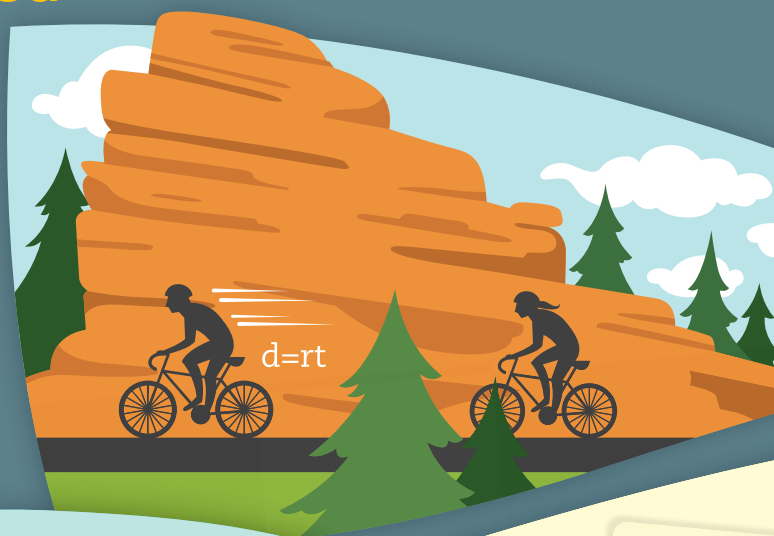
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8:00 A.M.–9:00 A.M.

630

Lessons Learned from a Culturally Relevant Mathematics Intervention

(6–8) Session

Benjamin Banneker Association Presentation

An urban middle school implemented a six-week, culturally relevant mathematics intervention that covered nine mathematics objectives. The speaker will analyze the intervention's quantitative and qualitative data collected and examine its flaws, in order to create an even more culturally relevant intervention for future research.

Tarcia Jones

Student, Texas A&M University, College Station, Texas

125 (CONVENTION CENTER)

631

Strategies for Supporting and Managing Small Groups

(6–8) Session

Just shoving desks together does not make productive small groups. Learn practical strategies, from College Preparatory Mathematics courses and best practices, for supporting students' groups. See how to facilitate higher-order thinking by having students think aloud and take risks. Discuss strategies for individual and group accountability.

Brenda Linebaugh

Central York School District, Pennsylvania

103 A (CONVENTION CENTER)

632

Math "Kinect"ions in Middle Grades

(6–12) Session

Engaging students in math in the middle grades can be especially difficult challenge. Video games, however, can be a powerful motivating tool for students. This session will show how to use a Kinect or other controllerless video game to explore math concepts as well as other interdisciplinary learning for middle school students.

Keri Johnson

University of Washington Bothell

Sarah Woolley

University of Washington Bothell

Robin Angotti

University of Washington Bothell

119 A (CONVENTION CENTER)

633

Connect the Dots: Graph Theory in High School

(9–12) Session

Explore how graph theory connects topics in the Common Core State Standards. Graphs, visual mathematical structures that are fun to play with, are rich with applications illustrating how modeling relates to many different standards and expectations. The speaker will work through concrete examples useful for the classroom and enrichment.

John-Paul Pretti

University of Waterloo, Ontario, Canada

109 A/B (CONVENTION CENTER)

634

Transformations in Geometry: From Simulation to Analysis

(9–12) Session

This presentation will use interactive geometry software to investigate the problem of randomly flipping a figure on the coordinate plane and determining the generating isometries. The problem exposes students to the power of the major theorems of transformational geometry concerning isometries, a central theme in the Common Core State Standards.

Paul Kennedy

Colorado State University, Fort Collins

Maurice Burke

Montana State University, Bozeman

122 A (CONVENTION CENTER)

635

Connecting Vocabulary and Conceptual Understanding in College Algebra

(9–12, Higher Education) Session

Exploring students' work with vocabulary words, the speakers will share insights about students' understanding of fundamental algebra concepts such as function, domain, and zeros; consider the relationship between student-generated examples and definitions; and compare college algebra students' work with that of middle and high school students.

Susan Gay

University of Kansas, Lawrence

Ingrid Peterson

University of Kansas, Lawrence

120 C (CONVENTION CENTER)

SATURDAY

8:00 A.M.–9:00 A.M.

636 Essential Understandings in Grades 9–12 Statistics: Preparing for the CCSS

(9–12, Higher Education) Session

This session will introduce the NCTM Essential Understandings book for grades 9–12 statistics. The speakers will discuss six big ideas, and explore two in depth, that help teachers understand the statistical concepts fundamental to implementing the Common Core State Standards (CCSS) statistics and probability standards effectively.

Robert Gould

University of California at Los Angeles

Stephen Miller

Winchester Thurston School, Pittsburgh, Pennsylvania

Roxy Peck

California Polytechnic State University, San Luis Obispo

TERRACE BALLROOM 1 (CONVENTION CENTER)

637 Exciting Math for Your Fourth-Year Course: Social Decision Making

(9–12, Higher Education) Session

Social decision making is a vital part of life in a modern democratic society. The math involved is interesting and relevant content for a fourth-year course for students not taking calculus. See a survey of ranked-choice voting, apportionment, fair division, and game theory, with examples, activities, old and new strategies, and free software.

Eric Hart

American University in Dubai, United Arab Emirates

113 A (CONVENTION CENTER)

638 Standards-Based Electronic Portfolios in Mathematics Teacher Education

(Higher Education, Preservice and In-Service) Session

Candidates in mathematics teacher education programs benefit from opportunities to document and reflect on their personal and professional transformations. This presentation will focus on electronic portfolio templates based on NCTM *Principles and Standards*, state standards, and institutional conceptual frameworks.

William Lacefield

Mercer University, Atlanta, Georgia

123 (CONVENTION CENTER A)

8:30 A.M.–9:30 A.M.

ew 638.1 Navigating Your Way through the Fraction Story of the Common Core

(3–5) Exhibitor Workshop

This session will focus on conceptual understanding of the “knotty” topic of fractions including connections to equal partitioning and unitizing. Video clips will be used to examine the conceptions many students have that allow them to complete some tasks successfully but that prove inadequate in other contexts.

Pearson

Upper Saddle River, New Jersey

103 B (CONVENTION CENTER)

8:30 A.M.–10:00 A.M.

C 639 Early Number Development: Thinking in Groups and Part-Whole Knowledge

(Pre-K–2) Gallery Workshop

Children develop many number relationships when they understand that they can think of a number as both a whole amount and as composed of smaller groups or parts. Explore these crucial pieces of early number development, and see how they lay the foundation for fluency in basic facts. Common Core State Standards connections will be highlighted.

Melissa Hedges

Mequon-Thiensville School District, Wisconsin

Connie Laughlin

University of Wisconsin—Milwaukee

108 B (CONVENTION CENTER)

SATURDAY

ICON LEGEND



Common Core State Standards



Core Math Tools



Exhibitor Workshop

8:30 A.M.–10:00 A.M.

640

Build Bridges from Concrete City to the Land of Abstraction

(Pre-K–5) Gallery Workshop

The Common Core State Standards demand deeper understanding of underlying concepts at all grade levels. Moving from manipulatives to abstraction is a goal, but one not easily achieved without careful reflection about their connections and the appropriate visual models to make those connections possible.

Mary Altieri

Putnam/Northern Westchester Board of Cooperative Education Services, Yorktown Heights, Pennsylvania

121 C (CONVENTION CENTER)

641

Mathematics and Science Connections through Online Activities

(Pre-K–5) Gallery Workshop

Examine connections between mathematics and science while studying the solar system, using activities available online. Explore activities that meet standards for mathematics and science inquiry in kindergarten through grade 5. Make connections to relevant mathematics contained in children's literature.

Deborah McAllister

University of Tennessee at Chattanooga

Susan Bothman

Ooltewah High School, Tennessee

Peggy Moyer

Red Bank High School, Chattanooga, Tennessee

126 A (CONVENTION CENTER)

642

There's an App for That

(Pre-K–5) Gallery Workshop

The iPad has become the hottest new teaching tool available. Try some of the best, new apps for early grades math that develop number sense, practice computation, and explore spatial concepts. You don't have any iPads? Come hear about funding opportunities and try the iPads with the apps preloaded at each table.

Jennifer Rising

The Latin School of Chicago, Illinois

Peggy McLean

Nueva School, Hillsborough, California

122 B (CONVENTION CENTER)

643

Assessing Hands-On Data Analysis Using Microsoft® Excel

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

Investigate using Microsoft Excel to assess graphing after exploring a hands-on approach to data analysis in differentiated lessons. Learn how best to use manipulatives and Microsoft Excel in diverse classroom environments through differentiating groups, stations, or independent projects.

Monica Hocter

College of William and Mary, Williamsburg, Virginia

121 A (CONVENTION CENTER)

644

Exploring the Wonder of Mathematics with Children's Literature

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

This presentation will introduce effective examples of children's literature to promote integrating literature and mathematics and ensure success for all children. Students' interest, hooked by the story, promotes active involvement in new and sometimes difficult content areas. Receive handouts, including a current bibliography.

Sally Mayberry

Florida Gulf Coast University, Fort Myers

119 B (CONVENTION CENTER)

The 2013 Annual Meeting and Exposition proposal deadline is May 1, 2012. Go to www.nctm.org/speak to submit your proposal!

SATURDAY

8:30 A.M.–10:00 A.M.

645

I Wish I Had a Game for ...

(3–8) Gallery Workshop

Math games engage, entertain, and enrich your lessons, but finding one to fit the needs of your class can be challenging. Join the fun while you learn strategies that use common materials to create unique, exciting, fast-paced games that are custom designed for your students, interface with your curriculum, and reach across disciplines.

Martha Hildebrandt

Chatham University, Pittsburgh, Pennsylvania

Barbara Biglan

Chatham University, Pittsburgh, Pennsylvania

118 A (CONVENTION CENTER)

646

From Algebra to Zero: Seventh Grade in Four Weeks

(6–8) Gallery Workshop

Hook your seventh-grade students as soon as they walk into your classroom. Explore engaging activities, used during the first few weeks of school, that expose students to almost all seventh-grade concepts and preview the Common Core State Standards crucial areas. The presenter will showcase how these activities drive each unit of your instruction.

Rhonda Wamsley

Gahanna Jefferson Public Schools, Ohio

120 A/B (CONVENTION CENTER)

647

Making Sense of Variables, Expressions, and Equations

(6–8) Gallery Workshop

Middle school students struggle to understand variables and equivalent expressions. This presentation will show new approaches to help students make sense of these topics. You will explore activities that build understanding and learn ways to establish connections among geometric figures, equations, and equivalent expressions.

Suzanne Chapin

Boston University, Massachusetts

111 A/B (CONVENTION CENTER)

648

Modular Origami: Moving beyond Cubes

(6–8, Preservice and In-Service) Gallery Workshop

Origami provides interest for even our most reluctant students. Learn how to use modular origami to construct a stellated octahedron. Then use your model to explore crucial concepts in geometry, measurement, and algebra. Who knew that twelve congruent squares could spark such rich discussion of mathematics? No prior folding experience is necessary.

Victoria Miles

Weymouth Public Schools, Massachusetts

Shephali Chokshi-Fox

Self and Looney Consulting, Inc., Easton, Massachusetts

113 C (CONVENTION CENTER)

649

Coordinate Plane Transformations: Have You Got the Right Image?

(6–12) Gallery Workshop

The speakers will use the TI-Nspire Navigator to show strategies that engage students in generalizing the pattern of sets of ordered pairs under various transformations. They will investigate using the technology to assess students' learning. After exploring a geometric figure's image, participants will create a picture using transformations.

Margaret Bambrick

Volusia County Schools, DeLand, Florida

Ruth Casey

Teachers Teaching with Technology, Frankfort, Kentucky

124 (CONVENTION CENTER)

650

Differentiating Mathematics Instruction through Stations

(6–12) Gallery Workshop

Math stations are a great way for educators to create a learning environment where students learn somewhat independently. This interactive presentation will show how to develop station activities that will give students opportunities to practice, maintain skills, and promote an understanding of important mathematical concepts.

Pamela Seda

Fulton County Schools, Atlanta, Georgia

103 C (CONVENTION CENTER)

8:30 A.M.–10:00 A.M.

651 Mental Arithmetic Is Fun with Krypto

(6–12) Gallery Workshop

Mathematical concepts are easier to comprehend when arithmetic doesn't get in the way. Krypto is an arithmetic card game that enhances students' mental arithmetic skills through competition. Learn how to play Krypto and many alternative forms in different classroom settings. You will want to use this in your classroom tomorrow.

Derek Fialkiewicz
Cran Middle School, Las Vegas, Nevada

118 C (CONVENTION CENTER)

652 The Median-Median Line: Connecting Data, Geometry, and Algebra

(6–12) Gallery Workshop

Explore the conceptual development of the median-median line, an alternative to a least-squares regression line, through an interactive task that use equations of lines, the distance formula, and centroids. Discuss incorporating Excel, Sketchpad, and calculators into differentiation strategies.

Alyson Lischka
Kennesaw State University, Georgia

115 A (CONVENTION CENTER)

653 More Sequentially Organized Evidence on the Nature of Randomness

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

Much of mathematics and science is counterintuitive. Public media often misunderstands and misinterprets random events. Generate some false random data, and then learn strategies for differentiating between random imposters and true random data. Receive a bibliography of historical and recent publications.

Richard Little
Baldwin-Wallace College, Berea, Ohio

116 (CONVENTION CENTER)

9:30 A.M.–10:30 A.M.

654 Effective Teaching Is Responsive Teaching

(General Interest) Session

Engage in thinking about the best ways in which to meet the Common Core State Standards for mathematical practice. Including formative assessment and rich tasks will offer specific strategies for teachers, coaches, and higher-education faculty. Examine hard-to-teach, harder-to-learn math concepts across the grades.

Anne Collins
Board of Directors, National Council of Teachers of Mathematics; Lesley University, Cambridge, Massachusetts

103 A (CONVENTION CENTER)

655 Smarter than We Think

(General Interest) Session

Who are the smart kids, and how do we know? Today we know more than ever about learning and teaching mathematics and measuring what students know. How can we help every student learn the kind of deep, focused, connected mathematical knowledge, thinking, and reasoning called for in today's standards and reflected in new state and national tests?

Cathy Seeley
Past President, National Council of Teachers of Mathematics; Charles A. Dana Center, University of Texas at Austin

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

656 Using Music Videos in the Key of Mathematics

(General Interest) Session

Music videos provide auditory and visual representations of important topics in mathematics, which classes at any level can use. From the Mozart's invertible music to Kylie Minogue and Beyonce, music's structure forms a perfect analogue to mathematical concepts, even of the artist M. C. Escher. No background in music is necessary.

David Masunaga
Board of Directors, National Council of Teachers of Mathematics; Iolani School, Honolulu, Hawaii

TERRACE BALLROOM 1 (CONVENTION CENTER)

SATURDAY

9:30 A.M.–10:30 A.M.

657 Establishing Classroom Routines and Building a Community of Learners

(Pre-K–2) Session

Establishing routines in primary school classrooms yields great benefits. Share the yearlong journey of a mathematics educator and a classroom teacher as they collaborated once a week to establish routines and build a mathematical community of learners.

Becky Holden

Mathematics Educator, Harrison, Tennessee

Danielle Coley

Hamilton County Schools, Harrison, Tennessee

123 (CONVENTION CENTER)

658

Games to Develop Number Sense: Creating Students' Success

(Pre-K–2) Session

Be more efficient and selective about time devoted to number. A ready-to-use handout of highly engaging, repeatable activities and instructional strategies will help you enhance number sense and build confidence in your students.

Laura Choate

Fallbrook Union Elementary School District, California

108 A (CONVENTION CENTER)

659

Reaching the Measurement Objectives in the Common Core State Standards for Mathematics (CCSSM)

(Pre-K–5) Session

Explore the CCSSM's treatment of geometric measurement (length, area, and volume) for grades K–5 using observations and results from a two-state, joint research project. The speakers will share students' work highlighting common strategies, conceptions, and misconceptions. Leave with research-based, classroom-ready tasks.

Craig Cullen

Illinois State University, Normal

Amanda Miller

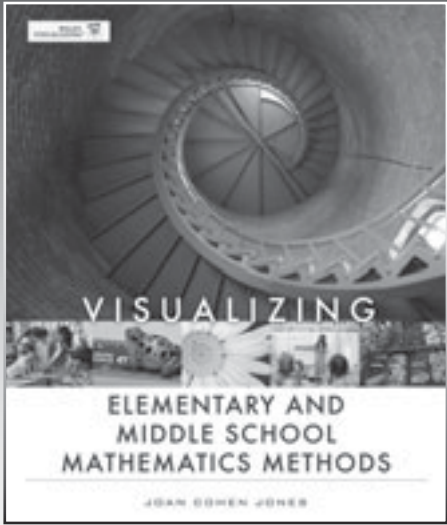
Illinois State University, Normal

Douglas Van Dine

University at Buffalo, State University of New York

109 A/B (CONVENTION CENTER)

**VISUAL LEARNING,
PROVEN EFFECTIVE!**




**VISUALIZING
ELEMENTARY AND
MIDDLE SCHOOL
MATHEMATICS METHODS**
JOAN COHEN JONES

*Visualizing Elementary and Middle School
Mathematics Methods*
Joan Cohen Jones
ISBN: 978-0-470-45031-4
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9:30 A.M.–10:30 A.M.

660 **The Power of Individual Assessment: Why, How, and Finding Time!**

(3–5) Session

The speakers will share experiences of using individual interviews to gain deep knowledge of students' mathematical understandings. They will show how Google Docs helped planning and record-keeping and share examples of developed interview protocols. They will work with you to think about how to fit this valuable practice into your busy classroom.

Lisa Carboni

Carolina Friends School, Durham, North Carolina

Jenni Scoggin

Carolina Friends School, Durham, North Carolina

115 C (CONVENTION CENTER)

661 **Using Technology to Demonstrate Understanding**

(3–8) Session

We encourage students to demonstrate their understanding of mathematical concepts in a variety of ways. Today, with easy access to document cameras, digital cameras, and the Internet, students' options for sharing their ideas are expanding. This session will provide examples of using a variety of technologies in mathematics classrooms.

Debbie Duvall

Board of Directors, National Council of Teachers of Mathematics; Elk Island Public Schools, Sherwood Park, Alberta, Canada

122 A (CONVENTION CENTER)

662 **Fostering Algebraic Thinking by Making Variables Vary with Geometer's Sketchpad®**

(6–8) Session

The speaker will discuss techniques that lead prealgebra and Algebra 1 students from concrete to abstract thinking. Geometer's Sketchpad 5 allows students to set and control values on a dynamic number line or in a coordinate plane. When students can *see* the immediate effects of changes in these values, their understanding of variable deepens.

Charlie Hennessy

Holy Trinity School, Washington, D.C.

107 A/B (CONVENTION CENTER)

663 **Avoiding the Consolation Prize: The Mathematics of Game Shows**

(6–12) Session

Game show contestants dream of riches, not consolation cases of Hamburger Helper. This presentation will offer engaging lessons that put students in contestants' shoes, challenging them to reason mathematically to find winning strategies. Drawn from both familiar and obscure game shows, lessons cover diverse topics from game theory to Pascal's triangle.

Carlos Rodriguez

Johns Hopkins University Center for Talented Youth, Baltimore, Maryland

Stuart Gluck

Johns Hopkins University Center for Talented Youth, Baltimore, Maryland

TERRACE BALLROOM 4 (CONVENTION CENTER)

664 **Building Mathematical Understanding for English Language Learners through Teachers' Talk**

(6–12) Session

TODOS: Mathematics for ALL Presentation

Expand your toolbox of teaching strategies that engage students in meaningful mathematical learning while addressing their different linguistic backgrounds. Come learn and practice a variety of speaking skills that you can use immediately to become a resource and leader in mathematics teaching, committed to students' learning and success!

Vessela Ilieva

Utah Valley University, Orem

126 B (CONVENTION CENTER)

665 **Free Tools: Financial Education, Math, and Problem Solving**

(6–12) Session

Financial ideas can be complicated to model and difficult to understand. Given the role fine print plays in video game rentals, credit card agreements, car loans, and more, students must learn about financial ideas early and often. The speaker will share technology that allows students to explore the overlap of math and financial concepts.

Valerie Klein

Math Forum @ Drexel University, Philadelphia, Pennsylvania

113 A (CONVENTION CENTER)

SATURDAY

9:30 A.M.–10:30 A.M.



666

Interactive Technology Resources for Teaching Statistics in the Common Core

(6–12) Session

The speakers will show how to enhance statistics understanding and offer technology resources to strengthen statistics teaching in the Common Core State Standards. Explore problem solving; formulating questions; and collecting, analyzing, and drawing conclusions from data with hands-on activities, technology, and real data that interest students.

Rebecca Nichols

American Statistical Association, Alexandria, Virginia

120 C (CONVENTION CENTER)

667

Residual Understandings: Making Statistical and Mathematical Connections with Technology

(9–12) Session

Engage with concept-building tasks that promote learning consistent with NCTM's recommendations for secondary school mathematics. Discussion will focus on pedagogical use of technology and connections between mathematics and statistics, including least-squares regression, deterioration coefficient, and a surprising middle school topic.

Susan Peters

University of Louisville, Kentucky

Rose Zbiek

Pennsylvania State University, University Park

119 A (CONVENTION CENTER)

ICON LEGEND



Common Core State Standards



Core Math Tools



Exhibitor Workshop

668

What's Literacy Got to Do with It? Math Literacy Coaching

(9–12) Session

The speakers will present an overview of their literacy coaching model and share active, engaging learning strategies to increase students' understanding of math concepts, among them story problems, note-taking tools, problem sorts, problem-solving graphic organizers, review stations, word walls, vocabulary activities, and teachers' resources.

Barbara Mazzolini

Community School District 99, Downers Grove, Illinois

Blair Covino

Community School District 99, Downers Grove, Illinois

121 B (CONVENTION CENTER)

669

Reengaging Girls in Challenging Mathematics: Technology Integration and Instructional Shifts

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

Women and Mathematics Education Presentation

The speaker will describe a project that reversed high school girls', especially Latinas', disengagement following precalculus. Learn how integrating dynamic technology coupled with instructional shifts reengages girls in challenging mathematics. The presentation will also show the effect of involving parents.

Melissa Hosten

Chandler Unified School District, Arizona

117 (CONVENTION CENTER)

670

Professional Development by the Book

(Preservice and In-Service) Session

What classic books and which classic authors' works should early-career mathematics teachers have on their physical or metaphorical bookshelves? Take advantage of the presenters' wisdom and experience from more than 80 collective years in the classroom, and leave with an annotated list of the great mathematics books.

Vena Long

University of Tennessee, Knoxville

Albert Goetz

National Council of Teachers of Mathematics, Reston, Virginia

125 (CONVENTION CENTER)

BOOTH #626

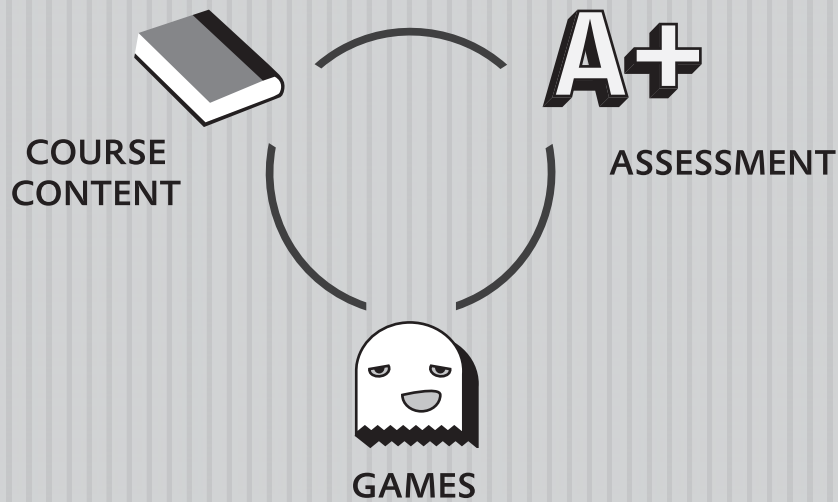
6:42 PM

97%

LEARNING AND ASSESSMENT

- IN THE -

AGE OF APPS



Workshop Info

'Introduction to Statistics': Tools for Developing Statistical Reasoning

Room: Room 115B (Convention Center)

Time: Friday, April 27, 2012 at 10:00 AM

Who: Dr. Priya Nihalani, nihalani@GYLO.com

Dr. Michael Mayrath, mayrath@GYLO.com

★ Attend our workshop for a chance
win an iPod Touch and a Nook! ★



10:30 A.M.–12:00 NOON

671

RtI: Ready to Inspire

(Pre-K–2) Gallery Workshop

Response to Intervention (RtI) requires thoughtful planning to ensure that all students have opportunities to learn and succeed in the classroom. This interactive presentation will include hands-on activities and games, with references to children's literature, that will make you ready to inspire your students in the classroom.

Donna Long

Houghton Mifflin Harcourt, Indianapolis, Indiana

118 A (CONVENTION CENTER)

672

Japanese Abacus: The Power of Excellent Manipulatives

(Pre-K–5) Gallery Workshop

The soroban, or Japanese abacus, has been one of the most effective educational tools in Japan for improving children's number sense for hundred of years. The presenters will demonstrate how the soroban works and how to use it.

Hiroo Kodama

Tomoe MI Academy, Tokyo, Japan

Tomoe Fujimoto

Tomoe MI Academy, Tokyo, Japan

111 A/B (CONVENTION CENTER)

673

Seeing Is Succeeding: Using Visual Models to Develop Deep Understanding

(Pre-K–5) Gallery Workshop

Use simple visual aids and models to help students form a mind picture that links to the computation strategy. This presentation will demonstrate how to use these aids and how to generalize and extend the thinking strategies beyond the number fact range.

James Burnett

ORIGO Education, Brisbane, Australia

108 B (CONVENTION CENTER)

674

Algebraic Reasoning = Successful Problem Solving

(3–8) Gallery Workshop

Get ready to experience engaging algebraic reasoning activities that transform arithmetic and real-world problems into opportunities for discovering patterns, making generalizations, and justifying solutions. Leave with classroom-ready activities and ideas that you can use immediately.

Carolyn White

Rice University School Mathematics Project, Houston, Texas

Susan Troutman

Rice University School Mathematics Project, Houston, Texas

115 A (CONVENTION CENTER)



675

Fraction Traction: A Fresh Approach That Really Works—Really!

(3–8) Gallery Workshop

Develop number sense by constructing fraction squares, then use equivalent fractions and area models as a strategy to perform operations. The focus of this make-and-take presentation will be to use the approach outlined in the Common Core State Standard Initiative, to make connections and to incorporate the Standards for Mathematical Practice.

Donna Davis

Baltimore City Public School System, Maryland

122 B (CONVENTION CENTER)

676

Read, Write, Learn Math

(3–8) Gallery Workshop

How do you know what your students are thinking and what they understand? Engage in activities designed to develop students' ability to communicate math learning. Topics include vocabulary, writing ideas and prompts, graphic organizers, and technology. Leave with materials to use in the classroom next week.

Susan Davies

Fairfax County Public Schools, Virginia

103 C (CONVENTION CENTER)

10:30 A.M.–12:00 NOON

677

Reaching All Students with Mathematics: Experience Success in Action

(6–8, Preservice and In-Service) Gallery Workshop

Actions speak louder than words. Experience proven strategies for increasing focus, feedback, and conceptual understanding. Learn questioning techniques that elicit enthusiastic, whole-class participation, raise achievement, and prepare students for success in algebra and beyond.

William Glee

Project SEED, Berkeley, California

Howard Baker

Project SEED, Berkeley, California

121 A (CONVENTION CENTER)

678

Round Up Those Geometry Concepts with Paper Folding!

(6–8, Preservice and In-Service) Gallery Workshop

Learn geometry from paper folding? From circles to three-dimensional shapes, come be a part of learning how to introduce your students to a conceptual understanding of geometric terms through inexpensive, hands-on paper folding. The speakers will discuss relative geometric terms and make references to children's literature.

Joy Black

University of West Georgia, Carrollton

Kathy Westbrook

University of West Georgia, Carrollton

119 B (CONVENTION CENTER)

679

Beyond Sudoku: Using Logic Puzzles to Develop Mathematical Reasoning

(6–12) Gallery Workshop

Logic puzzles are an engaging, accessible way to introduce deductive reasoning. Break down the process of writing proofs, make connections among rules of various logic puzzles and axiomatic systems, write “because” statements, and develop proofs, modeling how you can use these ideas with students.

Bredeen Murray

Live Oak School, San Francisco, California

113 C (CONVENTION CENTER)

680

Get Them out of Their Seats and onto Their Feet

(6–12) Gallery Workshop

Movement is magic. Engage in kinesthetic activities that prepare the brain for learning, increase students' engagement, and improve students' and teachers' motivation. Available handouts will summarize recent brain research and contain a variety of ideas you can use in your class tomorrow. Come prepared to move and groove.

Carrie Kizuka

Twin Valley High School, Elverson, Pennsylvania

126 A (CONVENTION CENTER)

681

Wii Play, We Learn

(6–12) Gallery Workshop

Come learn new strategies to create more interest and excitement in your classroom by using the Wii gaming system. Use the Wii to collect data and explore probability, measures of center, graphing (including box-and-whisker plots and circle graphs), and other areas of mathematics. Gaming experience is not required.

Nathan Fogg

Madison City Schools, Alabama

124 (CONVENTION CENTER)

682

Inspire Statistics Students with NASA Data and 2012 Technology

(9–12) Gallery Workshop

Introduce application problems developed by the National Aeronautics and Space Administration (NASA) to help statistics students develop and reinforce knowledge and skills necessary to succeed in college. Work hands-on with applications using TI-Nspire technology, and take the learning and excitement back to the classroom.

Monica Trevathan

NASA Human Research Program Education and Outreach, Houston, Texas

Natalee Lloyd

NASA Human Research Program Education and Outreach, NASA, Texas

121 C (CONVENTION CENTER)

SATURDAY

10:30 A.M.–12:00 NOON

683

I've Got the Power

(9–12) Gallery Workshop

In one 45-minute class period, your students will gain a deep conceptual understanding of power and type 1 and type 2 errors through simulations and real-world examples. The speaker's students have got the power: yours can, too.

Ruth Carver

Germantown Academy, Fort Washington, Pennsylvania

118 C (CONVENTION CENTER)

684

Picture This

(9–12) Gallery Workshop

Come create an art project on your graphing calculator. This calculator activity integrates and deepens students' understanding of concepts in geometry, spatial reasoning, algebraic functions, and creative writing while sketching an art project using the equations of various functions learned in Algebra 1 to precalculus.

Ann Polson

Little Rock Christian Academy, Arkansas

105 A/B (CONVENTION CENTER)

685

Which Center Is the Best?

(9–12) Gallery Workshop

Where should three towns build a hospital? How large a circular fountain can you place in a garden? Use three styles of constructions—paper folding, compass-straightedge, and dynamic software—to explore concurrency points. Then, solve triangle problems to find the best point. The variety of tools and methods appeals to multiple learning styles.

Karen Hyers

Tartan High School, Oakdale, Minnesota

Kristin Johnson

Saint Louis Park High School, Minnesota

116 (CONVENTION CENTER)

686

Build It, Show It, Know It: Understanding Math Manipulatives

(Preservice and In-Service) Gallery Workshop

Engage in a series of activities that allow for better understanding and use of math manipulatives. Learn and use the “build it, show it, know it” concept to work with students in the classroom to increase their knowledge and understanding of elementary school mathematics.

Corey McKenna

Point Loma Nazarene University, San Diego, California

120 A/B (CONVENTION CENTER)

11:00 A.M.–12:00 NOON

687

A Technological Whack on the Side of the Head

(General Interest) Session

This humorous, thought-provoking session will offer ongoing perspective on technology use at all school levels. Come reflect on some “mental locks” we all encounter. How does technology change or refine what we do, at *any* level? What is appropriate use? What's always the best question to ask? How does NCTM's position guide us?

Larry Campbell

Missouri State University, Springfield

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

688

Intriguing Lessons about Teaching and Assessing Math around the World

(General Interest) Session

It's really not an accident that countries like Singapore and Hong Kong significantly outperform the United States. Take a look at some of the features, instructional approaches, and assessment items that can guide our own efforts to improve U.S. mathematics teaching and learning.

Steven Leinwand

American Institutes for Research, Washington, D.C.

119 A (CONVENTION CENTER)

11:00 A.M.–12:00 NOON

689

Put On Your Math Goggles!: Discover Pre-K–2 Mathematics in Art

(Pre-K–2) Session

Bring the NCTM Standards alive by exploring patterns in works by Matisse, shapes and solids in art by Kandinsky, Thiebaud, and Warhol, and other math concepts in artwork created by Arp, Mondrian, and more! Connect children's literature that features the visual arts to math concepts. Highlight the benefits of an arts-infused math curriculum.

Robin Ward

Rice University, Houston, Texas

117 (CONVENTION CENTER)

690

Eight Steps to Learning and Understanding Place and Value

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

Learn how to facilitate students' understanding of place and value. The speaker will describe an eight-step plan based on the Common Core State Standards (CCSS) and present tasks based on CCSS learning progressions. Steps begin with part-part-whole activities and end with tasks that develop an understanding of the value of each digit in a number.

Debra Rucker

Upper Arlington City Schools, Ohio

113 A (CONVENTION CENTER)

691

Great Math Lessons Based on Great Children's Literature

(Pre-K–5) Session

A good story captures children's interest, adds to their understanding, connects mathematics to their experiences or imagination, and demonstrates the way math applies to everyday situations. Explore the combination of both sound math concepts and good literature, with books that fill both requirements.

M. W. Penn

Author, Hamden, Connecticut

TERRACE BALLROOM 1 (CONVENTION CENTER)

692

Fraction Computation: Do We Have the Right Story?

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

The standards for mathematical practice state that students must model with mathematics. A useful way to make sense of concepts is to have students develop contexts to support expressions. Participants will explore stories that support fraction operations. This activity will help teachers deepen students' knowledge as they model with mathematics.

Mercedes Sotillo-Jorge

University of Central Florida, Orlando

Tashana Howse

University of Central Florida, Orlando

Juli Dixon

University of Central Florida, Orlando

123 (CONVENTION CENTER)

693

Evidence-Based Strategies for Improving Mathematical Problem Solving in Grades 4–8

(3–8) Session

Mathematical problem solving is a crucial skill for state and national assessments, college entrance exams, and future success at work. The authors of *The What Works Clearinghouse Practice Guide: Improving Mathematical Problem Solving in Grades 4–8* will discuss evidence-based strategies for improving students' mathematical problem-solving skills.

John Woodward

University of Puget Sound, Tacoma, Washington

Mark Driscoll

Education Development Center, Inc., Newton, Massachusetts

TERRACE BALLROOM 4 (CONVENTION CENTER)

694

Difficulty in Fraction Operations with Different Denominators? Not Any More

(6–8) Session

Fractions are recognized as fundamental to grades K–12 math learning. Many students, however, have difficulty understanding operations with fractions, especially fraction addition and subtraction with different denominators. This presentation will offer perspectives on this problem from Taiwan and Korea.

Kai-Ju Yang

Indiana University Bloomington

Hyunyi Jung

Purdue University, West Lafayette, Indiana

125 (CONVENTION CENTER)

SATURDAY

NCTM 2012

Regional Conferences & Expositions

DALLAS, TX | OCTOBER 10–12
HARTFORD, CT | OCTOBER 24–26
CHICAGO, IL | NOVEMBER 28–30

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NCTM's Regional Conferences have the professional development opportunities you need to help your students succeed. Join the best and the brightest and immerse yourself in the latest topics in math education. By attending you and your colleagues will:

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4

6



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Visit www.nctm.org/meetings for up-to-date information.

11:00 A.M.–12:00 NOON

695

Don't Toss Out Four-Function Calculators: Explore Concept Meaning Instead

(6–8) Session

Use four-function calculators to explore patterns, relations, and functions not usually viewed through calculators. Learn atypical ways of using technology to examine concepts, focusing on reasoning and sense making. Activities will include repeated decimal patterning, conjecturing, hypothesizing, and discovering “keyboard geometry” patterns.

William Speer

University of Nevada Las Vegas

115 C (CONVENTION CENTER)

697

Dilations Open Eyes: Use Dilations for Proportional Reasoning

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

The Common Core State Standards for Mathematics include substantial transformational geometry, especially in grade 8. Many teachers know little of this approach to geometry. The speaker will discuss a professional development unit and resources for a middle school teachers' institute focusing on dilation transformations and proportional reasoning.

Joanne Becker

San José State University, California

121 B (CONVENTION CENTER)

698

Mathematical Superlatives: Modeling Optimization with the TI-Nspire™

(9–12) Session

Find the largest box, the quickest path, the smallest area. Optimization is a classic calculus topic that students can master through interaction with TI-Nspire action-consequence documents. The speaker will demonstrate activities usable in both calculus and precalculus classrooms and provide complete lesson handouts.

John Dusenberry

Rutherford County Schools, Mufreesboro, Tennessee

120 C (CONVENTION CENTER)

699

Students' Dream Functions: Exploring Additive and Multiplicative Functions

(9–12) Session

Some functions encountered in algebra, among them additive and multiplicative ones, have some very interesting characteristics. This presentation will explore some number-theory concepts that lead to these types of functions. Participants will receive ready-to-use classroom activities.

Clifton Wingard

Delta State University, Cleveland, Mississippi

109 A/B (CONVENTION CENTER)

CMT 700

Using Core Math Tools to Implement the CCSSM Geometry Standards

(9–12) Session

This interactive session will explore features of Core Math Tools, a suite of Java-based mathematical software tools for teachers and students. The tools support implementation of the CCSSM standards for mathematical practice and geometry content. Core Math Tools is freely available from NCTM at www.nctm.org/coremathtools/.

W. Gary Martin

Auburn University, Alabama

107 A/B (CONVENTION CENTER)

701

Using Technology in Students' Mathematical Modeling Projects

(9–12) Session

Coming up with good topics for students' mathematical projects is hard. Technology can help extend the range of problems students can tackle, by using Geometry Expressions to create explicit mathematical models and computer algebra systems to solve them. The speaker will describe summer projects of grades 10–11 students over the last five years.

Philip Todd

Saltire Software, Tigard, Oregon

103 A (CONVENTION CENTER)

SATURDAY

11:00 A.M.–12:00 NOON

702

Community College Classroom Research: What We Have Learned

(Higher Education) Session

Presidents' Series Presentation

Classroom research is being conducted at community colleges across the country. This presentation will highlight some of the research projects and what they tell us about how our students learn.

Jim Roznowski

American Mathematical Association of Two-Year Colleges;
Harper College, Palatine, Illinois

108 A (CONVENTION CENTER)

703

Developing Preservice Teachers' Multicultural Mathematics Dispositions (MCMD)

(Preservice and In-Service) Session

Benjamin Banneker Association Presentation

This presentation will describe a cultural awareness unit designed to develop preservice teachers' MCMD. The speakers will define MCMD, describe the unit and how it explicitly addressed issues of culture and diversity, and offer recommendations on how MCMD can support culturally relevant mathematics teaching.

Dorothy White

University of Georgia, Athens

Tonya Brooks

University of Georgia, Athens

Tonya DeGeorge

University of Georgia, Athens

126 B (CONVENTION CENTER)

12:30 P.M.–1:30 P.M.

704



How to Teach Creativity Discretely: From Doodling to Discovering

Closing Session by Edward Burger

Remarks by NCTM President J. Michael Shaughnessy

Explore the true lessons that mathematics can offer long after your students have forgotten how to solve for x . The speaker will illustrate his approach with hands-on activities in geometry, algebra, graph theory, and discrete mathematics.

Edward Burger is a professor of mathematics and Lissack Professor for Social Responsibility and Personal Ethics at Williams College, as well as Vice Provost for Strategic Educational Initiatives at Baylor University. He received the 2001 MAA Deborah and Franklin Tepper Haimo National Award for Distinguished Teaching of Mathematics, was named MAA's 2001–03 Polya Lecturer, and won MAA's 2004 Chauvenet Prize, the 2006 Lester R. Ford Prize, Williams College's 2007 Nelson Bushnell Prize, and the 2010 Robert Foster Cherry Award for Great Teaching. He is an associate editor of the *American Mathematical Monthly* and *Math Horizons* and a trustee of the Kenan Institute for the Arts. In 2006, *Reader's Digest* listed him as America's Best Math Teacher. In 2010, he appeared on a mathematics segment on NBC-TV's *Today Show* and throughout the Winter Olympics coverage, and the *Huffington Post* named him one of their Game Changers.

Edward Burger

Williams College, Williamstown, Massachusetts

TERRACE BALLROOM 2/3 (CONVENTION CENTER)

SATURDAY

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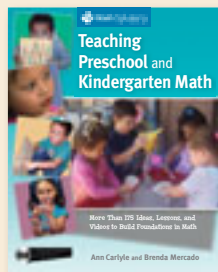
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GENERAL INFO

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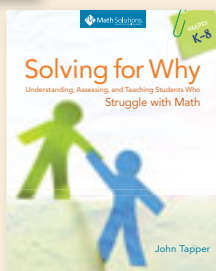
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Meet Our Authors

Thursday, April 26
4:00 P.M.–5:00 P.M.
Booth 826

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FREE

Explain It to Me

At the heart of the Common Core are the **Standards for Mathematical Practice** reflecting the most advanced and innovative thinking on “how” students should interact with math content to master essential skills and their underlying concepts.

Visit Math Solutions booth 826 today to see our “**Explain It to Me**” video and bring your knowledge of the Practice Standards back to the classroom!

Making Sense of Variables, Expressions, and Equations

Suzanne Chapin, author of *Classroom Discussions*

Friday, April 27 | 1:00 P.M.–2:00 P.M.
Room 115B

Free book given to first 50 attendees

Stop by Booth 826 and meet Suzanne Chapin

Friday, April 27 | 2:30 P.M.–3:30 P.M.

Drop by **booth 826** to **relax, rejuvenate,** and **see what's new!**

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General Information

Registration and Access to Presentations

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

By registering for the 2012 NCTM Annual Meeting and Exposition, participants grant NCTM the right to use, in promotional materials, their likeness or voice as recorded on, or transferred to, videotape, film, slides, audiotapes, or other media.

Research Pre-session

The Research Pre-session, jointly sponsored by the NCTM Research Committee and the Special Interest Group on Research in Mathematics Education of the American Educational Research Association, will be held Monday–Wednesday, April 23–25, in the Philadelphia Marriott Downtown. The Research Pre-session Registration Area is in the Franklin Hall area on the 4th floor.

The Opening Session will be held at 7:00 p.m. on Monday, April 23, followed by a welcome reception. Concurrent sessions will begin at 8:30 a.m. on Tuesday, ending with a research poster session. The Wednesday program begins at 8:30 a.m. with a Linking Research and Practice Plenary followed by concurrent sessions until 5:00 p.m. There is no additional fee for on-site registration for the Research Pre-session. Registered NCTM Annual Meeting attendees may attend Wednesday's Research Pre-session presentations at no extra charge with their badge.

For Your Child's Safety

Due to the size and nature of the 2012 NCTM Annual Meeting and Exposition, this event is not the appropriate setting for children under 16 years of age. Children under age 16 will not be permitted in the Exhibit Hall. Your hotel concierge will be able to recommend activities for children while you are attending the conference. We appreciate your understanding and cooperation. Children 16 years and over will need to register as nonteaching guests. To register a nonteaching guest, stop by the Registration Area at the Pennsylvania Convention Center.

Bookstore

Save 25 percent off the list price on all purchases made at the onsite NCTM Bookstore, located in the Exhibit Hall at the Pennsylvania Convention Center. View first-hand 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 math. Start your wish list today by previewing NCTM's wealth of resources at www.nctm.org/catalog.

Note on Sales Tax Exemptions: To be considered exempt from sales tax in the NCTM Bookstore, you must provide a copy of a Pennsylvania tax exemption certificate, issued by the state, at the time of purchase. NCTM is required by law to keep a copy of the certificate, and we will be unable to return it to you. To qualify, payment must be made with a purchase order, check, or credit card from the school to which the Pennsylvania Exemption Certificate is issued. Personal checks, personal credit cards, and cash cannot be accepted in conjunction with tax exemption certificates.

The NCTM Bookstore is not equipped to handle shipping from the meeting site. A Business Center located at *each meeting facility* is ready to assist you with your shipping needs.

The NCTM BuzzHub



Make sure to check out the NCTM BuzzHub, sponsored in part by Verizon/Thinkfinity. This exciting new area has everything "NCTM" all in one convenient location. You will be able to:

- Check your email; or look up speakers and exhibitors at the **Internet Station**. Sponsored in part by Be An Actuary and Verizon/Thinkfinity.
- View and play online math strategy games, while learning about NCTM's Illuminations Project and other online resources at **Calculation Nation®**.
- Listen to NCTM journal editors present short sessions that discuss how to write an article for the NCTM journals, become a reviewer, and more at the **NCTM Presentation Spotlight Stage**. A schedule of times is available on page 8 and 76 and in the onsite Daily News.
- Relax, mingle with other attendees and stay connected with the latest social media updates at the **Social Networking Lounge**.
- Pick up FREE take-home activities and resources, sample journals, and more at the **Member Showcase**. You'll have the chance to update your membership information, learn more about the benefits, and participate in a daily prize drawing. Plus, when you join or renew your NCTM membership you will receive a free t-shirt! Supplies limited.
- Capture your experience at the Green Screen Photo Lounge, sponsored by Pearson.

It's a new space, with new ideas to help you all the way around! Check us out in the Exhibit Hall during exhibit hours.

Wi-Fi Access

The Pennsylvania Convention Center offers complimentary wireless access in the concourses and Overlook Area.

Shuttle Bus Service

Attendees who reserved their hotel room through NCTM's official housing company will receive complimentary shuttle bus service from hotels in the NCTM housing block to the Pennsylvania Convention Center. Some of the hotels are within walking distance of the convention center and will not require shuttle bus service. Routes and schedules will be posted in your hotel lobby. The schedule will be followed as closely as possible. For a shuttle bus schedule or if you have questions, please visit the shuttle desk located at the shuttle area at the Arch Street entrance to the Convention Center.

General Information

Information Booth

The NCTM Information Booth will be in the lobby area of the Pennsylvania Convention Center. Local staff from Philadelphia will be on hand to answer any questions you may have. They will also assist you with directions and local information, from transportation and historical sites to shopping and entertainment.

Lost-and-Found

Items for lost-and-found may be retrieved or turned in at the NCTM Information Booth. At the end of the conference, all lost-and-found items brought to the Information Booth will be turned over to Convention Center Security.

Restaurant Reservations

Explore the fabulous restaurants of Philadelphia! Stop by the convention center's Information Desk located at the Pennsylvania Convention Center. The friendly staff will be available to offer recommendations and make reservations.

Bag and Coat Check

A bag and coat check is available for you to store your belongings during the conference hours for a nominal fee. You can check your items at the bag check located in the Pennsylvania Convention Center Thursday through Saturday during the program hours. All items are to be picked up each day by closing time; items may not be left overnight.

First Aid Station

A first-aid station will be staffed inside the Exhibit Hall at the Pennsylvania Convention Center during the NCTM program. If you need medical services while in Philadelphia, please check with the hotel concierge for the closest medical facilities. As with any medical emergency, call 911 without hesitation.

NCTM Clear Air Act

In accordance with a resolution of the 1978 Delegate Assembly, smoking is permitted only in designated areas.

Your Opinion Counts!

Thank you for attending the NCTM 2012 Annual Meeting and Exposition. In the days following the Annual Meeting, you will receive an e-mail asking for an evaluation of your meeting experience. Please take a moment to complete the conference attendee survey. Your feedback is important to us and will be instrumental in the future Annual Meeting and Exposition planning process.

Exhibit Hall Information

Exhibits

Be sure to make time in your schedule to visit the NCTM Exhibit Hall. The hours allow ample opportunity to explore, try out, and purchase products and services for use in your classroom or to help you meet your career goals. You'll also have the opportunity to meet the people who produce these products, get fresh ideas, and see demonstrations of how products work. The hall will be open on Friday from 10:00 a.m.–6:00 p.m. There will be few presentations scheduled between 4:30 p.m. and 6:00 p.m. to give you some dedicated time to visit the exhibits. Be sure to check out the list of exhibits and a map of the Exhibit Hall on pages 184–201.

Exhibitor Workshops

Do you want more in-depth and personal interaction with exhibitors? If you do, plan to attend the Exhibitor Workshops. These workshops are held on Thursday, Friday, and Saturday and offer a wide variety of topics. See the program for Exhibitor Workshop offerings, indicated by **ew** before the presentation number.

Sponsors

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

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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.

The host Affiliates for the 2012 NCTM Annual Meeting and Exposition and the Affiliates-at-Large are listed below. To join one of these groups, e-mail the Affiliate contact for membership information.

NCTM has more than 230 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 Web site at www.nctm.org/affiliates.

AFFILIATE INFORMATION

HOST GROUP

Pennsylvania Council of Teachers of Mathematics
Cathie Cooper, cooperc@garnetvalleyschools.com

Association of Teachers of Mathematics of Philadelphia and Vicinity (Pennsylvania)
Marian Avery, avery25@verizon.net

AFFILIATES-AT-LARGE

Adult Numeracy Network
Lynda Ginsburg, ginsburg@rci.rutgers.edu

Association of Mathematics Teacher Educators
Sandra Cooper, sandra_cooper@baylor.edu

Association of State Supervisors of Mathematics
Charles Watson, chaswatson@sbcglobal.net

Benjamin Banneker Association, Inc.
Roni Ellington, roni.ellington@morgan.edu

Council for Technology in Mathematics Education
Stephanie Cooperman, scooperman@chatham-nj.org

Council of Presidential Awardees in Mathematics
Sharon Baca, sherrybaca@cableone.net

North American Study Group on Ethnomathematics
Blidi Stemn, catbss@hofstra.edu

National Council of Supervisors of Mathematics
Ruth Harbin Miles, smilesalot4u2@yahoo.com

Society of Elementary Presidential Awardees
Martha Short, mshort@ldd.net

TODOS: Mathematics for ALL
Maria Torres, metorres1@aol.com

Women and Mathematics Education
Dorothy Buerk, buerk@ithaca.edu

2012 NCTM Affiliate Leaders Conference

Atlanta, Georgia
Aug. 3–5, 2012

Register online at
www.nctm.org by 7/6/12

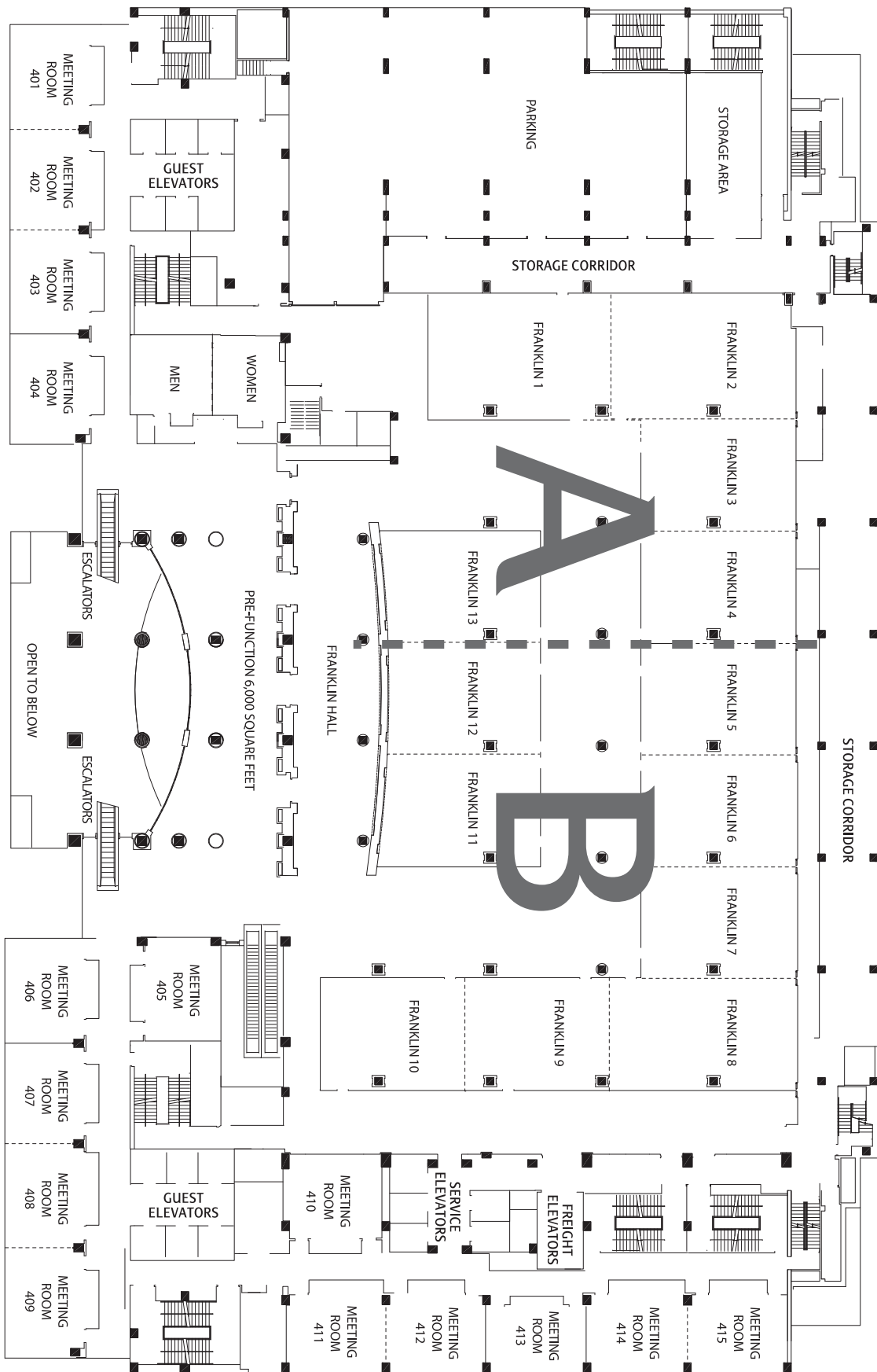


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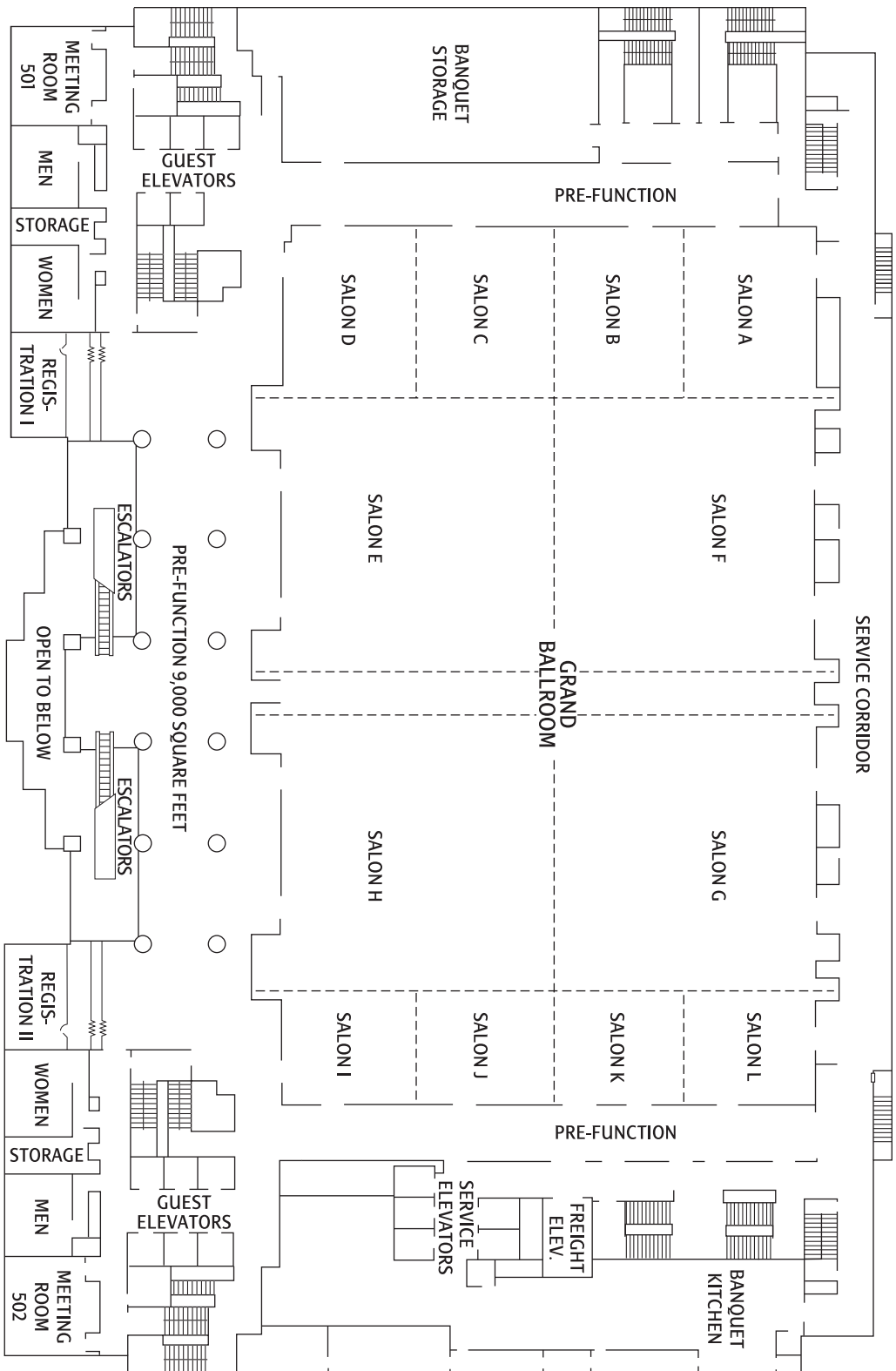
Floor Plans

Philadelphia Marriott Downtown 4TH FLOOR



Floor Plans

Philadelphia Marriott Downtown
5TH FLOOR



Look for us at the 2012 NCTM Annual Meeting & Exposition

April 25-28th, Philadelphia, PA

NCTM-sponsored insurance plans have been carefully chosen for their valuable benefits at competitive group rates from a variety of reputable, highly-rated carriers.

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- Private Practice Professional Liability
- Student Educator Professional Liability

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- Cancer Insurance Plan
- Medicare Supplement Insurance

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- Homeowners Insurance

Life

- New York Life Group Term Life Insurance[†]
- New York Life 10 Year Level Group Term Life Insurance[†]
- New York Life Group Accidental Death & Dismemberment Insurance[†]

Additional Plans & Benefits

- Educators Dental Plan
- Pet Health Insurance
- ID Theft Assist
- International Travel/Medical



[†] Underwritten by New York Life Insurance Company, New York, NY 10010 Policy Form GMR.

* No purchase necessary. Must be 18 or older to enter. Void where prohibited. Sponsored by Forrest T. Jones & Company, 3130 Broadway, Kansas City, MO 64111. Visa® is not a sponsor or participant in the drawing and makes no endorsement of the drawing.

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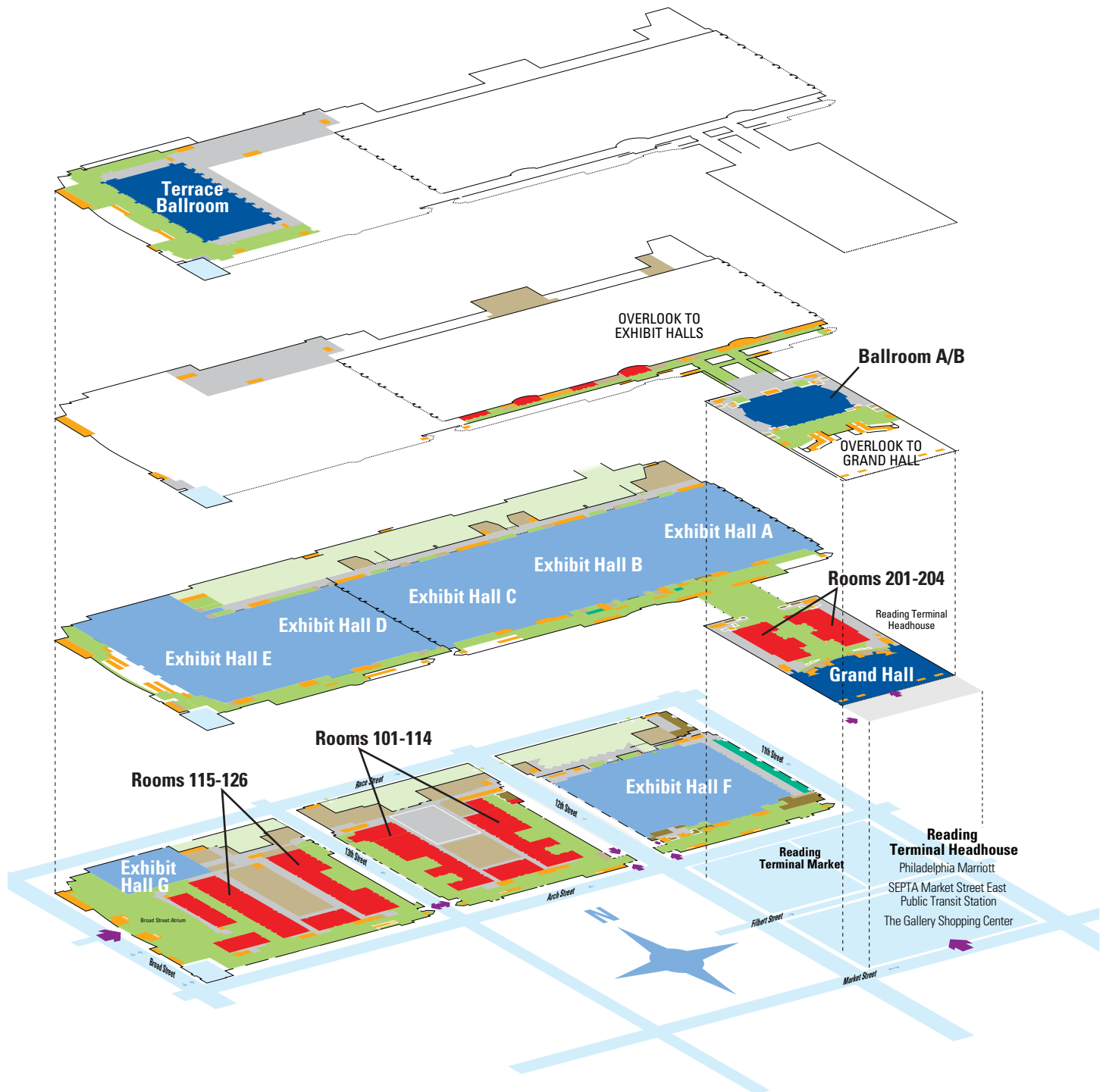
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Floor Plans

PENNSYLVANIA CONVENTION CENTER



Hotel Information

HOTEL	Single	Double	Double/ Double	Triple	Quad	# Blocks from Convention Center (Broad St.)
Courtyard by Marriott Philadelphia Downtown	\$239	\$239	\$239	\$239	\$239	2
Crowne Plaza Philadelphia Downtown	\$223	\$223	\$223	\$223	\$223	6
DoubleTree by Hilton Hotel Philadelphia Center City	\$229	\$229	\$229	\$249	\$269	6
Embassy Suites Philadelphia Center City	\$256	\$256	\$256	\$276	\$296	4
Four Points by Sheraton Philadelphia City Center	\$185	\$185	\$185	\$205	\$205	2
Four Seasons Hotel Philadelphia	\$250	\$250	\$250	N/A	N/A	4
Hampton Inn Philadelphia Center City-Convention Center	\$179	\$179	\$179	\$199	\$209	1
Hilton Garden Inn Philadelphia Center City	\$195	\$195	\$195	\$206	\$217	3
Holiday Inn Express Philadelphia Midtown	\$182	\$182	\$192	\$192	\$192	6
Holiday Inn Historic District	\$199	\$199	\$199	\$199	\$199	10
Hotel Palomar	\$239	\$239	\$259	\$279	\$299	7
Hyatt at The Bellevue	\$289	\$289	\$289	\$314	\$339	5
Hyatt Regency Philadelphia at Penn's Landing	\$199	\$199	\$199	\$224	\$249	20
Loews Philadelphia Hotel	\$219	\$219	\$244	\$269	\$294	4
Philadelphia Marriott Downtown (HQ)	\$249	\$249	\$249	\$249	\$249	Connected
Radisson Plaza-Warwick Hotel Philadelphia	\$205	\$205	\$215	\$215	\$215	10
Sheraton Philadelphia Downtown Hotel	\$229	\$249	\$249	\$269	\$289	3
Sheraton Society Hill Hotel	\$199	\$199	\$199	\$219	\$239	14
Sofitel Philadelphia	\$205	\$205	\$205	\$225	\$245	7
The Ritz-Carlton Hotel Philadelphia	\$289	\$289	\$289	\$324	N/A	3
Westin Philadelphia	\$255	\$285	\$285	\$315	\$345	6

* Rates do not include current tax of 15.2%; subject to change.

Map of Philadelphia



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The National Council of Teachers of Mathematics is a public voice of mathematics education, supporting teachers to ensure equitable mathematics learning of the highest quality for all students through vision, leadership, professional development, and research. With more than 80,000 members and more than 230 Affiliates, NCTM is the world's largest organization dedicated to improving mathematics education in prekindergarten through grade 12. The Council's *Principles and Standards for School Mathematics* includes guidelines for excellence in mathematics education and issues a call for all students to engage in more challenging mathematics. NCTM is dedicated to ongoing dialogue and constructive discussion with all stakeholders about what is best for our nation's students.

To learn more about NCTM products or services, including membership benefits and opportunities, visit www.nctm.org, email nctm@nctm.org, or call (800) 235-7566.

It starts here.



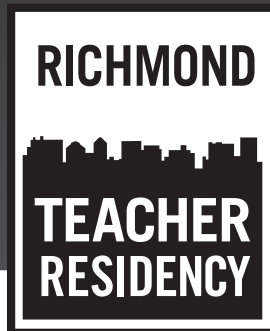
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This certificate is presented to

*in recognition of attendance and participation at the
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Philadelphia, Pennsylvania • April 25–28, 2012

A handwritten signature in blue ink, reading 'J. Michael Shaughnessy'. The signature is written in a cursive style and is positioned above a horizontal line.

J. Michael Shaughnessy
President, NCTM



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NCTM Annual Meeting and Exposition
April 25–28, 2012
Philadelphia, Pennsylvania

Name of Provider: National Council of Teachers of Mathematics

Educator's Name: _____

Description of Professional Development Activity: This is a four-day annual meeting sponsored by the National Council of Teachers of Mathematics. More than 700 presentations are offered for teachers of prekindergarten through college. Topics range from administration to geometry, precalculus to statistics.

Note: PD time earned should be the time actually spent in sessions and/or workshops.

Date	Session #	Session Title	Presenter(s) Name(s)	Start/End Time	PD Time earned
TOTAL Professional Development Hours Accrued:					

I certify that the above named educator accrued the indicated number of Professional Development hours.

Kichoon Yang
Executive Director, NCTM

J. Michael Shaughnessy
President, NCTM

Please check with your state education agency and local administration to determine if these conference hours can be used for professional development credits.

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PH12P

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All fields marked with an * are required for processing

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

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☐ **Standing Yearbook Order Plan:** Check this box to receive each NCTM Yearbook as it becomes available. Yearbooks may be returned in resalable condition within 30 days and you may cancel your plan at any time.

NOTE: Membership pricing valid through May 31, 2012. Visit www.nctm.org/membership for up-to-date pricing.

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Includes a print subscription to one NCTM journal (*print version includes online access*). Select **ONE** journal below:

- \$78** ☐ **Teaching Children Mathematics** (PreK-6)
☐ **Mathematics Teaching in the Middle School** (5-9)
☐ **Mathematics Teacher** (8-14)

\$105 ☐ **Journal for Research in Mathematics Education**

Additional Print Journals:

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☐ **\$33 Mathematics Teaching in the Middle School** (5-9)
☐ **\$33 Mathematics Teacher** (8-14)
☐ **\$60 Journal for Research in Mathematics Education**

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Membership Dues (Option 1 or 2) \$ _____

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Foreign Postage (if applicable): For mailings outside the U.S., add \$18 for the first journal subscription and \$4 for each additional print journal subscription per year. For multiyear membership, please multiply foreign postage by 2 or by 3 and add to payment line at right. **Note:** Multiyear and auto-renew discounts do not apply to foreign postage \$ _____

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☐ **AUTOMATIC RENEWAL:** Check box to auto-renew your membership each year and SAVE 5% off. When your membership is due to expire, NCTM will renew it annually using the credit card information provided for your most current membership transaction. Visit www.nctm.org/autorenew for details. \$ _____

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

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Exhibitor Directory

Directory as of February 14, 2012

2Know! Classroom Response System/Renaissance Learning

Booth: 502

Wisconsin Rapids, Wisconsin
PH: 715-424-3636 FX: 715-424-4242
www.renlearn.com

2Know!™ combines easy-to-use software, wireless handheld remote devices, and a custom toolbar to help you get all your students engaged in learning, while you instantly assess performance. The system's state-of-the-art radio-frequency technology provides students with a fun and interactive way to take quizzes, tests, and surveys in virtually any subject!

4D Land Inc.

Booth: 340

Seoul, Korea
PH: 82-2-3474-9224 FX: 82-2-3437-1933
www.4dframe.com

4D Frame is a unique educational tool and students can not only learn math and science but also enjoy and play them. It is great way to stimulate children's thoughts and creativity.

A

AbleNet

Booth: 1235

Roseville, Minnesota
PH: 800-322-0956, 651-294-2200
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AbleNet provides state-of-the-art curricular and technology solutions across all student needs in special education programs. From staff training and implementation to student instructional needs, our solutions provide research based best practice strategies. Curricula includes: Equals mathematics program, Equals Pre-Algebra and Pre-Geometry – the first standards-based math curriculum for students with disabilities, and more.

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ACT, Inc.

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Iowa City, Iowa
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ACT is a not-for-profit organization that provides educational assessment, research, information, and program management services. We serve millions of students and educators worldwide in high schools, colleges, professional associations, businesses, and government agencies. ACT's mission is to help people achieve education and workplace success. For more information to go www.act.org

The Actuarial Foundation

Booth: 217

Schaumburg, Illinois
PH: 847-706-3535 FX: 847-706-3599
www.actuarialfoundation.org

Free middle and high school lesson plans and curriculum resources from The Actuarial Foundation. New This Year: An AP Probability/Statistics Booklet and information about a new math grant program! Visit the Foundation booth to bring these exciting "real world math" materials and activities home to your students. Visit us at: http://www.actuarialfoundation.org/programs/youth_education.shtml

AIMS Education Foundation

Booth: 336

Fresno, California
PH: 559-255-4094 FX: 559-255-6396
www.aimsedu.org

AIMS Education Foundation develops curriculum for K-9 using hands-on activities. AIMS curriculum focuses on math and science investigations. The AIMS Model of Learning provides a practical method for differentiating instructional strategies to meet the diverse needs of all students.

ALEKS Corporation

Booth: 620

Irvine, California
PH: 714-245-7191 ext. 152 FX: 714-245-7190
www.aleks.com

ALEKS is a web-based program that provides precise mathematics assessment and personalized learning correlated to all 50 states' standards and the Common Core standards. Using artificial intelligence and adaptive questioning, ALEKS accurately assesses a student's knowledge and delivers individualized instruction on the exact topics the student is ready to learn.

Alex's Lemonade Stand Foundation

Booth: 447

Wynnewood, Pennsylvania
PH: 610-649-3034 FX: 610-640-3038
www.AlexsLemonade.org

Alex's Lemonade Stand Foundation for Childhood Cancer (ALSF) is dedicated to finding a cure for all kids with cancer, following in the footsteps of their founder, 4-year-old Alex Scott. ALSF is pleased to present their curriculum-integrated coin collection initiative, Change Childhood Cancer, along with other school programs.

ALSAC/ST. Jude Children's Research Hospital

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Memphis, Tennessee
PH: 1-800-386-2665 FX: 901-578-2839
www.mathathon.org

Math-A-Thon is a free, education-based fundraising program for grades K-8 benefiting St. Jude Children's Research Hospital. The program is designed to complement your existing curriculum, while teaching your students the importance of helping others.

American Book Company

Booth: 1312

Woodstock, Georgia
PH: 888-264-5877 FX: 866-827-3240
www.americanbookcompany.com

FREE Common Core and ACT interactive Math and ELA books available at the booth while supplies last.

American Statistical Association

Booth: 1135

Alexandria, Virginia
PH: 703-684-1221 FX: 703-684-3768
www.amstat.org/education

ASA is a scientific and educational society that works to improve statistical education at all levels. ASA offers outreach activities and resources such as teacher professional development, student competitions, and publications. Stop by the ASA booth to chat with statistics educators and learn about ASA's free K-12 statistics education resources.

Amsco Publications, Inc.

Booth: 435

New York, New York
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Exhibitor Directory

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Apperson Prep

Booth: 919

Charlotte, North Carolina

PH: 800-438-0162 FX: 704-394-3780

www.appersonprep.com/go/NCTM12

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Ascend Math

Booth: 228

Shreveport, Louisiana

PH: 877-843-0277 FX: 318-865-6227

www.ascendmath.com

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Booth: 1342

San Diego, California

PH: 619-594-3971 FX: 619-594-0725

www.amte.net

AMTE is a professional organization that supports the improvement of mathematics teacher education in all its aspects. Current topics we're addressing include mathematics specialists in the elementary grades, teacher preparation policies and practices, and the role of mathematics teacher educators in implementation of the Common Core State Standards for Mathematics.

Association of Teachers of Mathematics in New England

Booth: 1344

New England States

PH: 603-434-2057

www.atmne.net

The Association of Teachers of Mathematics in New England, ATMNE, links six organizations of mathematics teachers in New England into one cohesive association. By facilitating increased interest in mathematics and securing improvements in the teaching of mathematics, ATMNE establishes close relations among teachers and users of mathematics in New England.

B

BarCharts, Inc.

Booth: 445

Boca Raton, Florida

PH: 800-226-7799 FX: 561-989-3722

www.barcharts.com

BarCharts, Inc. with five QuickStudy lines - laminated reference guides, flashcards, anatomy atlas, booklets, and world and US maps, has a product that meets every student's needs.

bby Publications at UWA

Booth: 343

Livingston, Alabama

PH: 205-652-5406 FX: 205-652-5400

www.bbypublications.com

bby Publications at UWA provides math professional development and supplemental materials to elementary schools. We make learning math an interactive experience for both children and teachers by using visual models in a two-fold approach. We are dedicated to helping children and teachers retain the joy and excitement of learning.

Be An Actuary

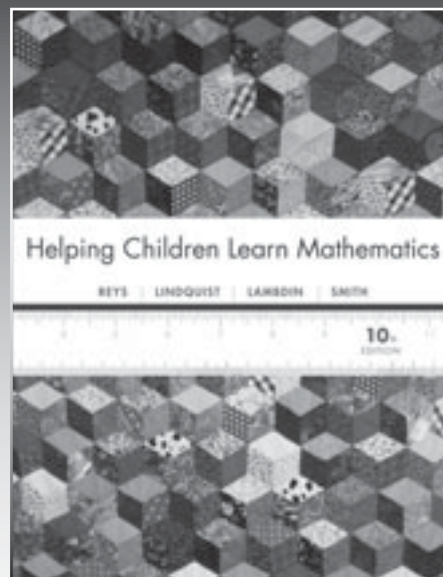
Booth: 219

Schaumburg, Illinois

www.beanactuary.org

The Be An Actuary website, www.beanactuary.org, is designed to inspire high school and college students who are interested in learning about the actuarial career. Educators and career counselors in high schools, colleges, and universities will find a wealth of information to help inform their students about the profession.

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Exhibitor Directory

Bedford, Freeman & Worth (BFW) Publishers & W.H. Freeman

Booth: 1111

Cranbury, New Jersey
PH: 800-223-1715 FX: 609-409-0297
www.bfwpub.com/highschool

Bedford, Freeman & Worth Publishing (BFW) Group is the most trusted source of educational materials for high school mathematics in print, cd and on the web. We publish #1 selling books in AP and general level Statistics, Calculus, Geometry, Algebra, Discrete Mathematics and elective courses.

Benjamin Banneker Association

Booth: 1339

Richmond, Virginia
PH: 804-519-4879 FX: 804-524-5746
www.bannekermath.org

The Benjamin Banneker Association Inc. (BBA) is a national 501 3- C non-profit organization dedicated to mathematics education advocacy, establishing a presence for leadership, and professional development to support teachers in leveling the playing field for mathematics learning of the highest quality for African-American students. Information, professional development ops and paraphernalia relative to our company and its mission will be available at our booth.

BestQuest Teaching Systems/ SAFARI Montage

Booth: 1316

Little Rock, Arkansas
PH: 866-882-665 FX: 866-882-2160
www.bestquest.com www.safarimontage.com

BestQuest Teaching Systems produces multimedia, digital math curriculum that empowers teachers to incorporate best practices in an engaged classroom. SAFARI Montage provides schools and districts with a comprehensive solution for their digital media distribution. Together, we provide a fully digital, customizable, curriculum accessible from the network and home which supports the process and content standards of the Common Core.

Big Ideas Learning, LLC

Booth: 428

Erie, Pennsylvania
PH: 877-552-7766 FX: 814-824-6377
www.bigideasmath.com

Big Ideas Learning recently developed an innovative new series of middle school books, Big Ideas Math. Using a balanced approach of discovery and direct instruction, authors Ron Larson and Laurie Boswell wrote the books to align with the Common Core State Standards and integrate the Standards for Mathematical Practice.

Borenson & Associates, Inc.

Booth: 201

Allentown, Pennsylvania
PH: 800-993-6284 FX: 610-398-7863
www.borenson.com

Hands-On Equations® demystifies the learning of algebra for students in grades 3 - 9. Since 1990 more than 50,000 teachers have attended the Making Algebra Child's Play® workshop. Visit our website www.borenson.com for our public workshop schedule and to register for our FREE introductory webinars.

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Booth: 1119

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Booth: 944 & 1043

Chicago, Illinois
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<http://info.eb.com/html/math>

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C

Calculus In Motion

Booth: 1217

Burbank, California
www.calculusinmotion.com

We offer 2 extensive collections (CDs) of interactive computer animations (using Geometer's Sketchpad v4 or v5) for teaching mathematics. The "Algebra In Motion" CD is for teaching Algebra 1 through Pre-Calculus. The "Calculus In Motion" CD covers nearly every concept in a first year calculus course & some beyond.

Cambium Learning

Booth: 310

Longmont, Colorado
PH: 800-547-6747
www.cambiumlearning.com

Cambium Learning® Group is the leading educational company focused primarily on serving the needs of at-risk and special student populations. Member divisions Voyager, Lincoln National Academy, Sopris Learning, and Cambium Learning Technologies provide research-based interventions, online courses, supplemental solutions, and adaptive technology to raise the achievement levels of all students.

Cambridge Educational Services

Booth: 1137

Des Plaines, Illinois
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www.CambridgeEd.com

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Carnegie Learning

Booth: 729 & 731

Pittsburgh, Pennsylvania
PH: 15219 FX: 412-690-2444
www.carnegielearning.com

Carnegie Learning, Inc. is a leading publisher of innovative, research-based math curricula for middle school, high school, and post-secondary students. Providing differentiated instruction to schools across the United States, Carnegie Learning is helping students to succeed in math, creating a gateway to graduation and preparing them for the 21st century.

Casio America, Inc.

Booth: 316

Dover, New Jersey
PH: 973-361-5400 FX: 973-537-8964
www.casioeducation.com

CASIO EDUCATION: SIMPLY CALCULATE THE DIFFERENCE! Casio's Intuitive Educational Tools combined with Exceptional Training & Support allows Educators to infuse Inquiry-based Methods into Mathematical Topics and Concepts, from the elementary to the advanced. Casio's "full-solution" approach transforms instruction and learning and elevates student's performance through innovation - Discover more at www.casioeducation.com.

Exhibitor Directory

Catchup Math (by HOTMATH)

Booth: 616

Kensington, California
PH: 510-424-5525 FX: 510-372-2756
www.hotmath.com

Cengage Learning

Booth: 1311

Mason, Ohio
PH: 513-229-1541
www.cengage.com/school

South-Western, Cengage Learning, is a leader in providing lifelong learning products to business educators, individuals and corporations. Using print, online and technology solutions, we meet the needs of learners, instructors and trainers in the areas of business, accounting, career readiness, and applied mathematics. Visit us at www.cengage.com/school.

Center for Mathematics and Teaching, Inc.

Booth: 344

Sherman Oaks, California
www.mathandteaching.org

The Center for Mathematics and Teaching (CMAT) is dedicated to advancing struggling students nationwide to achieve mathematical literacy from middle school through beginning algebra. CMAT offers a cognitively demanding student curricula, Mathlink Clusters and Core Mathlinks, and content-driven teacher training designed by educators. Come visit our booth for samples.

CK-12 Foundation

Booth: 1313

Palo Alto, California
PH: 650-494-1302 FX: 650-494-1313
www.ck12.org

CK-12 Foundation is a non-profit organization with the mission to produce free and open source K-12 materials aligned to state curriculum standards and customized to meet student and teacher needs. Its current offerings include FlexBooks® digital textbooks, an SAT prep site, and an interactive Algebra 1 curriculum.

CKingEducation, Inc.

Booth: 437

Bridgeport, Connecticut
PH: 412-CKingEd (412-254-6433)
www.ckingeducation.com

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Clark County School District

Booth: 342

Las Vegas, Nevada
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www.ccsd.net/jobs

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Classroom Products Warehouse

Booth: 1011

Vernon Hills, Illinois
PH: 888-271-8305 FX: 888-280-6110
www.shopcpw.com

CPW offers math and science instructional materials at the guaranteed lowest price.

The College Board

Booth: 916

New York, New York
PH: 866-630-9305
<http://www.collegeboard.org>

The College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, the College Board was created to expand access to higher education. Today, the membership association is made up of more than 5,900 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. For further information, visit www.collegeboard.org.

College Board SAT Subject Tests

Booth: 547

www.SATSubjectTests.org/teachers

Learn how the SAT Subject Tests in Math (Levels I and II) can help your students stand out on their college applications. Find out what's on the tests, how colleges use them and sign up to get your FREE copy of the Teachers Guide to the SAT Subject Tests in Math.

Conceptua Math

Booth: 448

Petaluma, California
PH: 888-768-MATH
www.conceptuamath.com

Conceptua Math launches a new visual fractions website at NCTM that provides profound teacher support centered on the Common Core Standards. Recent pilot research demonstrates significant student gains across multiple settings, and a new white paper describes a model-based pedagogy progressing from identifying fractions through dividing fractions.

Continental

Booth: 325

Elizabethtown, Pennsylvania
PH: 800.233.0759 FX: 888.834.1303
www.continentalpress.com

Continental's K-12 programs reinforce your teaching of the Common Core State Standards, NCTM Standards, and skills tested on state assessments. See Finish Line Mathematics for the Common Core State Standards, our program of instructional workbooks, guides, and new student answer booklets. Great support for transitioning to the new requirements!

CORD Communications

Booth: 202

Waco, Texas
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www.cordcommunications.com

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Core Learning Inc.

Booth: 439

Jenkintown, Pennsylvania
PH: 215-376-0776 FX: 800-399-0695
www.core-learning.com

Core Learning Inc. is an educational publisher of subject-oriented or grade level math courses that address key areas of K-8 math curriculum – calculations, basic measurements, fractions, decimals, percents, and geometric shapes. Its lesson-based content with assessments is available as software with LMS capabilities, on-line learning, or as whiteboard resources.

Corwin

Booth: 1118

Thousand Oaks, California
PH: 800-233-9936 FX: 800-417-2466
www.corwin.com

Corwin is the premier publisher of professional development resources that equip PreK-12 educators with innovative tools to improve teaching and learning so all students can succeed. Our books and digital content offer practical, research-based strategies created by experts. Visit www.corwin.com for resources on mathematics coaching, curriculum development, best teaching practices, and technology.

Exhibitor Directory

Council for Technology in Math Education - CLIME

Booth: 1337

White Plains, New York
PH: 914-815-0843

<http://climeconnections.blogspot.com>

CLIME, an affiliate of NCTM since 1988 continues to empower teaching and learning math communities by sharing the use of dynamic math tools in a Web 2.0 world. Learn more about it in our booth: 1337.

CPM Educational Program

Booth: 529

Sacramento, California
PH: 209-745-2055 FX: 209-745-7655
www.cpm.org

CPM is a comprehensive, standards based mathematics program for grades 6 through calculus that provides professional development workshops and individual mentoring so that teachers can effectively implement problem-based lessons in student-centered settings. CPM also offers curriculum materials that are based on the methods taught in the workshops. CPM courses meet the 2010 Common Core Standards.

Curriculum Associates

Booth: 711

North Billerica, Massachusetts
PH: 800-225-0248 FX: 800-530-2294
www.CurriculumAssociates.com

Curriculum Associates is a privately owned, fast-growing educational publishing company. We produce best-in-class educational materials, assessments, and online tools that help educators effectively address the diverse levels and needs of students in PreK–12 classrooms, particularly those who are performing below grade level. We specialize in affordable, research-based standards preparation materials, online intervention, supplemental reading and math programs, and special education assessment and instruction that help students succeed.

D

D & H Distributing Company

Booth: 614

Harrisburg, Pennsylvania
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www.buycalcs.com

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Booth: 1341

San Francisco, California
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Developmental Math Group

Booth: 1040

Columbus, Ohio
PH: 614-404-5920
developmentalmathgroup.com

DMG provides materials to assess and teach the essential number concepts found in the new Common Core for the elementary grades.

Didax Education

Booth: 436

Rowley, Massachusetts
PH: 800 458 0024 FX: 800 350 2345
www.didax.com

Didax publishes supplementary mathematics materials for grades K-12. We provide a wide range of math manipulatives including Unifix Cubes. In addition, we offer a variety of games, resource books, and interactive resources. We also publish Kathy Richardson's resources including her K-2 formative assessment, Assessing Math Concepts.

Dinah-Might Adventures

Booth: 1202

San Antonio, Texas
PH: 800-993-4624 FX: 210-698-0123
www.dinah.com & www.dzacademy.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.

DreamBox Learning

Booth: 722

Bellevue, Washington
<http://www.dreambox.com>

DreamBox Learning Math transforms the way students learn by combining rigorous curriculum, motivating learning environments, and an intelligent adaptive learning engine that provides millions of individualized learning paths, each one tailored to a student's unique needs. DreamBox keeps all students immersed in an experience where they are motivated, challenged and feel successful.

E

EAI Education

Booth: 925

Oakland, New Jersey
PH: 800-770-8010 FX: 201-891-5689
EAIeducation.com

Products include math manipulatives, resource books, tradebooks, interactive software, games, puzzles and calculators for all grade levels. EAI proprietary products include SmartPal® sleeves/guidebooks, QuietShape® manipulatives, Katie Kubes®, Flip Charts, Money Activity Centers, X-Y Coordinate Geoboards, GeoModel® folding shapes, "I Have, Who Has?" games, plus many other teachers favorite products.

Edorphins Educational Materials

Booth: 1322

Anchorage, Alaska
PH: 907-336-2865 FX: 907-336-2865
www.Edorphins.com

Edorphins is a new educational materials company. Our first product is Equalities, an easily used math game for use on interactive whiteboards. Equalities is a student-led, fun way to drill students on equivalences and the Cartesian coordinates. Equalities comes with 18 games for levels from basic multiplication to trigonometry functions.

Educators Outlet, Inc

Booth: 227

Timnath, Colorado
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www.EducatorsOutlet.com

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Ellison

Booth: 236

Lake Forest, California
PH: 949-598-8822 FX: 949-598-8838
www.ellisoneducation.com

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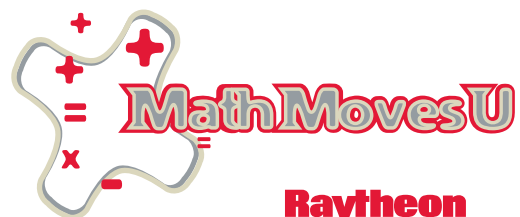
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Exhibitor Directory

ETA/Cuisenaire

Booth: 512

Vernon Hills, Illinois
PH: 800-445-5985 FX: 800-382-9326
www.eta-cuisenaire.com

Headquartered in Vernon Hills, IL, ETA/Cuisenaire is recognized as the pioneer of manipulative and hands-on education. Across the PreK-12 curriculum of math, science, and reading, the company's research-based products and programs support educators and make partners of parents to engage students, improve their performance, and inspire a lifelong love of learning.

Exemplars

Booth: 311

Underhill, Vermont
PH: 800-450-4050 FX: 802-899-4825
www.exemplars.com

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ExploreLearning

Booth: 410

Charlottesville, Virginia
PH: 866-882-4141
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 (www.reflexmath.com) is the most powerful solution available for math fact fluency.

Eye On Education

Booth: 1230

Larchmont, New York
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Eye On Education is an independent and innovative provider of books and other resources for the educational community. Our mission is to provide busy educators with practical information on professional development, educational leadership, school improvement, student assessment, data analysis, teaching skills, and other related topics.

F

FACEing MATH

Booth: 341

Hemet, California
PH: 951-492-8341 FX: 815-301-3070
FACEingMATH.com

FACEing MATH sells unique, standards-based supplementary books that combine math and art. The books are for 1st through 11th grade students. All of the lessons are created by current classroom teachers.

First In Math~Suntex International

Booth: 1025

Easton, Pennsylvania
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www.firstinmath.com

Revolutionize the way your students practice! Visit our interactive booth to see for yourself how the First In Math® Online Program provides your students with the "Deep Practice" and immediate feedback necessary for skill acquisition and retention.

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Booth: 1236

Jackson, Wyoming
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Flat World Productions, LLC

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Austin, Texas
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www.flatlandthemovie.com

"Flatland: The Movie" is an animated film inspired by Edwin A. Abbott's classic novel, "Flatland". It features the voices of Martin Sheen, Kristen Bell and Michael York as well as teacher worksheets and student study guides. It will be available for a special price at the booth. ALSO, see clips from the soon-to-be-released "Flatland 2: Sphereland" and register for discounts!

Frog Publications

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G

GEO Travel Programs for Teachers

Booth: 330

Ardmore, Pennsylvania
PH: 877-600-0105
<http://www.geeo.org>

GEO is a 501c3 non-profit organization that runs summer professional development travel programs designed and discounted for teachers. No Students! GEO is offering 16 different travel programs for the summer of 2012 including India, Nepal, Vietnam, Russia, Mongolia, China, Turkey, Southern Africa, Morocco, Brazil, Peru, Ecuador, Galapagos and Costa Rica.

GYLO (GetYa Learn On)

Booth: 626

Austin, Texas
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<http://gylo.com/>

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H

Haese Mathematics

Booth: 335

Adelaide, South Australia
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www.haesemathematics.com.au

We are a specialist publisher of math textbooks and software for schools, mainly for schools that offer the International Baccalaureate (IB) Diploma and Middle Years Programs. Our books are noted for their student-friendly approach and purpose built interactive software, provided on CD with every textbook.

Heinemann Publishing

Booth: 211

Portsmouth, New Hampshire
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www.heinemann.com

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Hewlett-Packard

Booth: 1327 & 1329

Fort Collins, Colorado
PH: 970-898-0586 FX: 970-898-0179
hp.com/calculators

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Booth: 302

Boston, Massachusetts
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www.hmheducation.com

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IXL Learning

Booth: 226

San Mateo, California
PH: 855-255-8800 FX: 650-372-4301
www.IXL.com

IXL is a math practice Website completely aligned to all state standards and the Common Core. IXL offers unlimited questions in Pre-K—High School math in a fun, visually-stimulating format that students love. Plus, teachers can view detailed reports on student's progress and trouble spots—including complete question histories for individuals.

The Johns Hopkins University Center for Talented Youth

Booth: 240

Baltimore, Maryland
PH: 410-735-6185 FX: 866-345-3731
<http://cty.jhu.edu/>

The Center for Talented Youth at the Johns Hopkins University is an international leader in both talent identification and offering educational opportunities for gifted pre-collegiate students. We are seeking to hire instructors and administrators to work with gifted students in our summer programs throughout the United States.

Johnny's Key

Booth: 315

Trevorton, Pennsylvania
PH: 570-809-2840
www.JohnnysKey.com

Home of Math Track and Time Pieces, Johnny's Key unlocks conceptual understanding of ELAPSED TIME by providing a stronger model. Extensions include making change and subtraction w/ regrouping. Founder, Barbara Spotts, offers Elementary Math Professional Development and co-authored NCTM Teaching Children Mathematics article "Professional Development: delivered right to your doorstep".

Jossey-Bass

Booth: 727

San Francisco, California
PH: 415.782.1740 FX:
www.josseybass.com

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K

Kendall Hunt Publishing Co.

Booth: 936

Dubuque, Iowa
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www.kendallhunt.com

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Booth: 902

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www.keypress.com

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L

Lakeshore Learning Materials

Booth: 712

Carson, California
PH: 800-421-5354 FX:
www.LakeshoreLearning.com

Lakeshore Learning Materials is one of the premier manufacturers of K–6 math products—including exclusive, interactive software that gets students excited about learning! Lakeshore develops a wide range of math materials for students of all abilities—with materials that support RTI, meet Common Core Standards and teach real-world applications.

Learning Upgrade LLC

Booth: 1020

Escondido, California
PH: 800-998-8864 FX: 868-653-4677
www.learningupgrade.com

Learning Upgrade publishes the Algebra Upgrade and Math Upgrade online courses featuring songs, video and games. Transform your class with interactive lectures using projectors and interactive whiteboards. Bring the whole school up to proficiency with high interest online student courses.

Learning Wrap-ups, Inc.

Booth: 1238

Layton, Utah
PH: 800-992-4966 FX: 801-497-0050
www.learningwrapups.com

Learning Wrap-ups, Inc. is a supplemental publisher of Learning Wrap-ups, which is designed to build Fact Fluency and develop Automaticity of Basic Math Skills and Learning Palette, which creates Standard Based Learning Centers.

Lone Star Learning

Booth: 313

Lubbock, Texas
PH: 806-281-1424 FX: 806-281-1407
www.LoneStarLearning.com

Curriculum Development Company offering supplementary products for math, science and language arts that reinforce learning standards, effectively teach problem solving strategies and engage students in quick daily activities using digital bulletin boards and vocabulary picture cards.

Exhibitor Directory

M

MAA - American Math Competitions

Booth: 1315

Lincoln, Nebraska

PH: 402-472-2257 FX: 402-472-6087

www.amc.maa.org

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The Math Forum @ Drexel & the Drexel University School of Education

Booth: 220

Philadelphia, Pennsylvania

PH: 215-895-1080 FX: 215-895-2964

<http://mathforum.org/>

For more than 20 years, the Math Forum and Drexel University have been committed to using the power of the Internet to learn math and improve mathematics education. Come visit with Math Forum staff, Mathematics Education faculty, staff from Drexel University Online, and our community members to learn more about new projects we're launching, our ongoing services, professional development, and our certificate and graduate programs. <http://mathforum.org/> <http://goodwin.drexel.edu/mlt>

Math Matters, Inc.

Booth: 339

Westbury, New York

PH: 516-333-0717 FX: 516-333-3803

www.mathmattersinc.com

Math Matters publishes a monthly newsletter of games which circulates throughout the United States and Canada. The company publishes math resources books for teachers and provides seminars, workshops and courses for teachers and parents as well as students enrichment programs.

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www.mathrecovery.org

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www.mathsolutions.com

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Booth: 1212

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Owings Mills, Maryland
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Festus, Missouri
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Wheaton, Illinois
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Mathtees

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National Assessment of Education Progress (NAEP)

Booth: 1343

Washington, DC
PH: 202-842-3600 FX: 202-842-4032
www.naep.org

National Council of Supervisors of Mathematics (NCSM)

Booth: 1338

Denver, Colorado
PH: (303) 758-9611 FX: (303) 758-9616
mathedleadership.org

NCSM is an international mathematics leadership organization that provides professional learning opportunities and resources for leaders to support and sustain student achievement. If you're an informal or formal leader at any level--district, school, department, grade level, classroom (chairs, coaches, teachers, etc.)—stop by and see how NCSM supports your leadership work.

National Science Foundation

Booth: 1323

Arlington, Virginia
PH: 703-292-4775 FX: 703-292-9044
www.paemst.org

Come learn about resources available at the National Science Foundation, particularly those within the Division of Research on Learning in Formal and Informal Settings. One example of a K-12 Education program is the Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST) program.

National Student Leadership Conference

Booth: 644

Chicago, Illinois
PH: 614-406-6114 FX: (312) 765-0081
www.nslcleaders.org

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The New York Times

Booth: 912

Weston, Massachusetts
www.ontheavenuemarketing.com

Newpath Learning

Booth: 301

Victor, New York
PH: 800-507-0966 FX: 800-507-0967
www.newpathlearning.com

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ORIGO Education

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Arlington, Virginia
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www.paemst.org

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Q

Qtopia

Booth: 235

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Waltham, Massachusetts
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www.reasoningmind.org

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Wisconsin Rapids, Wisconsin
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www.renlearn.com

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Research Council on Mathematics Learning

Booth: 1325

Duluth, Minnesota
PH: (218) 726-8588
<http://web.unlv.edu/RCML>

The Research Council on Mathematics Learning is a professional organization whose mission is to stimulate, generate, coordinate, and disseminate research efforts designed to understand and/or influence factors that affect mathematics learning.

RM Education

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www.rmeducation.com

Rosen Classroom

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www.rosenclassroom.com

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Booth: 449

Nashua, New Hampshire
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School Specialty Math and Intervention is the EXCLUSIVE publisher of Think Math!, a comprehensive NSF core curriculum K-5 as well as web-based Intervention for grades 2-12 through Academy of Math.

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www.si-manufacturing.com

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Taylor-CoxInstruction.com

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<http://epgy.stanford.edu/schools/>

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<http://www.stepspd.com/us>

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Cambridge, MA

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www.terc.edu

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Dallas, Texas

PH: 800-842-2737 FX: 972-917-0747

www.education.ti.com

ThinkThrough Math

Booth: 1036

Pittsburgh, Pennsylvania

PH: 412-894-9935 FX: 412-894-9938

www.ThinkThroughMath.com

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Seoul, Republic of Korea

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<http://www.playfacto.com>

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TODOS: Mathematics for All

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www.triumphlearning.com

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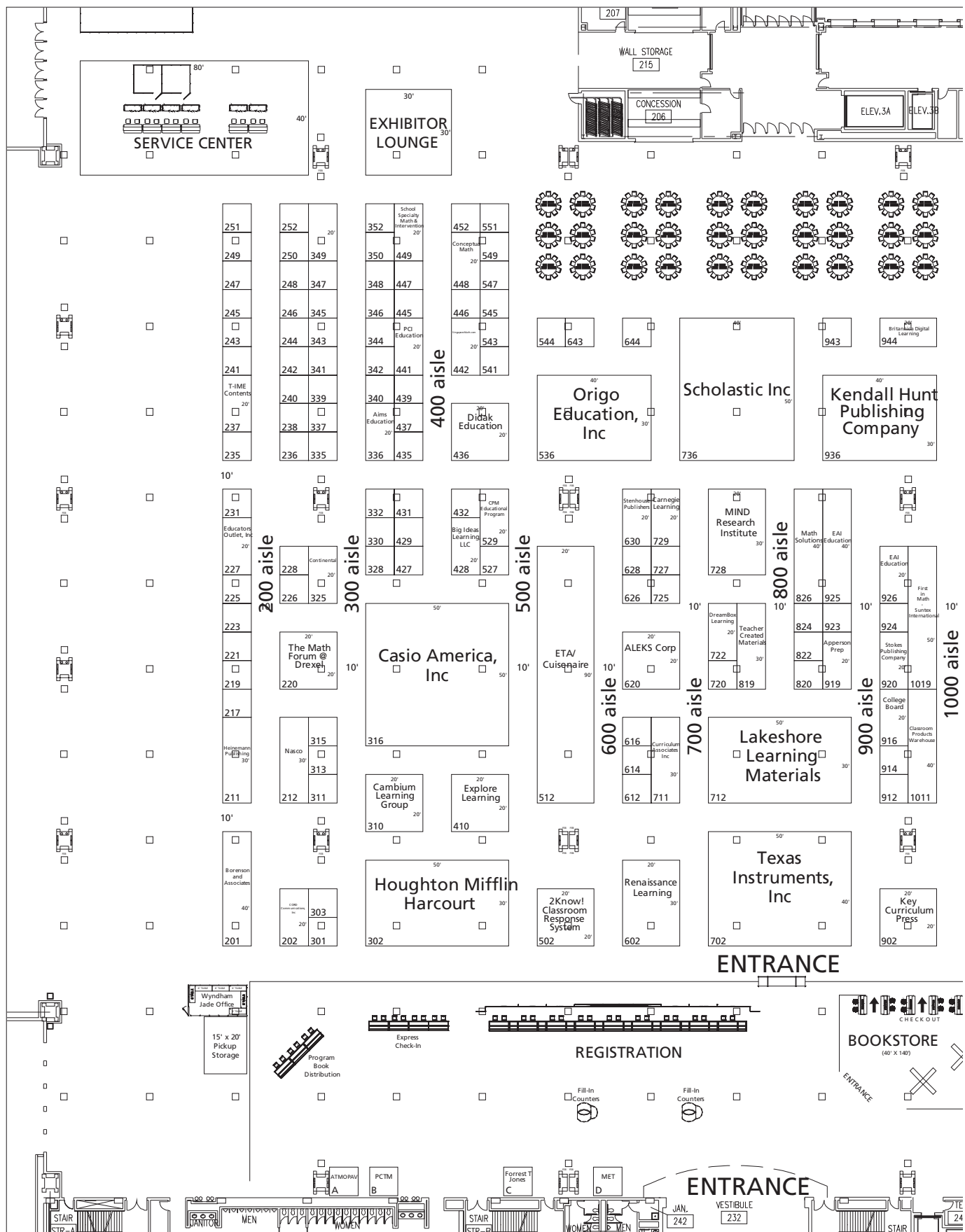
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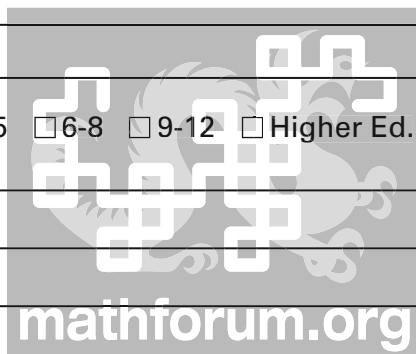
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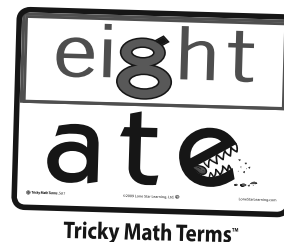
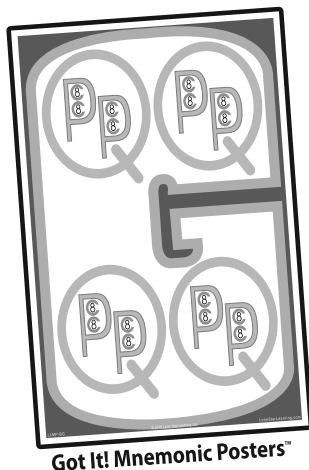
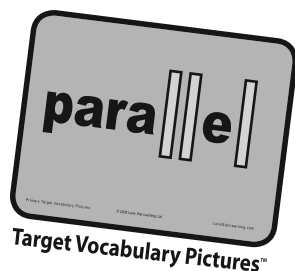
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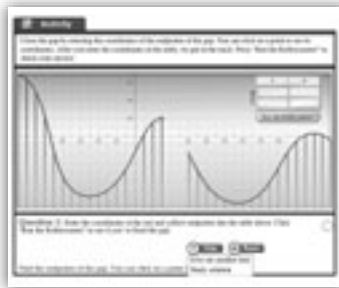
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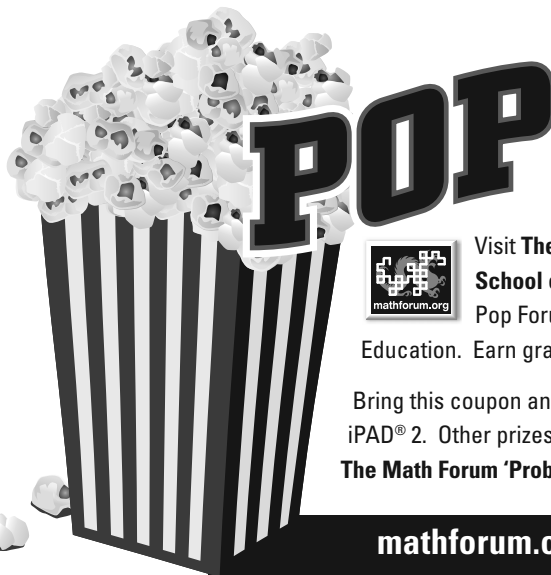
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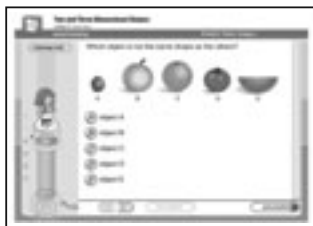
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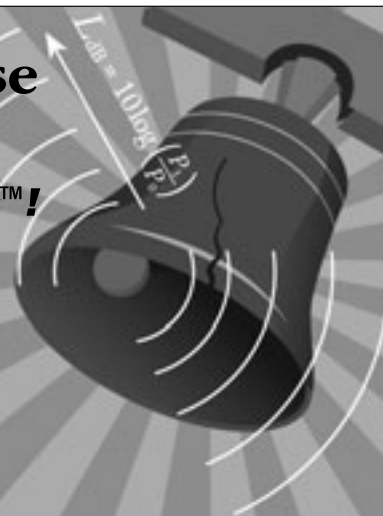
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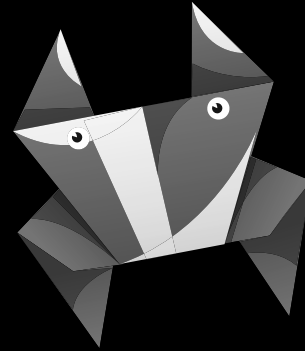
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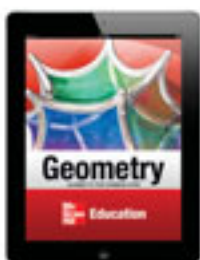


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